

ARE CANADIAN LIBRARIES READY TO TRANSITION FROM MARC TO BIBFRAME?

Abstract

This project seeks to assess the Canadian library community's understanding of and readiness for the transition from the MARC format to the BIBFRAME model. Data were collected using a survey distributed in English and French to a stratified random sample of 1,200 Canadian libraries. Results indicate that knowledge of BIBFRAME is low among respondents and that most of the libraries surveyed do not know enough about BIBFRAME to consider planning a transition at this point.

Résumé

Ce projet cherche à évaluer la compréhension et l'état de préparation de la transition du format MARC au modèle BIBFRAME dans les bibliothèques canadiennes. Les données ont été récoltées par le biais d'un sondage distribué en anglais et en français auprès d'un échantillon aléatoire stratifié de 1 200 bibliothèques canadiennes. Les résultats indiquent que les répondants connaissent peu le modèle BIBFRAME et que la majorité des bibliothèques interrogées ne sont pas prêtes à planifier la transition.

1. Introduction

Most of the library world currently relies on the MARC format, a standard developed in the 1960s, to encode bibliographic data. To make bibliographic information more useful within and outside of the library community, the Bibliographic Framework Initiative (BIBFRAME), an initiative by the Library of Congress and international library community, is set to soon replace the MARC format (Morris 2019), changing profoundly the ways in which catalogues are conceived and used. Due to their ongoing reliance on the Library of Congress for cataloguing leadership and standards, this decision will significantly affect Canadian libraries in terms of infrastructure, staffing and costs (Canadian BIBFRAME Readiness Task Force 2019).

In current library catalogues, and in databases in general, the metadata (authors, titles, publishers, subjects, etc.) for a single resource are bundled together in a single record, as they were in card catalogues. Such records are meant to be processed as standalone units, and they repeat data present in other records. Catalogues have difficulty expressing explicit relationships between resources. For instance, the relationships between different editions of a novel or between a novel and its translations or film adaptations are often expressed only in textual notes, if expressed at all. Indeed, a record for a translation or an adaptation may refer to the original

work, but a record for an original work will seldom link to any other records. Catalogues rely on the tacit knowledge of users to exploit relationships between resources, which precludes any successful machine exploitation of the data contained in catalogues. In contrast, BIBFRAME describes bibliographic resources using a linked data model, where unique links that machines can understand identify entities (including people, places, things, concepts) and relationships. When a machine looks up a link, it can retrieve not only properties such as what kind of entity (for example, a person, book, subject) the link describes, but also the relationships between that entity and other entities. Therefore, the transition from MARC-based catalogues to catalogues that fully exploit the power of linked data is a paradigm shift that is more profound than the transition from card catalogues to the computerized catalogues that have been used in libraries for the past decades (Canadian BIBFRAME Readiness Task Force 2019).

2. Objectives

This study seeks to assess the Canadian library community's understanding of and readiness for the transition from the MARC format to the BIBFRAME model. To fulfil these objectives, this project seeks to answer the following questions:

1. What do Canadian libraries understand about BIBFRAME?
2. How ready are Canadian libraries to transition to BIBFRAME?

3. Methods

Survey research was selected to obtain a portrait of the Canadian library community at large. The questionnaire contained questions that sought to assess (1) the understanding of BIBFRAME and (2) readiness to transition to BIBFRAME, and to collect demographic data about the library where the person answering the survey worked as well as the respondent's role within the institution. To assess *understanding*, a series of questions with multiple-choice answers about linked data fundamentals, BIBFRAME vocabulary, BIBFRAME and other vocabularies, and BIBFRAME hands-on were designed. To mitigate the effects of random guessing, each question offered "I don't know" as one of its possible answers and was accompanied by a self-rated ranking of confidence in the correctness of the respondent's answer. To assess *readiness*, a psychometric assessment developed to measure organizational readiness for implementing change (Shea et al. 2014) was used. This measure includes a five-item scale about change commitment, a five-item scale about change efficacy and nine items representing various aspects of change valence.

A list of 5,812 libraries was first assembled using data from libraries.org (Breeding 2019) and Library and Archives Canada's interlibrary loan database. Libraries were then clustered into four categories: academic libraries (6%), public libraries (36%), school libraries¹ (14%) and special libraries (44%). Using these categories, a stratified random sample of 1,200 libraries was selected. After two pilot phases, an invitation to the study with a link to answer the study in English or French was sent on 14 November 2019 through Qualtrics targeting "the person most directly responsible for cataloguing" and "the person most directly responsible for systems". An invitation was sent to another 125 libraries to replace the emails that had failed to be delivered.

