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Importance of the agent entity identifiers in the digital world

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Introduction

Authority databases have a significant role in organization of information because they contain reliable, understandable, and accurate authority records, unique in the identification of names for persons, families, corporate bodies and places. Authority control is accomplished through use of guidelines, standards, and controlled vocabularies. This paper will present an importance of agent entity identifiers and their inclusion in authority databases because they are helpful in daily working and quality control processes, they make library data more visible, and give more information about persons and corporate bodies. In this paper, we will focus on VIAF ID, ISNI and ORCID as selected agent entity identifiers.

Theoretical framework

Today we live in linked data environment and libraries need to prepare their metadata so they can be used widely on the Web. Authority control can be achieved not only with controlled authorized access points, but also with agent entity identifiers.

“Authority control is the result of the process of maintaining consistency in the verbal form used to represent an access point and the further process of showing the relationships among names, works, and subjects. It is accomplished through use of cataloging guidelines (in the case of names and titles), use of a controlled vocabulary, and reference to an authority file” (Wiederhold, Reeve 2021, 129).

Methodology and Discussion

We will present agent entity identifiers as tool for quality and authority control in library authority databases presenting the latest practices published in the available literature. Agent entity identifiers in focus of this paper are VIAF ID, ISNI and ORCID.

Identifier is a numerical or alphanumeric code that unambiguously identifies person or corporate bodies and families within a certain system and identifiers includes unique source identifiers (IRI) (Getliher and Knežević Cerovski 2018, 201-202). The characteristics of identification systems are the definition of attributes, syntax, definitions and granularity, scope, organization, discovery, stability, timeliness and synchronization, temporariness, and licensing. Identifiers are at the heart of how data can be effectively published, retrieved, reused, and linked” (Dodds et al. 2014, 5). Libraries can integrate IRIs in their dataflow. “The use of URIs and IRIs in authority work is a growing trend to facilitate more implicit linking of entities to other datasets, data repositories, and catalogs that exist online”. That is why evolution from authority control to entity and identity prioritizes assigning unique identifiers to a single entity over differentiation of names (Wiederhold, Reeve 2021, 149). Identities inside of different identification systems, like authority databases or bibliographic databases, have unique identifiers.

“Using many identifiers can provide for the user the possibility to access external data, getting more information about authors, enhancing the chances to clarify doubts, or discovering sources beyond the OPAC” (Giusti Serra, Schneider and Santarém Segundo 2020, 513).

Including identifiers like VIAF ID and ISNI into authority records has many benefits for libraries. Also, VIAF recommends including VIAF IDs in records because that is the equivalent of putting strong links to each record in the VIAF cluster (VIAF guidelines, 2022, 5).

Picture 1 shows how Deutsche Nationalbibliothek, in their authority data, uses different kind of agent entity identifiers such as ORCID, SCOPUS ID, RID and their own database control number GND.

```

<datafield tag="024" ind1="7" ind2="
"> <subfield
code="a">1088453392</subfield>
<subfield code="0">http://d-
nb.info/gnd/1088453392</subfield>
<subfield code="2">gnd</subfield>
</datafield> <datafield tag="024"
ind1="7" ind2=" "> <subfield
code="a">0000-0003-3334-
2771</subfield> <subfield
code="9">v:Herkunft: orcid</subfield>
<subfield code="2">orcid</subfield>
</datafield> <datafield tag="024"
ind1="7" ind2=" "> <subfield
code="a">J-5635-2014</subfield>
<subfield code="2">rid</subfield>
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ind1="7" ind2=" "> <subfield
code="a">56002136600</subfield>
<subfield code="2">scopus</subfield>
<datafield tag="100" ind1="1" ind2="
"> <subfield code="1" ind1="1" ind2="
"> <subfield code="a">Pampel,
Heinz</subfield> <subfield
code="d">1981-</subfield>

```

GND	
Link zu diesem Datensatz	https://d-nb.info/gnd/1088453392
Person	Pampel, Heinz
Akademischer Grad	Dipl.-Bibl.
Geschlecht	männlich
Zeit	Lebensdaten: 1981-
Land	Deutschland (XA-DE)
Geografischer Bezug	Geburtsort: Waiblingen Wirkungsort: Stuttgart Wirkungsort: Hamburg Wirkungsort: Potsdam
Beruf(e)	Bibliothekar Informationswissenschaftler
Beziehungen zu Organisationen	Deutsches GeoForschungszentrum
Typ	Person (piz)
Autor von	16 Publikationen 1. <i>Organisations-IDs in Deutschland – Ergebnisse einer Bestandsaufnahme im Jahr 2020</i> Enthalten in <i>Bibliothek</i> Bd. 46, 2022, Nr. 1: 191-215. 25 S. 2. <i>Strategische und operative Handlungsoptionen für wissenschaftliche Einrichtungen zur Gestaltung der Open-Access-Transformation</i> Pampel, Heinz. - Berlin : Humboldt-Universität zu Berlin, 2021

Picture 1. Deutsche Nationalbibliothek ORCID, SCOPUS ID, RID and GND

Picture 2 shows how Biblioteca Nacional de España includes VIAF ID, ISNI, and Wikidata into their authority records in tag 024 of format MARC21 A.

