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IFLA standardi, UNIMARC i COBISS sistem: značaj normativnih podataka

IFLA Standards, UNIMARC and COBISS System: the Importance of Authority Data

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Sažetak / Abstract

Bibliografska kontrola jedna je od nekolicine međunarodno visoko standardizovanih delatnosti. Opšte prihvaćen IFLA Library Reference Model (IFLA LRM) uticao je na izmenu brojnih drugih standarda u oblasti bibliografske kontrole. U tom okviru uticao je i na UNIMARC i ISBD, a na kongresu IFLA WLIC 2022. radna grupu za reviziju međunarodnih principa katalogizacije objavila je da analizira uvođenje termina "rad sa entitetima". U COBISS sistemu pomno se prate događanja u oblasti bibliografske kontrole i standardâ koji su sa njom povezani. Prelazak u novi milenijum bacio je novo svetlo na organizaciju bibliografskih informacija postavivši u žižu interesovanja normativne podatke kao osnovni tvorbeni element novog pristupa obradi izvora bibliografskog univerzuma. Stoga, najpre treba analizirati stanje normativnih podataka u mreži COBISS.net koje može poslužiti kao polazište za koncept razvoja i saradnje između zemalja članica mreže COBISS.net.

Bibliographic control is one of the few internationally highly standardized activities. The generally accepted IFLA Library Reference Model (IFLA LRM) has influenced the modification of numerous other standards in the field of bibliographic control. In this context, also on UNIMARC and ISBD. Moreover, at the IFLA WLIC 2022 Congress, the working group for the revision of international cataloguing principles announced that it was analyzing the introduction of the term "work with entities". In the COBISS system, developments in the field of bibliographic control and standards related to it are closely monitored. The transition to the new millennium shed a new light on the organization of bibliographic information, placing in the focus of interest authority data as the basic building block of a new approach to managing the sources of the bibliographic universe. Therefore, first of all, the state of authority data in the COBISS.net network should be analyzed, which can serve as a starting point for development and cooperation between the member countries of the COBISS.net network also on this field.

1 Uvod

Bibliografska kontrola jedna je od nekolicine međunarodno visoko standardizovanih delatnosti. Zahvaljujući standardizaciji, razmenljivost bibliografskih podataka je visoka, a procesi automatizacije bibliotečke delatnosti lakši. Prelazak u novi milenijum bacio je novo svetlo na organizaciju bibliografskih informacija postavivši u žižu interesovanja normativne podatke kao osnovni tvorbeni element novog pristupa obradi izvora bibliografskog univerzuma.

U COBISS sistemu napravljeni su već neki koraci ka uvođenju savremene kataloške prakse. Tokom 2017. godine u bibliotečkom katalogu, odnosno u internetskoj aplikaciji COBISS+, izvedena je delimična tzv. "FRBRizacija" prema modelu *Funkcionalnih zahteva za bibliografske zapise* (2005)

1 Introduction

Bibliographic control is one of the few internationally highly standardized activities. Thanks to standardization, the exchangeability of bibliographic data is high, and the processes of automating the activities of libraries are easier. The transition to the new millennium has shed new light on the organization of bibliographic information, putting authority data in the focus of interest as the basic formation element of a new approach to processing the sources of the bibliographic universe.

In the COBISS system, some steps have already been taken toward the introduction of modern cataloguing practices. In 2017, in the library catalogue, i.e., web application COBISS+, according to the International Federation of Library Associations and Institutions (IFLA) model Functional Requirements for Bibliographic Records (FRBR), a partial

(engl. *Functional Requirements for Bibliographic Records* – FRBR) Međunarodne federacije bibliotečkih udruženja i institucija (IFLA). Analizom bibliografskih i normativnih zapisa koncipirani su algoritmi za grupisanje zapisa. Pokazalo se da je automatizovana metoda relativno upotrebljiva, ali u mnogo čemu i ograničena. Na osmišljavanje algoritama naročito je uticao nedostatak podataka kojima se mogu definisati entiteti i odnosi između njih (Krajnc Vobovnik & Mazić, 2017).

Normativni podaci su osnov za izvođenje normativne kontrole koja ima svoje prednosti kako za krajnje korisnike tako i za bibliotečke sisteme. U katalogizaciji kao sistemu upravljanja podacima normativna kontrola jedna je od metoda normiranja podataka. Normativne pristupne tačke, kojima se jednoobrazno identifikuju entiteti, ne samo da obezbeđuju veću doslednost podataka već omogućavaju i pregled odnosa s drugim oblicima istog podatka, tzv. varijantnih pristupnih tačaka, kao i relacije prema srodnim pristupnim tačkama. Time se obezbeđuje bolja identifikacija, kao i funkcija sakupljanja i istraživanja bibliotečkih kataloga (Tominac, 2020).

Izrada normativnih zapisa izuzetno je zahtevan, dugotrajan i skup posao koji se isplati tek kada se katalog koristi, što je kod uzajamnih kataloga još važnije (Kanič, 1990). Istovremeno, normativna kontrola je jedan od načina racionalizacije postupaka, jer katalogizatori ne moraju ponovo da formiraju pojedinačne normativne pristupne tačke, ukoliko takva pristupna tačka već postoji u normativnoj datoteci (Wiederhold & Reeve, 2021). Najveća dodata vrednost samog koncepta COBISS sistema je međusobna saradnja koja može da se isplati i kod normativnih podataka.

Članak najpre predstavlja neke od ključnih tačaka IFLA standarda u odnosu na nove pristupe u katalogizaciji. Potom dolazi poglavlje koje sažima stanje u oblasti normativnih podataka i normativne kontrole u mreži nacionalnih sistema koji su uključeni u mrežu COBISS.net. Ovo poglavlje uključuje i jednostavnu SWOT analizu činilaca povezanih s normativnim podacima u mreži COBISS.net, a koja može poslužiti kao polazište za bolju saradnju sistemâ u mreži COBISS.net u ovoj oblasti.

2 Značaj IFLA standarda i UNIMARC-a

IFLA konsolidovani model za razvoj savremenih bibliografsko-informacionih sistema (*Library Reference model – IFLA LRM*) predstavlja konceptualni model entiteta i relacija koji nudi logičku strukturu bibliografskih informacija (Riva, Le Bœuf

so-called "FRBRization" was made. Algorithms for grouping records were conceived by analysing bibliographic and authority records. It turned out that the automated method is relatively usable, but also limited in many respects. The design of algorithms was particularly affected by the lack of data that could be used to define entities and the relationships between them (Krajnc Vobovnik & Mazić, 2017).

Authority data is the basis for performing authority control, which has its advantages both for end users and for library systems. In cataloguing as a data management system, authority control is one of the methods of data standardization. Authority access points, which uniformly identify entities, not only ensure greater data consistency, but also enable an overview of relationships with other forms of the same data, the so-called variant access points, as well as relations to related access points. This ensures better identification, as well as the function of collecting and researching library catalogues (Tominac, 2020).

