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Recent Research and Developments in Information Organization in Iran: A Historical Review

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ABSTRACT

In this article, research carried out in Iran illustrating new developments in knowledge organization is reviewed. For this purpose, all relevant studies were identified and classified into three categories: (1) studies focusing on conceptual models; (2) studies focusing on the RDA standard; and (3) studies focusing on online library catalogs (OPACs), metadata, and labeling formats related to RDA and FRBR. LIS dissertations and theses were reviewed and categorized into these three groups. The results of each research were categorized. At the end, the research methods applied in these researches were analyzed and some suggestions for further studies are proposed.

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Background

Catalogs and cataloging have long been practiced and discussed in Iran. The history of cataloging in Iran goes back to the time of the famous bibliographer Ibn Nadim (Abu'l-Faraj Muhammad bin Is'hāq al-Nadim, who died September 17, 995 or 998). He was a Muslim scholar and bibliographer, possibly of Persian origin. His work *Kitāb al-Fihrist*, in his own words, is “an Index of the books of all nations, Arabs and foreigners alike, which are extant in the Arabic language and script, on every branch of knowledge.”¹ Since then, resource organization and the preparation of library catalogs in Iran have always been the concern of many experts in this field. There are numerous bibliographies of Persian and Arabic manuscripts held either in Iran or elsewhere that illustrate the ways these resources were listed and organized.

The modern history of the development of cataloging and classification in Iran mainly refers to the establishment of the Tehran Book Processing Center (TEBROC) under the supervision of some American and British librarians in the mid-1960s. TEBROC, led by Poori Soltani (1931–2015), aimed to employ the most recent

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developments and innovations of library science in order to promote cataloging standards such as the *International Standard for Bibliographic Description* (ISBD) and the *Anglo-American Cataloguing Rules* (AACR) for Persian and Arabic books in an organized and systematic way. After the incorporation of the TEBROC into the National Library of Iran (NLI) in the early 1980s, the Iranian National Bibliography was improved in terms of organization, standardization, and coverage using AACR2, the Dewey Decimal Classification (DDC), and the Library of Congress Classification (LCC). TEBROC managed to translate and publish AACR into Persian in 1975, and this text was taught in cataloging classes in Iran. In 1992 AACR2 was translated into Persian by Rahmatollah Fattahi.² This translation has been in use until now in all Iranian libraries and is taught in library schools in Iranian universities.

This translation was an important event that made the transition to AACR2 possible, and was an essential step towards widespread and coherent use of modern cataloging rules in Iran. During the 1990s and based on these rules, a list of books cataloged by the Central Library of Ferdowsi University of Mashhad was prepared by an expert group supervised by Fattahi. At the time, this catalog was considered by many large and medium-size libraries as a standard and was a rich source for copy cataloging. With the advent of electronic devices and library software, the National Library gradually produced the *Iranian National Bibliography* and made it available on compact discs and on its website.

Another basic step on this path was the approval of the Cataloging in Publication (CIP) law by the Iranian Parliament in the late 1980s. This law officially required the National Library of Iran to establish a division for CIP, and required all publishers to send to NLI a copy of all books that were to be published in Iran. This caused improvement and comprehensiveness of the *Iranian National Bibliography*³ and lead to more integrity and consistent cataloging and library catalogs at the national level.

At the same time, companies developing and producing library software were established in Iran. At the beginning library systems in Iran were based on the CDS/ISIS software developed by UNESCO, but gradually the number of the library systems proliferated, and today dozens of library systems are available.⁴ Many library software products have helped updating and applying the most recent developments in computer technologies, knowledge organization, MARC, and interoperability standards. One of the software companies claims that they are developing a new FRBR_{OO} (FRBR-Object Oriented) catalog, but no catalog based on this model has yet been made available to the public. All these advancements will benefit from the application of IranMARC (based on UNIMARC) developed in the mid-1990s by the National Committee of IranMARC.

Although library schools and cataloging departments in Iran still use AACR2, *Resource Description and Access* (RDA) is taught in workshops run by the Iranian Library and Information Association (ILISA) and the International Society for Knowledge Organization (ISKO) – Iran Chapter, as well the National Library of Iran.

The growing interest in knowledge organization by Iranian librarians is mainly reflected in research into the new conceptual models and cataloging standards.⁵ Much research has been done all around the world to consider the theoretical and practical aspects. Some of the most recent include Hjørland,⁶ Martínez-Ávila et al.,⁷ Parent,⁸ Smiraglia,⁹ and Beak et al.¹⁰ However, Iranian researchers have specific considerations because of the Persian language, orthography, or bibliographic records. Moreover, most of the papers by Iranians are published in Iranian (Persian language) journals and their contents and findings are not discoverable with English languages searches. For these reasons we decided to write a historical review to share findings and to get feedback from the profession.

