

# COMPARATIVE STUDY OF DIFFERENT METADATA STANDARDS

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**Abstract:** The main objective of this paper is making a comparative study between differential and international metadata standards. Metadata is structured data that describes the characteristics of a resource. In this study, 10 metadata standards are chosen which are functional across various metadata harvesting service provides museums, archives and other open access community. The findings revealed that various metadata schema have been designed to serve different purpose like describing text, image, video, manuscripts etc. Selection of metadata standard actually depends upon the type of the document. A single standard fails to fulfil the entire metadata requirement; hence a combination of two or more standards is made to get desire results.

**Keywords:** Metadata, Metadata Standards, Metadata Interoperability.

**1.0 Introduction:** Metadata is structured data, which describes the characteristics of a resource. The term 'Meta' derived from the Greek word denoting a nature of higher order or more fundamental kind. It shares many similar characteristics to the cataloging that take places in libraries, museum, archives and manuscripts etc. With the rapid development of manuscripts digitization, metadata is becoming a practical method from a theoretical research, Metadata standard as a descriptive technique of digital resources. In the digital environment this enables people to search electronic information and they may seek more efficiently. Metadata the systematic arrangement of data elements help in the identification and location of information resources theses by facilitating improved access to them.

**2.0 Metadata Standards:** A metadata standard consists of a set of elements design for a specific purpose, such as describing a particular type of information resource. The metadata standard is the set of metadata elements and rules tar their uses that have been defined for a particular purpose. They standards have emerged from the need of specific interest groups to standardize how they classify information. Many different metadata standards are being developed in a variety of used environments and disciplines.

**3.0 Metadata Interoperability:** Metadata interoperability is the ability of two or more information system to exchange metadata with minimal loss of information .Form a methodological point of view, implementing interoperability many be considered at different levels and repository levels:

## **3.1 Schema Level**

Efforts are focused on the element of the schemas, being independent of any applications. The results usually appear as derived set of elements or encoded schemas, crosswalks, application profile and element register.

## **3.2 Record Level**

Efforts are intended to integrate the metadata records through the mopping of the elements according to the semantic meaning of these elements.

**3.3 Repository Level**

With harvesting or integrated records from varying sources, efforts at this level focus on mapping strings associated with particular elements. The results enable cross collection searching.

**4.0 Key Findings**

In the present study, to take 10 metadata standard to examine or analyze for different criteria, such as which language used for encoding, describing collections, access term. It also carried out existing metadata elements and their status in each standard.

**5.0 Language Used for Encoded by Metadata Standard**

The metadata are general with the help of high level language, which are encoded into digital form to machine – readable. Software professional have been written machine readable language to simply the job. Different language are used for encoded for metadata standard like (HTML, XML, SGML, XRENT, ODRL and SMIL).

**Table- 1 The following table shows that XML is the most widely used language for Encoding Metadata.**

SL NO.	Metadata Standard	HTML	XML	SGML	XRML	ODRL	SMIL
1	DC	YES	YES	NO	NO	YES	YES
2	AACR 2	YES	YES	NO	YES	NO	YES
3	EAD	NO	YES	YES	YES	NO	YES
4	TEI	NO	YES	YES	YES	NO	NO
5	METS	NO	YES	YES	NO	YES	YES
6	MODS	NO	YES	YES	NO	YES	YES
7	ONIX	YES	YES	NO	NO	YES	YES
8	CDWA LITE	NO	YES	YES	YES	NO	NO
9	MARC 21 XML	NO	YES	YES	NO	YES	NO
10	COPY RIBGT METADATA	YES	YES	NO	YES	NO	NO
	Total	40	100	60	50	50	60

**6.0 Vital/Element Attribute Describing Collection**

Metadata attributes express the characteristics of metadata elements. Element attributes describe the entire collection; there are title, creator, Publisher, subject, publication, source, language, relation. Converge, description, identifier, abstract, edition and keyword.

The analysis of describing collection element shows that. Title and creator elements are present in each standard. 2<sup>nd</sup> preferred elements are publisher, identifier and format. Date and type are used in 8 standard. While subject element is important element for describing but this is used in 6 metadata standards. Very few metadata standards used relation Language, abstract, keyword, edition, and element. (Table 2)