Creating authority records is an extremely demanding, time-consuming, and expensive job that pays off only when the catalogue is used, which is even more significant with cooperative catalogues (Kanič, 1990). At the same time, authority control is one of the ways to rationalize procedures, because cataloguers do not have to create individual authority access points again, if such an access point already exists in the authority file (Wiederhold & Reeve, 2021). The greatest added value of the COBISS system concept itself is cordial cooperation, which can also pay off with authority data. The greatest added value of the COBISS system concept itself is cordial cooperation, which can also pay off with authority data. The article first presents some of the key points of the IFLA standard in relation to new approaches in cataloguing. Then comes the chapter that summarizes the situation in the field of authority data and authority control in the network of national systems that are included in the network COBISS.net. This chapter also includes a simple SWOT analysis of factors related to authority data in the network COBISS.net, which can serve as a starting point for better cooperation between systems in the network COBISS.net in this field.

2 The importance of IFLA standards and UNIMARC

IFLA *Library Reference Model* (*IFLA LRM*) represents a conceptual model of entities and relations that offers a logical structure of bibliographic information (Riva, Le Bœuf & Žumer, 2017). It is based on entities that are described by attributes and relations that connect these entities and place them in context. It is a general and abstract model that offers a framework within which information system designers can develop solutions and updates

& Žumer, 2017). Zasniva se na entitetima koji su opisani atributima i relacijama koje povezuju te entitete i postavljaju ih u kontekst. Reč je o opštem i apstraktnom modelu koji nudi okvir unutar kojeg projektanti informacionih sistema mogu da razvijaju rešenja i ažuriranja na osnovu specifičnih potreba pojedinačne zajednice biblioteka.

Uz novi konceptualni model IFLA LRM javlja se potreba za izmenu drugih IFLA standarda. Novi pristup razumevanju podataka otvorio je različite dileme koje prilikom izmene standarda moraju da se razreše. Stoga su u toku brojne diskusije i aktivnosti koje postupno uvode novitete. Na primer, radna grupa za reviziju ISBD standarda priprema usaglašavanje ISBD standarda sa nivoom manifestacije. Na kongresu IFLA WLIC 2022. radna grupa za reviziju Međunarodnih principa katalogizacije objavila je da analizira uvođenje izraza "rad s entitetima" u postojeći dokument *Statement of International Cataloguing Principles* (ICP) koji je objavljen 2017. godine.

Model IFLA LRM ne pretpostavlja kako će se podaci čuvati u određenom sistemu ili aplikaciji, stoga i ne pravi razliku između podataka koji su tradicionalno zavedeni u bibliografskim zapisima i normativnih zapisa. U modelu se, stoga, za obe vrste podataka koristi izraz bibliografske informacije. Međunarodni standard za sadržaj (*Resource Description & Access – RDA*), koji se iz navike zove kataloškim priručnikom, zapravo predstavlja "paket elemenata s podacima, smernicama i uputstvima za izradu metapodataka o bibliotečkoj građi i drugoj građi kulturne baštine..." (RDA Toolkit, 2022).

Na operativnom, odnosno praktičnom nivou, pojedinačni bibliotečki sistemi mogu da primene standarde za sadržaj na različite načine. Na primer, RDA predviđa četiri različita scenarija implementacije:

- Scenario A: Povezani otvoreni podaci (engl. *linked open data*)
- Scenario B: Relacioni podaci ili podaci usmereni na objekat (engl. *relational or object oriented data*)
- Scenario C: Bibliografski / normativni podaci (engl. *bibliographic / authority data*)
- Scenario D: Podaci nepovezanih datoteka (engl. *flat file data*) (RDA Toolkit, 2022).

U međunarodnom okruženju već se susreću primeri pilot-projekata "entitetifikacije", tj. prelaska sa upravljanja zapisima na upravljanje identitetima, odnosno entitetima, a u skladu s tim i razvoj formata, editora itd. koji će podržavati infrastrukturu povezanih podataka (npr. BIBFRAME, OCLC Entity

based on the specific needs of individual library communities.

Along with the new IFLA LRM conceptual model, there is a need to change other IFLA standards. The new approach to understanding data has opened up various dilemmas that must be resolved when changing standards. Therefore, there are numerous discussions and activities that are gradually introducing novelties. For example, the working group for the revision of the ISBD standard prepares the harmonization of the ISBD standard with the manifestation level. At the IFLA WLIC 2022 congress, the working group for the revision of the International Cataloguing Principles announced that it is analysing the introduction of the term "working with entities" in the existing document *Statement of International Cataloguing Principles* (ICP), which was published in 2017.

The IFLA LRM model does not assume how the data will be stored in a specific system or application, therefore it does not distinguish between data traditionally recorded in bibliographic records and authority records. In the model, therefore, the term bibliographic information is used for both types of data. The international standard for content (*Resource Description & Access* – RDA), which is usually called a cataloguing manual, actually represents "a package of data elements, guidelines, and instructions for creating library and cultural heritage resource metadata..." (RDA Toolkit, 2022).

On an operational, or practical level, individual library systems can implement content standards in different ways. For example, the RDA foresees four different implementation scenarios:

- Scenario A: Linked open data
- Scenario B: Relational or object-oriented data
- Scenario C: Bibliographic/authority data
- Scenario D: Flat file data (RDA Toolkit, 2022).

In the international environment, there are already examples of "entity identification" pilot projects, i.e., the transition from record management to identity management, i.e., entities, and in accordance with this, the development of formats, editors, etc. that will support the infrastructure of linked data (e.g., BIBFRAME, OCLC Entity management). In practice, different ontological models are developed and applied, taking into account the needs, that is, the profiles of the application of standards for the content of an individual system.

And more often, one comes across those systems, that is, institutions, decided primarily for the so-called scenario "bibliographic/authority data". At the same time, the greatest attention is paid to identity management, i.e., upgrading authority data with identifiers, such as ISNI, ORCID, etc. An identifier is a description for distinguishing things

management). U praksi se razvijaju i primenjuju različiti ontološki modeli, i to s obzirom na potrebe, odnosno profile primene standarda za sadržaj pojedinačnog sistema.

A češće se nailazi na to da su se sistemi, odnosno ustanove, odlučile prevashodno za tzv. scenario "*bibliografski / normativni podaci*". Pritom, najveća pažnja se posvećuje upravljanju identitetima (engl. *identity management*), tj. nadogradnji normativnih podataka identifikatorima, kao što su ISNI, ORCID itd. Identifikator je oznaka za razlikovanje stvari u bibliografskom univerzumu. Efikasno informaciono upitivanje, odnosno pretraživanje informacija, zahteva da se predmet koji je opisan metapodacima identifikuje (Dunsire, 2022). Istovremeno se odvijaju projekti objavljivanja normativnih podataka i kontrolisanih rečnika na internetu koji su neophodni i za scenario povezanih otvorenih podataka.