The following three sections provide a short account of this research. It is notable that all titles mentioned are based on Iranian researchers' papers, so they are in the Persian language. A list of them with English language abstracts is available on the website of the Iranian Chapter of the International Society for Knowledge Organization (ISKO).¹¹

Studies focusing on conceptual models

An interesting point regarding the new approaches to knowledge organization in Iran is the growing amount of research into the conceptual models FRBR, FRAD, and FRASD developed by IFLA. Almost all are Master's dissertations (MS or MA) or doctoral dissertations (Ph.D.) (see [Table 1](#)).

Studies focusing on RDA

This category of studies specifically describes and discusses bibliographic records produced according to RDA, the new cataloging standard. The studies are listed [Table 2](#) in chronological order. Studies about RDA in relation to metadata standards or labeling formats and, in fact, a systematic look at RDA, are introduced in *Studies Focusing on Online Catalogs (OPACs), metadata, and labeling formats*.

Studies Focusing on Online Catalogs (OPACs), metadata, and labeling formats

This category covers studies about labeling and metadata standards, such as MARC, IranMARC, Dublin Core, etc., as well as online library systems capable of implementing conceptual models and RDA (see [Table 3](#)). Some studies covering topics in previous sections are repeated in this category.

Analysis of the studies

A review of the studies mentioned reveals some interesting points. First, compared to international scholarly activities regarding new approaches to knowledge organization, research activities in Iran introducing and implementing FRBR, FRAD, FRASD, and RDA are limited in number but increasing. Since FRBR was

Table 1. List of studies related to conceptual models.

	Title	Author (and date)
1.	An Investigation of the Anglo-American Descriptive Cataloguing Rules and the Functional Requirements for Bibliographic Records Model	Erfanmanesh (2007) (M.S.) ¹²
2.	Analysis of Information Elements in Bibliographic Records: a New Approach to Multifunctional Information Organization in Computer Catalogs	Arastoopoor and Fattahi (2007) ¹³
3.	A Study of Bibliographical Data Dispersion in Elements of Bibliographic Records of "Book House Manuscript Bank" and Providing a Model Based on the FRBR Model	Khoshbakht (2009) (M.S.) ¹⁴
4.	Mapping the Iranian MARC to the Functional Requirements for Bibliographic Records (FRBR) Model, and a Study of the Views of the OPAC Users towards the Model's Entities	Arastoopoor (2010) (Ph.D.) ¹⁵
5.	The Feasibility of Implementing Functional Requirements for Bibliographic Records (FRBR) in Persian Bibliographic Records (PBRs)	Haji Zeinolabedini (2010) ³⁸
6.	Analyzing Bibliographic Relationships between Persian Medical Books Based on Functional Requirements for Bibliographic Records (FRBR) during 2006–2010	Mohammadi (2011) (M.S.) ¹⁶
7.	A Feasibility Study of Functional Requirements for Authority Data Model (FRAD) for Personal Name Authority Control in Google Scholar	Sadeghi (2012) (M.S.) ¹⁷
8.	Identifying the Bibliographic Relationships in Shahnameh and Nahjalblagheh Bibliographic Universe and Fields Necessary to Illustrate Them	Hejazi (2012) (M.S.) ¹⁸
9.	FRBR Library Reference Model (FRBR/LRM): Consolidation of FRBR Models in Connection with the Linked Data Environment	Zerehsaz and Pazooki (2017) ¹⁹
10.	Study of Implementing PRESSoo Model in Organizing Persian Periodicals	Hashtroudi (ongoing)(M.S.) ²⁰

introduced to the cataloging profession in the late 1990s, we need more attention to and more research about it in Iran. Although this conceptual model has been mentioned in different texts for the last two decades, the turning point for FRBR (and later RDA) is the year 1998 when IFLA published its final report. Since that time, vast efforts have been made at the international level to develop theoretical and practical principles and implementations of this model. Although several research activities have been conducted about implementing FRBR in online catalogs and applying RDA, so far Iran lacks practical efforts at the national level. With the increasing number of Master and Doctoral library students and people interested in knowledge organization in Iran, and also due to the rapid development of online catalogs and cataloging standards, it seems that the trend will be for developments to continue and more studies to be conducted in this field in Iran.

Although most of the previous studies are theoretical and might be impractical to implement, attempts by large libraries in Iran, including the National Library and Astan-e Quds (a non-governmental organization consisting of 46 libraries in Iran) and by library software companies to implement these approaches show a promising future. Furthermore, with the establishment of the Iranian chapter³⁶ of the International Society for Knowledge Organization (ISKO) in 2010, members are conducting studies in the form of articles, books, theses, and workshops, etc. This promises a bright future regarding the translation and implementation of RDA in Iran consistent with international efforts. Therefore, the National Library

Table 2. List of studies related to RDA.