Two reminders were sent and the survey closed on 31 December 2019. 320 completed questionnaires were received. While this response rate (26.7%) is not optimal, it is in line with studies using online surveys (see, for instance, Nulty 2008, Yan and Fan 2010, Hardigan, Popovici and Carvajal 2016) and it allows to draw a portrait that includes various kinds institutions within the Canadian library community.

4. Results

Questionnaires were returned from institutions located in nine provincesⁱⁱ. Thirty-nine percent reported having a catalogue in English only; 28%, a catalogue in French only; and 16%, a multilingual catalogue. The proportion of special libraries (39%) and public libraries (36%) mirrors roughly their weight in the sample, while academic libraries (17%) are overrepresented and school libraries (8%) are underrepresented. Nearly half of the libraries (48%) surveyed employ 1 to 5 librarians while 13% employ none.

An initial analysisⁱⁱⁱ of the results first indicates that only 40% of respondents had heard about BIBFRAME prior to the survey. This proportion is higher for academic libraries (67%) and public libraries (48%) and lower for special libraries (24%) and school libraries (13%). Among *participants who had heard about BIBFRAME* prior to the survey^{iv}, most participants could not answer multiple-choice questions about:

- Linked data fundamental, for instance:
 - True or false: every RDF triple consists of exactly one subject, one predicate, and one object. (34% of correct answers)
 - True or false: each of the subjects, predicates, and objects of an RDF triple must be associated with a uniquely identifying link, called a Uniform Resource Identifier (URI). (24% of correct answers)
- BIBFRAME vocabulary, for instance:
 - The BIBFRAME vocabulary defines many classes to categorize a library resource such as a book or DVD. To represent a resource in your library collection, what are the base classes that must appear in a description using the BIBFRAME vocabulary? (26% of correct answers)
- BIBFRAME hands-on:
 - While in many cases libraries will be able to reuse links for existing BIBFRAME resource descriptions, including for library items, people, and places, libraries will also need to create new descriptions (for example, of rare books or local artists). What kind of interface will most cataloguers use to create a resource description in BIBFRAME? (24% of correct answers).
 - Linked data focuses on describing resources and the relationship between resources. How will most people find library resources that have been described with BIBFRAME? (32% of correct answers).

In terms of readiness to transition to BIBFRAME, most libraries (82%) answered that they did not know enough about BIBFRAME to consider planning a transition yet. Only one library indicated that the transition from MARC to BIBFRAME was already underway.

5. Limitations

No sampling frame listing all Canadian libraries exists, and while efforts were made to include all libraries, it is possible that a few institutions were absent from the assembled list. Also, despite measures to ensure an adequate response rate (length of the survey, reminders, methods of contact), a response rate of 26.7% is not optimal. Emails sent to the researchers indicate that some libraries did not answer the survey because they had not heard of BIBFRAME. Extrapolation of the results, therefore, should only be made with caution.

6. Conclusion

In 2018, the Library of Congress announced that it would be migrating from MARC to BIBFRAME and the institution has now more than 100 cataloguers using the BIBFRAME linked data format for original cataloguing instead of the MARC format (Canadian BIBFRAME Readiness Task Force 2019, Morris 2019). Data gathered for this study indicate that, across the Canadian library community at large, there was almost no awareness or understanding of BIBFRAME and that very few libraries appear to be ready to transition to BIBFRAME. While academic research projects about BIBFRAME have multiplied and major research libraries have also been preparing to adopt BIBFRAME, it remains to be seen how and when, in practice, libraries in general can follow them. The academic community, through its training of future information professionals and its capacity to offer continuing education, has a role to play.

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ⁱ For school libraries, school boards and individual private schools were targeted.

ⁱⁱ No questionnaire was returned from Prince Edward Island and the three territories.

ⁱⁱⁱ An initial descriptive analysis has been carried out since the closure of the survey on 31 December; more detailed results, including inferential analyses, will be presented in the final version of this paper.

^{iv} Participants who had not heard about BIBFRAME prior to the survey were automatically directed to the next section.