Jedan od važnijih IFLA standarda je UNIMARC. UNIMARC potiče iz porodice MARC formata i još od 70-ih godina XX veka omogućava računarski čitljiv zapis strukturom koja odgovara elementima bibliografskog upisa. UNIMARC je zasnovan u skladu s načelima univerzalne bibliografske kontrole, jer je IFLA prepoznala značaj formata pri međunarodnoj razmeni podataka u svrhu smanjivanja troškova katalogizacije. Pod okriljem IFLE, razvoj UNIMARC formata zasnivao se na razumevanju jezičke, kulturne i drugih specifičnosti korisnika formata. Danas UNIMARC predstavlja skup četiri formata: bibliografski (UNIMARC/B), normativni (UNIMARC/A), klasifikacioni (UNIMARC Classification) i format za podatke o fondu (UNIMARC/H) koje ustanove mogu da koriste neposredno ili kao osnov za pojedinačne varijante formata, npr. COMARC koji je razvijen za COBISS sistem (Brešar, 2004).

Od 1991. godine razvoj formata usmerava Stalni UNIMARC odbor (engl. *Permanent UNIMARC Committee* – PUC) koji je u strukturu IFLE sada umešten kao radna grupa. PUC u mandatu od 2021. do 2023. godine ima devet stalnih članova i dve stručne saradnice, odnosno mentorke, a odborom već više mandata predsedava predstavnica iz Instituta informacijskih znanosti (IZUM), mr Gordana Mazić.

Osnovna funkcija odbora je razvoj, održavanje i promocija formata. Najvažniji ciljevi su mogućnost prenosa UNIMARC podataka na semantički internet, primena konceptualnog modela FRBR, odnosno sada LRM, usklađivanje s izmenama ISBD, RDA i MARC21, kao i uvođenje standardnih i drugih identifikatora za upravljanje i pristup elektronskim publikacijama (Mazić, 2015).

in the bibliographic universe. Efficient retrieval of information, i.e., searching for information, requires that the entity described by the metadata be identified (Dunsire, 2022). At the same time, simultaneously performed projects, and publish authority data and controlled vocabularies on the Web, which are also necessary for the linked open data scenario.

One of the most important IFLA standards is UNIMARC. UNIMARC originates from the MARC format family and since the 70s of the 20th century has enabled a computer-readable record with a structure that corresponds to the elements of the bibliographic entry. UNIMARC was founded in accordance with the principles of universal bibliographic control, because IFLA recognized the importance of formats in the international exchange of data in order to reduce cataloguing costs. Under the umbrella of IFLA, the development of the UNIMARC format was based on an understanding of the linguistic, cultural, and other specificities of the users of the format. Today, UNIMARC presents a set of four formats: Bibliographic (UNIMARC/B), Authorities (UNIMARC/A), Classification format (UNIMARC Classification), and a format for holdings (UNIMARC/H) that institutions can use directly or as a basis for individual variants of the format, e.g., COMARC which was developed for the COBISS system (Brešar, 2004).

Since 1991, the development of the format has been directed by the Permanent UNIMARC Committee (PUC), which is now included in the IFLA structure as a working group. PUC in the mandate from 2021 to 2023 has nine permanent members and two expert associates, i.e., mentors, and the committee has been chaired by a representative from the Institute of Information Science, Gordana Mazić, MA, in more mandates.

The basic function of the board is the development, maintenance and promotion of the format. The most important goals are the possibility of transferring UNIMARC data to the Semantic Web, the application of the conceptual model FRBR, or now LRM, harmonization with changes to ISBD, RDA, and MARC21, as well as the introduction of standard and other identifiers for management and access to electronic publications. (Mazić, 2015).

The UNIMARC format is developed depending on the needs of the users of the format. This is how it is harmonized with the structure of the IFLA LRM model and the new regulations, and it is directed into a relational/object data structure. The UNIMARC format is, in fact, a well-granulated data schema, and the connection between the elements of the UNIMARC/B and UNIMARC/A formats ensures the conversion of unstructured bibliographic data into structured information. Some procedures for converting bibliographic records from MARC format to the entity-relational data model are al-

UNIMARC format se razvija u zavisnosti od potreba korisnika formata. Tako se i usklađuje sa strukturom modela IFLA LRM i novim pravilnicima te usmerava u relacionu / objektnu strukturu podataka. UNIMARC format je, naime, dobro granulisana shema podataka, a veza između elemenata UNIMARC/B i UNIMARC/A formata obezbeđuje pretvaranje nestrukturisanih bibliografskih podataka u strukturisane informacije. Neki postupci pretvaranja bibliografskih zapisa iz MARC formata u entitetsko-relacioni model podataka već su poznati, a moguće su i konverzije u formalizam svetske mreže.

Pored postojeće tzv. tradicionalne kataloške prakse, UNIMARC delimično već podržava tzv. entitetsku katalogizaciju koja se suštinski zasniva na normativnim podacima (Lecomte, 2021). Slika 1 prikazuje primer strukture UNIMARC formata s obzirom na osnovne entitete za opis bibliografskog izvora, tj. delo, ekspresije, manifestacije i jedinicu, koji su poznati i kao WEMI (engl. *Work, Expression, Manifestation, Item*) i koji su uključeni u novi model IFLA LRM.

Slika 1: Primer strukture UNIMARC formata s osnovnim entitetima dela, ekspresije, manifestacije i jedinice tzv. WEMI

Legenda: U/B = UNIMARC/B format za bibliografske podatke, U/A = UNIMARC/A format za normativne podatke, U/H = UNIMARC/H format za podatke o stanju fonda

Uprkos ovom polazištu, detaljne analize su pokazale da za nove standarde za sadržaj, tj. kataloške pravilnike, formate treba dodatno prilagoditi i nadograditi. U okviru radne grupe Stalnog UNIMARC odbora u poslednjem periodu razmatrani su opsežni predlozi dopuna, naročito UNIMARC/A formata za normativne podatke (slika 2). Usvojene dopune, koje su objavljene na internetskoj stranici Stalnog UNIMARC odbora, omogućavaju kreiranje normativnih zapisa za dela i izražajni oblik za većinu vrsta građe (UNIMARC Updates, 2021).

Od značajnijih novosti koje se trenutno pripremaju ističu se uvođenje koncepta jedinstvenog identifikatora izvora URI (odnosno verzija IRI) koji je

ready known, and conversions to the World Wide Web formalism are also possible.

In addition to the existing so-called traditional cataloguing practices, UNIMARC partially already supports the so-called entity cataloguing which is essentially based on authority data (Lecomte, 2021). Figure 1 shows an example of the structure of the UNIMARC format with regard to the basic entities for the description of a bibliographic source, i.e., Work, Expression, Manifestation, and Item, which are also known as WEMI and which are included in the new IFLA LRM model.