	Title	Author (and date)
1.	RDA Analytical Investigation for Description and Access to Archives Materials	Taheri (2010) ³⁹
2.	A Survey of Descriptive Elements in Bibliographical Records of Iranian Digital Libraries Based on RDA Rules and Suggesting a Model for Using RDC	Moradi (2010) (M.S.) ⁴⁹
3.	A Study on the Adaptation of Cataloging and Classification of Books and Documents Related to Special Works in Comparison to Existing Rules	Bashardoost (2011) (M.S.) ²¹
4.	The Feasibility of Implementing Resource Description and Access (RDA) in the National Library and Archives of IR Iran	Pazooki (2012) (M.S.) ⁴⁰
5.	Describing Web Resources: RDA Compared with AACR2	Rakhshani (2012) (M.S.) ⁵¹
6.	A Study of the Views of Catalogers of Three Large Libraries of Mashhad about Applying RDA	Zerehsaz (2012) ²²
7.	Functionality of Resource Description and Access (RDA) Standard in the Library, Museum and Document Center of Iran Parliament	Jahanshahi (2012) (M.S.) ⁵⁰
8.	A Comparative Study of Bibliographic Records of the Database of Manuscripts of Astan Quds Razavi & Resource Description and Access (RDA)	Fakhari Sa'adat (2014) (M.S.) ⁵²
9.	A Study of Serial's Adaptation to Resource Description and Access in National Library and Archives of IR Iran	Mozafari (2014) (M.S.) ²³
10.	The Use of Resource Description and Access (RDA) in the Archives of the Islamic Republic of Iran Broadcasting	Vafaey (2014) (M.S.) ²⁴
11.	An Investigation of the Consistency Rate of Resource Description and Access (RDA) with description worksheets of painting of museums of Tehran	Alizadeh (2014) (M.S.) ²⁵

of Iran will need to make major decisions about modifying its existing records, troubleshooting bibliographic records, and preparing a systematic infrastructure. Looking carefully at works published in Persian, we see several discussions about choosing a more appropriate approach toward using legacy records in the new environment. Various authors, such as Arastoopoor,³⁷ Zeinolabedini,³⁸ Taheri,³⁹ Pazooki,⁴⁰ and Akbaridarian, et al.⁴¹ have considered this issue from different points of view, and most believe that a comparative approach is the most relevant method for implementing a new cataloging code. By comparative method we mean that the catalog records in RASA (the bibliographic database of the National Library)⁴² are consistent with other studies including Arastoopoor⁴³ about the priority of the adapting approach to the major change approach. By adapting approach, we mean that legacy records are used without major change or restructuring. Accordingly, catalogers also believe that the best approach to manage this change and implement RDA is the adapting approach.

In addition, other studies have investigated the technical issues of library software and existing metadata to implement these methods and rules, including Bakhtiari,⁴⁴ Pazooki,⁴⁵ and Dorkhosh.⁴⁶

Their findings are in fact a mixture of primary and secondary parts, specifications and values of RDA made compatible with MODS. They would also be able to act as a model for describing Persian resources. Based on the National Library authorities, name authority should be provided for describing Persian records.

Table 3. List of studies related to OPACs, metadata, and labeling formats related to RDA and FRBR.

	Title	Author (date)
1.	A Study of Mapping Iran Machine Readable Cataloging (IranMARC) Data Elements to Functional Requirements for Bibliographic Records (FRBR) Group One Entities and Attributes	Amiri (2010) (M.S.) ²⁶
2.	Study of the RDA Adaptability with the Metadata Object Description Schema (MODS) and Suggesting a Model for Persian Records	Dorkhosh (2010) (M.S.) ⁴⁶
3.	Adaption of Data Elements of IranMARC with User Functions of Functional Requirements for Bibliographic Records (FRBR) Conceptual Model Based on Users Capabilities	Niknia (2010) (M.S.) ²⁷
4.	Survey on Bibliographic Relationship on Iran MARC Cataloging Records with Use of Functional Requirements for Bibliographic Records (FRBR) Model	Fardehoseiny (2011) (M.S.) ²⁸
5.	The Feasibility of Implementing "Functional Requirements for Bibliographic Records" (FRBR) in Iranian Library Software	Bakhtiari (2012) (M.S.) ⁴⁴
6.	The Functionality of Bibliographic Records of IranMARC Based on Functional Requirements for Bibliographic Records (FRBR) for Monographs	Akbaridaryan et al. (2012) ²⁹
7.	Designing the Metadata Ontology Model of National Library and Archives of Iran Based on Linked Data Method	Fathian (2016) (Ph.D.) ³⁰
8.	Study of Utilization Rate of Metadata Standards in a Manuscript Database	Arabgari (2013) (M.S.) ³¹
9.	Identification and Analysis of the Persian Subject Headings Characteristics, Including Syntactic and Relational Structures and Its Conceptual System in Comparison to Library of Congress Subject Headings	Sharif (2012) (Ph.D.) ³²
10.	Identification and Analysis of the Vocabularies Representing Bibliographic Relationships in Persian Bibliographic Families and Developing IranMARC Based on FRBR	Taheri (2014) (M.S.) ³³
11.	Functionality of Authority Records of IranMARC on the Basis of Functional Requirements of Authority Data (FRAD) & Functional Requirements of Subject Authority Data (FRSAD)	Akbaridaryan (2014) (Ph.D.) ³⁴
12.	Study of the Adaptability of MODS with FRBR	Dargahi (2016) (M.S.) ³⁵