**Table-2 Attributes of Metadata Format Describing Collection**

**TABLE- 2**

Sl No.	Metadata	Title	Subject	Creator	Publisher	Publication Place	Contributor	date	Type	Keyword	Format	Source	Language	relation	Coverage	Description	Identifier	Abshict	Edition
1	DC	YES	YES	YES	YES	XXXX	YES	YES	YES	XXX	YES	YES	YES	YES	YES	YES	XXX	XXX	XXX
2	AACR2	YES	XXXX	YES	YES	YES	XXX	YES	YES	XXX	YES	XXX	YES	XXX	XXX	XXX	YES	XXX	XXX
3	EAD	YES	XXXX	YES	YES	XXXX	XXX	YES	YES	XXX	YES	XXX	XXX	XXX	XXX	XXX	YES	YES	XXX
4	TEI	YES	YES	YES	YES	YES	YES	YES	XXX	YES	YES	XXX	XXX	XXX	XXX	XXX	YES	XXX	XXX
5	METS	YES	YES	YES	YES	YES	YES	XXX	YES	YES	YES	YES	XXX	YES	YES	YES	YES	XXX	XXX
6	MODS	YES	YES	YES	YES	YES	YES	YES	YES	XXX	YES	YES	YES	YES	YES	YES	YES	XXX	XXX
7	ONIX	YES	XXXX	YES	YES	YES	XXX	XXX	YES	XXX	YES	YES	YES	XXX	XXX	YES	YES	YES	YES
8	CDWA LITE	YES	YES	YES	YES	XXXX	XXX	YES	YES	YES	YES	XXX	XXX	XXX	XXX	YES	YES	XXX	YES
9	MARC 21 XML	YES	XXXX	YES	XXX	YES	YES	YES	XXX	YES	XXX	XXX	YES	YES	YES	XXX	YES	XXX	YES
10	Copyright Metadata	YES	XXXX	XXX	XXX	YES	YES	YES	XXX	YES	XXX	XXX	YES	YES	YES	XXX	YES	XXX	YES

**7.0 Metadata Attribute Describing Terms and Conditions**

Metadata standard represent the right holder authority, access conditions, (Whether paid or free), Condition governing reproduction, language of the document, physical, characteristics of the document. It is may be a text, image, manuscript, physical item etc.

**Table-3 Metadata attributes describing terms and conditions**

Sl. No.	Metadata	Right	Access Conditions	Conditions Reproduction	Language	Physical Character	Finding and
1	Dc	Yes	No	No	Yes	No	No
2	AACR2	Yes	Yes	No	No	No	No
3	EAD	No	Yes	No	Yes	Yes	Yes
4	TEI	Yes	Yes	Yes	No	No	Yes
5	NETS	No	No	No	Yes	Yes	No
6	NOSD	Yes	Yes	No	Yes	Yes	Yes
7	ONIX	No	No	Yes	Yes	Yes	No
8	CDWA LITE	Yes	Yes	No	No	No	Yes
9	MARC 21	Yes	Yes	Yes	No	Yes	Yes
10	Copyright Metadata	Yes	Yes	Yes	No	No	Yes

In table no 3 shows that 7(70%) of standards present rights holding authority, 70% standards provide access condition and finding and while 6(60%) present language of the article.

**7.1 Meta data standards were studied and it was found that**

1. DC, AACR, Metadata encoding and transmission standard (METS) and mods are general purpose standard.
2. MARC 21 for educational material purpose.
3. TEI is used for describing textual objects.
4. EAD is used for describing archives and manuscripts and to encode data describing corporate records and personal papers.
5. There are five types of metadata element mandatory. Conditional, optimum. Repeatable and recommended.

DC consists of 15 metadata elements which are optimum and repeatable. AACR 2 has 11 element in these 3 are mandatory, 7 conditional, 3 optional 3 repeatable and recommended. EAD consists of 10 metadata elements .3 are mandatory, 3 conditional, 5 ptional, 3 are repeatable and 3 are recommended.TEI has 12 metadata elements out of these 4 are mandatory, 4 conditional, 7 optional, 6 repeatable and 2 are recommended.

6. Title is a mandatory element in the all metadata standard. It is also repeatable by some standard. Subject is very important element for any standard. But 70% metadata not included. Creator is mandatory for all standards. Publication is keep original and conditional for most of the standard. Place and data are conditional for majority standard. Type of is optional and repeatable. Format is not preferred by most schemas. Source element is used as optional and repeatable by the mast of the standard 50% standard do not prefer to include the language element in their format .Major standard include coverage element as optional. After comparing all the standard find out is metadata standard very in their organization of elements. They are interoperable. Dc is the most widely used standard.

**8.0 Conclusion**

Metadata elements are designed for a specific purpose, specific domain or particular project. Many different metadata schemes are being developed for different discipline like library science, education, archiving, commerce and arts. In this study, 10 metadata standards are compared and find out that one particular standard not fulfill the entire requirement. Selection of metadata standard actually depends upon the type of the document. Combination of two or more standards is made to get desire results.

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