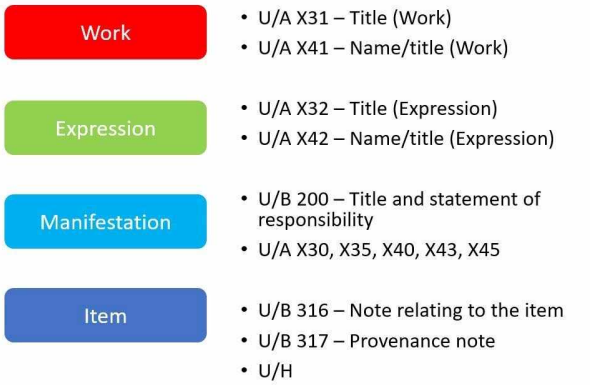

Figure 1: An example of the structure of the UNIMARC format with the basic entities of work, expression, manifestation, and item of the so-called WEMI

Legend: U/B = UNIMARC/B format for bibliographic data, U/A = UNIMARC/A format for authority data, U/H = UNIMARC/H format for holdings data

Despite this starting point, detailed analyses have shown that for new content standards, i.e., catalogue rules, the formats need to be further adapted and upgraded. In the framework of the working group of the Permanent UNIMARC Committee, in the last period, extensive proposals for updates, especially the UNIMARC/A format for authority data, were considered. (Figure 2). The adopted rules, which were published on the website of the Permanent UNIMARC Committee, enable the creation of authority records for works and expressions for most types of materials (UNIMARC Updates, 2021).

Among the more significant innovations that are currently being prepared, stands out the introduction of the concept of a unique source identifier URI (that is, the IRI version) which is unique at the global level and which will enable the interoperability of data on the Semantic Web. Currently, underway is a project to update the way of maintaining and updating data elements of the UNIMARC format as linked data in the *IFLA Namespaces* (https://www.iflastandards.info/). The UNIMARC Standing Committee will now focus on new LRM entities and relationships already adopted in RDA and other cataloguing standards based on IFLA LRM.

LRM ID	Entity	Attribute/Relationship	Name	UNIMARC Field	Name	Subfield/Ind/Pos	Comments
LRM-E2-A1	Work	Attribute	Category	A/608	Form or genre of work		RDA: "Category of work"
LRM-E2-A1	Work	Attribute	Category	A/140	CODED DATA FIELD: CONTENT AND FORM OF WORK		RDA: "Category of work" except for musical works (see A/128)
LRM-E2-A1	Work	Attribute	Category	A/128	CODED DATA FIELD: FORM OF MUSICAL WORK AND KEY OR MODE	$a Form of musical work	For musical works only
LRM-E2-A2	Work	Attribute	Representative Expression Attribute	A/101	LANGUAGE OF THE ENTITY	$a when value of ind. 1 is "0"	
LRM-E2-A2	Work	Attribute	Representative Expression Attribute	A/125	CODED DATA FIELD: INTENDED AUDIENCE	if value of ind. 1 is "0"	
LRM-E2-A2	Work	Attribute	Representative Expression Attribute	A/127	CODED DATA FIELD: DURATION AND CAPTURE INFORMATION	$a, if value of ind. 1 is "0"	
LRM-E2-A2	Work	Attribute	Representative Expression Attribute	A/145	CODED DATA FIELD: CONTENT TYPE OF EXPRESSION	if value of ind. 1 is "0"	
LRM-E2-A2	Work	Attribute	Representative Expression Attribute	A/146	CODED DATA FIELD: MEDIUM OF PERFORMANCE	if value of ind. 1 is "0"	
LRM-E2-A2	Work	Attribute	Representative Expression Attribute	A/147	CODED DATA FIELD: COLOUR AND SOUND CONTENT	if value of ind. 1 is "0"	
LRM-E3-A1	Expression	Attribute	Category	A/371	Note on expression	$a Details on Sound Content	RDA: "sound content"
LRM-E3-A1	Expression	Attribute	Category	A/371	Note on expression	$b Details on Colour Content	RDA:"Details on colour content"
LRM-E3-A1	Expression	Attribute	Category	A/147	CODED DATA FIELD: COLOUR AND SOUND CONTENT		RDA:"Colour content", "Sound
LRM-E3-A1	Expression	Attribute	Category	A/145	CODED DATA FIELD: CONTENT TYPE OF EXPRESSION		RDA:"Content type"
LRM-E3-A1	Expression	Attribute	Category	A/105	CODED DATA FIELD: FORM OF NOTATION OF EXPRESSION		RDA:"Form of notation"
LRM-E3-A2	Expression	Attribute	Extent	A/127	CODED DATA FIELD: DURATION AND CAPTURE INFORMATION	$a Duration	Other UNM updates may be necessary to accomodate duration for other types of contents: texts

Slika 2: Primer isečka analize elemenata IFLA LRM i formata UNIMARC 2021. godine (izvor: Dokumentacija Stalnog UNIMARC odbora, pripremio francuski UNIMARC odbor / Comité français UNIMARC – CFU)

Figure 2: Example of a snippet analysis of IFLA LRM elements and UNIMARC format in 2021 (source: Documentation of the Permanent UNIMARC Committee, prepared by the French UNIMARC Committee / Comité français UNIMARC – CFU)

unikatan na globalnom nivou i koji će omogućavati interoperabilnost podataka na semantičkom internetu. Upravo se odvija projekat ažuriranja načina održavanja i ažuriranja elemenata podataka UNIMARC formata kao povezanih podataka u IFLA imenskom prostoru *IFLA Namespaces* (https://www.iflastandards.info/). Stalni UNIMARC odbor sada će se usredsrediti na nove LRM entitete i odnose koji su već usvojeni u RDA i drugim kataloškim standardima koji se zasnivaju na IFLA LRM.

3 Normativne baze (podaci) i normativna kontrola u mreži COBISS.net

COBISS (kooperativni online bibliografski sistem i servisi) je model koji predstavlja platformu bibliotečko-informacionih sistema u Sloveniji (COBISS.SI), Srbiji (COBISS.SR), Severnoj Makedoniji (COBISS.MK), Bosni i Hercegovini (COBISS.BH, Republika Srpska – COBISS.RS), Crnoj Gori (COBISS.CG), Bugarskoj (COBISS.BG), Albaniji (COBISS.AL) i na Kosovu (COBISS.KS). Svi navedeni sistemi povezani su u regionalnu mrežu COBISS.net. Ciljevi projekta COBISS.net su, između ostalog, poboljšanje automatizacije biblioteka i harmonizacija pravila obrade bibliotečke građe s obzirom na međunarodne preporuke i standarde, kao i uspostavljanje kompatibilnih informacionih sistema istraživačke delatnosti (E-CRIS), čime se poboljšava korišćenje rezultata istraživačke delatnosti, a time podstiču inovacioni procesi te privredni i društveni razvoj u regionu (Šoštarič, 2019).