Catálogo BNE

Nueva búsqueda

Cambiar Formato Formato: MARC21

001	XX1098432
003	SpMaBN
005	20010716123300.5
008	901120nn aijnnaabn n aaa
016	\$aBNE19900673275
024	7 \$ahttp://viaf.org/viaf/51677529\$2viaf
024	7 \$ahttp://www.isni.org/isni/0000000121012834\$2isni
024	7 \$ahttps://www.wikidata.org/wiki/Q1153825\$2wikidata
040	\$aSpMaBN\$bspa\$cSpMaBN\$erdc\$fembne
046	\$f1940
100	1 \$aErnaux, Annie\$d1940-
370	\$aLillebonne\$vWikidata
374	\$aEscritores\$vWikidata
377	\$lFrancés
375	\$aFemenino
670	\$aUna mujer, 1988\$bport. (Annie Ernaux) solapa (n. en Lille-Bonne, 1940)
670	\$aName authorities, 1977-1986\$b(Ernaux, Annie, 1940)

Obras

Picture 2. Identifiers VIAD ID, ISNI and Wikidata in authority database BNE

Sandberg and Jin suggest cataloguers to provide authority control for journal article authors with agent entity identifiers and by linking to external international authority databases. They choose suitable identifiers for providing authority control and they conclude that combination of ISNI, ORCID and VIAF ID provides reasonable level of representation of journal authors (Sandberg and Jin 2016, 550).

Agent entity identifiers can be used in format MARC21 in subfields \$0 or \$1 in 1XX and 7XX tags within bibliographic database to provide authority control on the level of bibliographic record especially for journal authors (Giusti Serra, Liliana, Schneider and Santarém Segundo 2020, 514).

In paper we decided to select VIAF ID, ISNI and ORCID and present them as agent entity identifiers that can help in process of authority control.

VIAF ID (<https://viaf.org>)

VIAF is an international virtual authority file that was created in 2003 by OCLC. It is a system of 57 different authority databases, most of the world's national libraries and other agencies. Each author receives his own numerical VIAF ID, which is also available in the form of a URI. Each institution participating in VIAF sends its authority and bibliographic databases that are merged using algorithms to create VIAF clusters, i.e., unique record for each identity that has

unique VIAF ID. The VIAF ID is a unique identifier of an author that applies to persons, families, corporate bodies/meetings, places and titles, or all types of authorships which are represented in authority databases. (VIAF, 2022). VIAF has also been extended to identify works and expressions.

ISNI (<https://isni.org>)

ISNI is an agent entity identifier, ISO certified global standard number for identifying the millions of contributors to creative works and those active in their distribution, including researchers, inventors, writers, artists, visual creators, performers, producers, publishers, aggregators. The mission of the ISNI International Agency (ISNI-IA) is to assign to the public name(s) of a researcher, inventor, writer, artist, performer, publisher, etc. a persistent unique identifying number in order to resolve the problem of name ambiguity in search and discovery; and diffuse each assigned ISNI across all repertoires in the global supply chain so that every published work can be unambiguously attributed to its creator wherever that work is described (ISNI, 2022).

Ann van Kamp explains three major benefits of implementing ISNI at KBR: 1) enables us to enhance data quality, 2) facilitates smooth data exchanges, and 3) improves internal processes like cataloguing or monitoring legal deposit (Van Camp and Lieber 2022, 1).

ORCID (<https://orcid.org>)

ORCID is an agent entity identifier used only to identify a researcher. It is free of charge upon personal request. The key to identifying researchers is the name and e-mail address. Researchers can register, use the register, manage record, share their ORCID and related record, receive updates records, such as links to published manuscripts with their ORCID. ORCID is applicable for researchers that and not included into library catalogues, but they need to be motivated to control account (ORCID, 2022).




Identifier	Year	Founder	Domain	Permanent	Free	Open	Interoperable	Global	Available on:	Syntax
	2010	ISNI International Agency (ISNI-IA)	person, family, corporate body/ meetings	+	-	+/-	+	+	http://isni.org/	ISNI 0000 0001 1027 3481 http://www.isni.org/isni/0000000110273481
	2009	Orcid	researchers	+	+	+	+	+	https://orcid.org/	ORCID 0000-0002-0686-3857 https://orcid.org/0000-0002-0686-3857
	2003	OCLC	person, family, corporate body/meetings, places	+	-	-	+	+	http://viaf.org/	VIAF ID: 44465988 http://viaf.org/viaf/44465988

Table 1. ISNI, ORCID and VIAF ID comparison

Conclusion

Many libraries already use identifiers in their authority data, like DNB and BNE. Agent entity identifiers can be used also for reducing the costs of cataloguing authority records for journal authors by defining them with different identifiers like ORCID, VIAF ID or ISNI either in authority or bibliographic records. The Rules for Resource Description and Access in Libraries, Archives and Museums (KAM Rules) as new cataloguing code is based precisely on the standardization and uniformity in identification and description that enables data sharing and it is compatible with systems that use identifiers. Future of authority control is in following linked data principles and transforming library data into linked data so libraries should encourage usage of identifiers and also make guidelines for including identifiers in their own cataloguing policies.

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