An appropriate and practical activity regarding this issue would be to prepare mapping tables. Since the metadata platform in Iranian online catalogs is mostly in the IranMARC format, it is essential that mapping tables be used in order to adapt to the existing platforms. The RDA-IranMARC Mapping table has been completed and is available.⁴⁷

Other studies about the feasibility of applying RDA in different resource frameworks have been conducted. The results, as reported by Taheri,⁴⁸ Moradi,⁴⁹ Jahanshahi,⁵⁰ Rakhshani,⁵¹ and Fakhari Sa'adat,⁵² would be good guides for those involved in developing library software and localizing RDA for Iran. Although several studies regarding this issue are on the way, we need proper practical studies about the implementation of RDA.

Conclusion

According to the Joint Steering Committee for the Development of RDA (now the RDA Steering Committee [RSC]), the revision of RDA in 2013 was developed on the basis of experiences and published international feedback from all over the world. The Library of Congress and many other national libraries have adopted RDA. In complying with the policies of the Library of Congress, many other

libraries around the world are already applying or planning to apply RDA. It is expected that Iranian libraries will also replace the present rules (AACR2) with RDA and will apply FRBR to describe library resources. The first steps in this direction have been taken by conducting feasibility studies, review sessions, and translating RDA into Persian. Cataloging according to AACR2 was a good model and translating AACR2 to Persian and preparing a manual of cataloging rules in 1996 enabled AACR2 to be used more extensively and easily in Iranian libraries. TEBROC's efforts in the mid-1960s to apply the most recent developments and cataloging standards in knowledge organization in Iran was a basic step.

In conclusion, we expect a new wave of change in the application of cataloging rules will begin in Iran. The change will include library software companies, who are paving the way to apply RDA (e.g., implementing FRBR and FRBR_{OO}). Large libraries are also preparing for this great change, as evidenced by the formation of the RDA Development Working Group in Astan Quds Razavi Libraries and The Standards Committee at the National Library of Iran.

The first annual Congress of Iranian Information Scientists was held in Tehran, Iran, in October 2015. At this Congress, similar to the IFLA World Library and Information Congress, eleven professional panels were held in which various basic issues were discussed. One of the specialized panels was the Knowledge Organization Panel. Barbara Tillett, now retired from the Library of Congress, sent a message to the panel participants encouraging their involvement in developing the new cataloging code.⁵³ This was a welcome message, and subsequently the adoption of RDA was widely discussed. According to this panel, the following programs were put on the agenda:

- efforts to form a practical national committee for knowledge organization with major cooperation by the National Library, ISKO-Iran, and the Iranian Library and Information Science Association (ILISA);
- efforts to present and explain a plan for the in-service training of teachers of knowledge organization to improve their knowledge regarding new topics and issues;
- organization of workshops for cataloging librarians to become acquainted with new approaches to and trends in knowledge organization;
- efforts to provide the appropriate conditions for the use of RDA and make the related agencies accept the new rules;
- formation of a specialized committee for library software to improve the knowledge organization in online catalogs and also to encourage related companies to apply the RDA rules in software programs; and
- efforts to revise the course topics/contents for knowledge organization and to incorporate the related content and new rules of this field in cooperation with the Committee of Educational Program Planning at the Information and Knowledge Science at the Ministry of Science, Research and Technology.⁵⁴

As Barbara Tillett noted, everyone can be part of the continuous improvement of this new cataloging code, especially as one gains more experience using it.

Librarians can help their system vendors to see that their systems evolve in order to better help catalogers do their work, and very importantly, to help our users receive better access to the rich resources we have to offer them.⁵⁵ It is hoped that the application of RDA will begin widely and in earnest in Iran and as soon as possible to achieve the above-mentioned goals, and correspondingly to inform the national and international community of its results. The Iranian cataloging communities are joining the international community to make use of recent developments in Knowledge Organization.

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