Baze normativnih zapisa i normativna kontrola u mreži COBISS.net implementirane su u različitim periodima, a počeci zamisli datiraju još od kraja 90-ih godina XX veka. Prva normativna baza i uvođenje normativne kontrole za lična imena implementirana je u slovenački sistem 2003. godine (Seljak et

3 Authority databases (data) and authority control in the network COBISS.net

COBISS (Co-operative Online Bibliographic System and Services) is a model which represents library and information systems platform in Slovenia (COBISS.SI), Serbia (COBISS.SR), North Macedonia (COBISS.MK), Bosnia and Herzegovina (COBISS.BH, Republic of Srpska – COBISS.RS), Montenegro (COBISS.CG), Bulgaria (COBISS.BG), Albania (COBISS.AL) and Kosovo (COBISS.KS). All the mentioned systems are connected to the regional network COBISS.net. The goals of the COBISS.net project are, among other things, improving the automation of libraries and harmonizing the rules for processing library materials with regard to international recommendations and standards, as well as establishing compatible information systems for research activities (E-CRIS), which improves the use of the results of research activities, and thereby encouraging innovation processes and economic and social development in the region (Šoštarič, 2019).

Databases of authority records and authority control in the network COBISS.net were implemented in different periods, and the beginnings of the idea date back to the end of the 90s of the 20th century. The first authority database and the introduction of authority control for personal names were implemented in the Slovenian system in 2003 (Seljak et al., 2004). Since then, awareness of authority data and authority control has been increasing.

Table 1 summarizes information on the types and number of authority records and the implementation of authority control in the individual national system of the network COBISS.net during the period 2021/2022. The data indicate that more than half of the nine national systems have at least one type of authority records and authority control. Authority control is mandatory for personal names that are associated with the described bibliographic source.

al., 2004). Od tada se svest o normativnim podacima i normativnoj kontroli povećava.

Tabela 1 sažima informacije o vrstama i broju normativnih zapisa i implementaciji normativne kontrole kod pojedinačnog nacionalnog sistema mreže COBISS.net tokom 2021/2022. godine. Podaci ukazuju na to da više od polovine od ukupno devet nacionalnih sistema ima barem jednu vrstu normativnih zapisa i normativnu kontrolu. Normativna kontrola je obavezna kod ličnih imena koja su povezana sa opisivanim bibliografskim izvorom.

In theory, all IFLA LRM entities can be authority data. The IFLA LRM model introduces 11 entities that are described by a set of attributes. Entities are placed in mutual relations that give them a semantic context. Due to the lack of regulations for the creation of metadata for the library materials in the COBISS system, there can be no talk of working with entities, but in the spirit of the ICP, authority records are being developed as a basis for future work with entities.

Tabela 1: Normativne baze (zapisi) i normativna kontrola u mreži COBISS.net tokom 2021/2022. godine (izvor: Pokazatelji rasta i podaci bazâ od 18. 8. 2022. godine)

Table 1: Authority databases (records) and authority control in the network COBISS.net during the period of 2021/2022 (source: Growth indicators and databases data from August 18, 2022)

Sistem System	Normativni zapisi (baze) i br. zapisa / Authority records (databases (DB)) and no. of records	Normativna kontrola (stepen obaveznog povezivanja s bibliografskim zapisom) / Authority control (degree of mandatory linkage with the bibliographic record)
COBISS.SI	Lična imena (baza CONOR.SI) / Personal names (DB CONOR.SI) – 1.450.023* Nazivi korporacija (baza CONOR.SI) / Corporate names (DB CONOR.SI) – 20.858* Predmetne oznake (baza SGC) / Subject terms (DB SGC) – 66.678* *U toku projekat za dela / The project for works is in progress*	Lična imena (obavezno) / Personal names (mandatory) Nazivi korporacija (obavezno ako zapis postoji) / Corporate names (mandatory if the record exists) Predmetne oznake (izborno) / Subject terms (optional)
COBISS.BG	Lična imena (baza CONOR.BG) / Personal names (DB CONOR.BG) – 253.573** Predmetne oznake / Subject terms – 11.833*	Lična imena (obavezno) / Personal names (mandatory)
COBISS.SR	Lična imena (baza CONOR.SR) / Personal names (DB CONOR.SR) – 250.676** Nazivi korporacija (*trenutno se zapisi ne kreiraju*) / Corporate names (*currently no records are being created*)	Lična imena (obavezno) / Personal names (mandatory)
COBISS.AL	Lična imena (baza CONOR.AL) / Personal names (DB CONOR.AL) – 43.445** Nazivi korporacija (*trenutno se zapisi ne kreiraju*) / Corporate names (*currently no records are being created*)	Lična imena (obavezno) / Personal names (mandatory)
COBISS.KS	Lična imena (baza CONOR.KS) / Personal names (DB CONOR.KS) – 10.236* Nazivi korporacija (*trenutno se zapisi ne kreiraju*) / Corporate names (*currently no records are being created*)	Lična imena (obavezno) / Personal names (mandatory)
COBISS.CG	Lična imena *(*baza CONOR.CG*)* (*u redakciji*) / Personal names (DB CONOR.CG) (*redaction*)	/
COBISS.MK	*Početak projekta za lična imena / The beginning of the project for personal names*	/
COBISS.RS	*Početak projekta za lična imena / The beginning of the project for personal names*	/
COBISS.BH	/	/

* podaci pojedinačnih baza od 18. 8. 2022. godine / data of individual databases from August 18, 2022

** pokazatelji rasta tokom 2021. godine / growth indicators during 2021

Teoretski, svi IFLA LRM entiteti mogu biti normativni podaci. Model IFLA LRM uvodi 11 entiteta koji su opisani skupom atributa. Entiteti su postavljeni u međusobne relacije kojima dobijaju semantički kontekst. Usled nedostatka regulative za izradu metapodataka o bibliotečkoj građi u COBISS sistemu, ne može biti govora o radu s entitetima, već se u duhu ICP-a razvijaju normativni zapisi kao osnov za budući rad s entitetima.

Okvirno poređenje s modelom IFLA LRM ukazuje na to da se nacionalni COBISS sistemi usredsređuju

A tentative comparison with the IFLA LRM model indicates that the national COBISS systems focus particularly on the entity agent (LRM-E6), and especially on the subclass of persons (LRM-E7). An entity capable of deliberate actions, of being granted rights, and of being held accountable for its actions. A person is defined in the IFLA LRM as an individual human being (Riva, Le Bœuf & Žumer, 2017). Authority databases for names of persons are established in the systems COBISS.SI, COBISS.BG, COBISS.SR, COBISS.AL and COBISS.KS. There is relatively little data for the subclass col-

naročito na entitet agent (LRM-E6), a posebno potklasu osoba (LRM-E7). Agent je entitet koji može da izvodi namenske aktivnosti, ima prava i odgovoran je za svoje aktivnosti. Osoba je definisana u IFLA LRM kao individualno ljudsko biće (Riva, Le Bœuf & Žumer, 2017). Baze normativnih podataka za imena osoba uspostavljene su u sistemima COBISS.SI, COBISS.BG, COBISS.SR, COBISS.AL i COBISS.KS. Postoji relativno malo podataka za potklasu kolektivni agent (LRM-E8) u mreži COBISS.net, a zapisi se kreiraju samo u sistemu COBISS.SI. Normativne zapise za korporacije u sistemu COBISS.SI, inače, izrađuju samo katalogizatori s privilegijama, dok ostali katalogizatori unose pristupne tačke i varijantne oblike u bibliografski zapis (Kurnjek, 2018). Ovi se podaci koriste prilikom naknadnog ručnog kreiranja normativnih zapisa. Normativna kontrola je, stoga, obavezna samo kada zapis za naziv korporacije postoji u normativnoj bazi. U sistemima COBISS.SR, COBISS.AL i COBISS.KS imaju, inače, mogućnost kreiranja normativnih zapisa, ali ih iz različitih razloga trenutno još ne izrađuju.

Pregled stanja ukazuje i na to da u mreži COBISS.net ne postoje normativni podaci za dela. Delo je intelektualni ili umetnički sadržaj određene kreacije. Zahvaljujući entitetu delo (LRM-E2) (Riva, Le Bœuf & Žumer, 2017) u bibliografsko-informacionim sistemima razlikuje se intelektualni sadržaj od njenog nosioca, a krajnjem korisniku, između ostalog, omogućava se navigacija po srodnim ili drugačije povezanim delima. U Sloveniji se trenutno odvija projekat za normativnu bazu i normativnu kontrolu za dela. Tokom 2021. godine, s obzirom na zapise u uzajamnoj bazi podataka COBIB, izabrani su atributi iz IFLA LRM i izražajni oblici. Pripremljen je spisak relacija koje se mogu identifikovati u zapisima iz baze COBIB i spisak polja za maske za normativne zapise za dela i njihove izražajne oblike. Dopunjena su uputstva za konverziju s obzirom na RDA i UNIMARC, a određen je i model normativnih zapisa i predloga dopuna UNIMARC formata. Takođe, pripremljen je spisak za konverziju s obzirom na karakteristike dela. U pripremi je i program za izvođenje konverzije, analiza mogućnosti upotrebe algoritma za kreiranje inicijalnih zapisa uz katalogizaciju novih zapisa te nacrt integracije baze podataka za dela i njihov izražajni oblik u različite COBISS sisteme, COBISS+, SICRIS i nacionalni repozitorijum (*Letno poročilo o delu IZUM za leto 2021*, 2022).

S obzirom na modele, postavljanje predmetnih indeksa na operativnom nivou još uvek je relativno otvoreno pitanje, ali je jasno da sadržinski aspekt u

lective agent (LRM-E8) in the network COBISS.net, and records are created only in the system COBISS.SI. Authority records for the corporations in the COBISS.SI system are normally created only by cataloguers with privileges, while other cataloguers enter access points and variant forms in the bibliographic record (Kurnjek, 2018). This data is used during the retrospective manual creation of authority records. Authority control is, therefore, mandatory only when the record for the name of the corporation exists in the authority database. In the systems COBISS.SR, COBISS.AL and COBISS.KS, they have the possibility of creating authority records, but for various reasons, they are not currently creating them.

The overview of the situation also indicates that there are no authority data for works in the network COBISS.net. A work is the intellectual or artistic content of a distinct creation. Thanks to the entity Work (LRM-E2) (Riva, Le Bœuf & Žumer, 2017) in bibliographic and information systems, the intellectual content is distinguished from its carrier, and the end user, among other things, is enabled to navigate through related or otherwise related works. A project for an authority base and authority control for works is currently underway in Slovenia. During 2021, with regard to records in the cooperative database COBIB, attributes from IFLA LRM and expression forms were chosen. A list of relations that can be identified in records from the COBIB database and a list of fields for masks for authority records for works and their expression have been prepared. The instructions for conversion with regard to RDA and UNIMARC were amended, and a model of authority records and proposals for updates to the UNIMARC format were also determined. Also, a list was prepared for conversion with regard to the characteristics of the work. A program for performing the conversion, an analysis of the possibility of using the algorithm for creating initial records with the cataloguing of new records, and a draft of the integration of the database for works and their expression into various COBISS systems, COBISS+, SICRIS and the national repository are also being prepared. (*Letno poročilo o delu IZUM za leto 2021*, 2022 / *Annual report on the work of IZUM for 2021*, 2022).

With regard to the models, setting heading lists at the operational level is still a relatively open question, but it is clear that the content aspect in the new model, compared to existing cataloguing practices, plays a key role in user tasks and defining individual entities and relations between them. Subject access points and/or classification numbers for the work are essential access points according to the ICP and in IFLA LRM is defined as a relation with the superclass RES (LRM-R12). In addition to the IFLA

novom modelu, u poređenju s postojećim katalo-škim praksama, ima ključnu ulogu kod korisničkih zadataka i definisanja pojedinačnih entiteta i relacija između njih. Sadržaj (engl. *subject*) i/ili klasifikaciona oznaka za delo suštinska je tačka prema ICP i u IFLA LRM definisan je kao relacija s natklasom RES (LRM-R12). Uz IFLA LRM entitet *thema* prethodnog modela *Functional Requirements for Subject Authority Data* (FRSAD) promenila je naziv u *res*, što na latinskom označava "stvar" (engl. *thing*). *Res* (LRM-E1) je najviši entitet u hijerarhiji te tako i natklasa svih drugih entiteta i nije ograničen samo na tematsku relaciju. Usled zahteva za bolje modeliranje aspekta vremena i mesta, IFLA LRM uvodi i nove entitete: mesto (LRM-E10) i vremenski raspon (LRM-E11) (Riva, Le Bœuf & Žumer, 2017).

U Sloveniji se tako nastavlja razvoj i nadograđuje predmetni indeks *Splošni geslovnik COBISS.SI* – SGC (2022) koji je kao baza u COBISS.SI uključen 2018. godine, a normativna kontrola je omogućena 2021. godine. U SGC se trenutno nalazi osam različitih vrsta zapisa / pristupnih tačaka: tematska predmetna odrednica, žanrovi, fizičke karakteristike, geografski nazivi, lična imena, nazivi korporacija, porodična imena i jedinstveni naslovi. Bazu SGC čini već više od 66 hiljada normativnih zapisa, a između odrednica uspostavljeni su semantički odnosi u obliku širih, užih i srodnih izraza. Ovi izrazi, zajedno sa varijantnim oblicima imena i naziva, čine sintetičku strukturu predmetnog indeksa čime su odrednice postavljene u određeni kontekst iz kojeg se često vidi i upotreba kod predmetnog označavanja. U COBISS.SI sistemu svaka biblioteka bira da li će koristiti SGC kao dodatnu vrednost u bibliografskim zapisima. Za normativnu kontrolu neophodna je privilegija koju katalogizatori stiču na kursu (Zalokar, 2018).

I u bugarski sistem COBISS.BG instalirana je baza predmetnih oznaka koja je implemetirana 2015. godine. Baza trenutno sadrži 11.833 zapisa za tematske predmetne odrednice (engl. *topical subject*), a normativna kontrola još nije implementirana.

3.1 SWOT analiza činilaca razvoja i saradnje u oblasti normativnih podataka

Kao polazište za mogućnosti razvoja i saradnje u oblasti normativnih podataka u mreži COBISS.net napravljena je analiza činilaca prema SWOT matrici (tabela 2) koja je praktičan alat za samovrednovanje i koja se obično koristi pre strateških odluka. SWOT analiza ima dva para činilaca: *prednosti* (S – *strenghts*) i *slabosti* (W – *weaknesses*) te *prilike* (O

LRM entity *theme* of the previous model, *Functional Requirements for Subject Authority Data* (FRSAD) changed the name to res, which means "thing" in Latin. *Res* (LRM-E1) is the highest entity in the hierarchy and thus the superclass of all other entities and is not limited only to the thematic relation. Due to the demand for better modelling of aspects of time and place, IFLA LRM also introduces new entities: place (LRM-E10) and time-span (LRM-E11) (Riva, Le Bœuf & Žumer, 2017).

In Slovenia, the subject list index *Splošni geslovnik COBISS.SI – SGC* (2022) / *A General List of Subject Headings COBISS.SI – SGC* (2022) continues to be developed and upgraded, which is included as a database in COBISS.SI in 2018, but authority control is enabled in 2021.

The SGC currently has eight different types of records/access points: Topical Heading, Genres, Physical Characteristics, Geographical Names, Personal Names, Corporation Names, Family Names, and Uniform Titles. The SGC database already consists of more than 66 thousand authority records, and semantic relations have been established between the broader, narrower, and related subject terms (access points). These terms, together with variant forms of forenames and names, form the synthetic structure of the subject heading list, whereby the headings are placed in a certain context, from which the use in subject designation is often seen. In the COBISS.SI system, each library chooses whether to use SGC as an added value in bibliographic records. For authority control, the credentials that cataloguers acquire on the course is necessary (Zalokar, 2018).

In the Bulgarian COBISS.BG system, a database of the subject heading list was also installed and implemented in 2015. The database currently contains 11,833 records for topical subjects, and authority control has not yet been implemented.

3.1 SWOT analysis of factors of development and cooperation in the field of authority data

As a starting point for opportunities for development and cooperation in the field of authority data in the network COBISS.net, an analysis of factors was made according to the SWOT matrix (table 2), which is a practical tool for self-evaluation and is usually used before strategic decisions. SWOT analysis has two pairs of factors: *S – strengths* and *W – weaknesses* and also *O – opportunities* and *T – threats*. *Strengths and weaknesses* include factors from the system's internal environment that the community can influence. The duality of *opportunities* and *threats* includes factors from the outside world on which there is usually no, or very little, influence.

One of the advantages of the network COBISS.net in the first place is the importance of "union". The

Tabela 2: SWOT analiza ključnih činilaca razvoja normativnih zapisa (podataka) i baza u COBISS.net mreži
Table 2: SWOT analysis of key factors in the development of authority records (data) and databases in the network COBISS.net

Prednosti (S) / Strengths (S) Zajednički format za podatke COMARC/A / Common format for COMARC/A data Zajedničko programsko okruženje / Common programming environment Iskustva s pripremom i implementacijom normativnih baza i normativne kontrole / Experiences with the preparation and implementation of authority databases and authority control Upotrebljivost podataka pri razvoju drugih usluga / Usability of data when developing other services	**Slabosti (W) / Weaknesses (W)** Mali broj normativnih baza i podataka / A small number of authority databases and data Dupliranje dela i podataka / Duplication of work and data Otvorena pitanja u kataloškoj praksi / Open questions in cataloguing practice
Prilike (O) / Opportunities (O) Praćenje tendencija u katalogizaciji i razvoj tehnologije / Monitoring trends in cataloguing and technology development Povezivanje sa širim okruženjem (dobijanje spoljašnjih izvora podataka) / Connecting to the wider environment (obtaining external data sources)	**Pretnje (T) / Threats (T)** Mala kataloška okruženja, jezici i pisma / Small catalogue environments, languages, and scripts Pravna regulativa i etičnost postupanja s osetljivim podacima / Legal regulation and ethical handling of sensitive data Finansijski i ljudski resursi / Financial and human resources

– *opportunities*) i *pretnje* (T – *threats*). *Prednosti* i *slabosti* obuhvataju činioce iz unutrašnjeg okruženja sistema na koje zajednica može uticati. Dvojac *prilike* i *pretnje* obuhvata činioce iz spoljašnjeg sveta na koje obično ne postoji, odnosno postoji veoma mali uticaj.

Od prednosti mreže COBISS.net svakako je na prvom mestu značaj "zajedničkog". COBISS sistem ne obezbeđuje samo podršku za automatizaciju i racionalizaciju različitih procesa u biblioteci već i organizacioni model koji povezuje pojedinačne biblioteke u nacionalni bibliotečko-informacioni sistem sa zajedničkim kataloškim okvirom i zajedničkim alatima. Zajednički format za podatke COMARC omogućava i za normativne podatke suštinski lakšu razmenu i razumevanje podataka uprkos različitim kataloškim pravilnicima i praksama. *COMARC/A za normativne zapise* od 2018. godine suštinski je nadograđen, naročito novim elementima podataka. Format COMARC/A podržava rad sa 9 različitih vrsta normativnih pristupnih tačaka: lična imena, nazivi korporacija, više vrsta naslova, geografski pojmovi, teme, žanrovi itd. Za pomoć pri obradi građe u okviru sistema uzajamne katalogizacije pripremljene su maske za unos koje obuhvataju izbor polja i potpolja koja se najčešće koriste prilikom unosa određenog normativnog zapisa (COMARC/A, 2022).

Zajednički programski alat u ovom kontekstu omogućava niz funkcionalnosti i metoda koje povećavaju racionalizaciju kataloškog postupka i povećavaju kvalitet podataka (npr. programske kontrole). Na kraju, iskustva s pripremom i

COBISS system not only provides support for the automation and rationalization of various processes in the library, but also an organizational model that connects individual libraries into a national library-information system with a union catalogue framework and union tools. The union format for COMARC data also enables authority data to be substantially easier to exchange and understand despite different catalogue rules and practices. *COMARC/A for authority* records has been substantially upgraded since 2018, especially with new data elements. The COMARC/A format supports working with 9 different types of authority access points: personal names, corporate names, multiple types of titles, geographic terms, topics, genres, etc. To help with the processing of materials within the union cataloguing system, input masks have been prepared that include a selection of fields and subfields that are most often used when entering a specific authority record. (COMARC/A, 2022).

In this context, the union software tool enables a number of functionalities and methods that increase the rationalization of the cataloguing process and increase the quality of the data (e.g., program controls). Finally, experiences with the preparation and implementation of authority databases and authority control enable faster and easier transitions between individual systems. At this point, it should also be noted the cooperation on the Viaf.org project with the result of Slovenian authority records update with the ISNI identifier and the VIAF control number (Krajnc Vobovnik, 2020). And the last point in this part "Usability of data when developing other services" is not a negligible advantage of authority

implementacijom normativnih baza podataka i normativne kontrole omogućavaju brže i lakše prelaske između pojedinačnih sistema. Na ovom mestu treba istaći i saradnju na projektu Viaf.org čiji je rezultat ažuriranje slovenačkih normativnih zapisa ISNI identifikatorom i Viaf kontrolnim brojem (Krajnc Vobovnik, 2020). I poslednja tačka u ovom sklopu "Upotrebljivost podataka pri razvoju drugih servisa" nije zanemariva prednost normativnih podataka i normativne kontrole. U COBISS sistemima podaci se više puta koriste kod mnogih drugih COBISS servisa i aplikacija. U slovenačkom sistemu COBISS.SI, na primer, normativni podaci se koriste u shemi isplate bibliotečke naknade, u informacionom sistemu o istraživačkoj delatnosti (SICRIS) itd.

Na spisku činilaca slabosti trenutnog stanja u mreži COBISS.net na prvom mestu navedena je količina podataka. Većina članova mreže COBISS.net za sada ima jednu vrstu normativnih zapisa, a neki članovi su još u fazi početne pripreme za formiranje prve normativne baze. Potrebno je dalje razmisliti koji je stepen dupliranja rada i podataka. Trenutno ne postoji okvirna procena koliko se normativni podaci u različitim sistemima prekrivaju, ali sigurno je da se ova slabost odražava prevashodno u onim sistemima u kojima postoji zajedničko ili slično kulturno i istraživačko okruženje s drugim sistemom u mreži COBISS.net. Na kraju, svakako treba rešavati neka od otvorenih kataloških pitanja koja su povezana s formiranjem normativnih zapisa. Stoga se preporučuje da pojedinačne zajednice razmisle o viziji razvoja nacionalnog kataloškog pravilnika u svetlu novog modela za opis bibliotečkih izvora.

U COBISS sistemu pomno se prate događanja u oblasti bibliografske kontrole i standarda koji su sa njom povezani, što se u SWOT analizi svrstava u prilike. Praćenje tendencija u katalogizaciji i razvoju tehnologije omogućava određivanje prioriteta i racionalizaciju novih pristupa. Prate se i prezentacije projekata koji uključuju različite aspekte COBISS sistema. Na primer, prilikom osmišljavanja interfejsa prema LRM modelu vidi se i uloga normativnih podataka (Pauman Budanovič & Žumer ,2022). Osim toga, sedište Stalnog UNIMARC odbora nalazi se već nekoliko godina u IZUM-u tako da se razvoj COMARC formata zasniva na bazičnom razumevanju i neposrednom pristupu najnovijim informacijama UNIMARC formata.

U prednosti spada i uključivanje podataka iz šireg ili užeg okruženja. U praksi je već došlo do nekoliko slučajeva ponovne upotrebe, premda je trenutno

data and authority control. In COBISS systems, data is repeatedly used in many other COBISS services and applications. In the Slovenian system, COBISS.SI, for example, authority data is used in the library fee payment scheme, in the Current Research Information System (SICRIS), etc.

On the list of factors of the weakness of the current situation in the network COBISS.net, in the first place, the amount of data is given. Most of the members of the network COBISS.net currently have one type of authority record, and some members are still in the phase of the initial preparation for the formation of the first authority database. It is necessary to think further about the degree of duplication of work and data. Currently, there is no rough assessment of how much authority data overlap in different systems, but it is certain that this weakness is reflected primarily in those systems in which there is a common or similar cultural and research environment with another system in the network COBISS.net. Finally, some of the open cataloguing issues related to the creation of authority records should definitely be resolved. Therefore, it is recommended that individual communities reflect on the vision of developing a national catalogue manual in light of the new model for the description of library resources.

In the COBISS system, developments in the field of bibliographic control and standards related to it are closely monitored, which in the SWOT analysis are classified as opportunities. Monitoring trends in cataloguing and technology development enables prioritization and rationalization of new approaches. Presentations of projects that include various aspects of the COBISS system are also followed. For example, when designing an interface according to the LRM model, the role of normative authority can also be seen (Pauman Budanovič & Žumer, 2022). In addition, the main office of the Permanent UNIMARC Committee has been located in IZUM for several years, so the development of the COMARC format is based on a basic understanding and direct access to the latest information of the UNIMARC format.

The inclusion of data from a wider or narrower environment is also an advantage. In practice, several cases of reuse have already occurred, although it is currently limited to a few sources within an individual COBISS system. Open data tendencies indicate that similar communities, such as archives, museums, and other institutions in the field of culture and cultural heritage, will publish their data. In addition, the results of initiatives in the field of research activity are shown, where various projects of refining uniform and permanent identifiers for researchers and research institutions are taking place (e.g., ORCID, Crossref ROR, etc.).

ograničena na nekoliko izvora unutar pojedinačnog COBISS sistema. Tendencije otvorenih podataka ukazuju na to da će slične zajednice, kao što su arhivske, muzejske i druge ustanove iz oblasti kulture i kulturne baštine, objaviti svoje podatke. Takođe, pokazuju se i rezultati inicijativa iz oblasti istraživačke delatnosti gde se odvijaju različiti projekti dorađivanja jednoobraznih i trajnih identifikatora za istraživače i istraživačke ustanove (npr. ORCID, Crossref ROR itd.).

Istovremeno, u sklop opasnosti mora da se stavi i aspekt crpenja podataka iz srodnih delatnosti. Bibliotečki sistemi u mreži COBISS.net čine deo okruženja manje raširenih jezika, stoga su mogućnosti za preuzimanje podataka domaćih i stranih ponuđača ograničene. Naročito izdavačko okruženje ima za sada loše strukturisane podatke ili nezgrapne sisteme podataka. Osim jezičke raznolikosti, mrežu COBISS.net odlikuje i raznolikost pisama. Različiti jezici i pisma pojedinačnog kataloškog okruženja mogu da predstavljaju konceptualno i tehničko ograničenje pri modeliranju normativnih baza i normativne kontrole (Tominac, 2020). Stoga, za kataloška okruženja u COBISS.net mreži manje ili više je značajno da obično kreiraju sopstvene normativne podatke, odnosno zapise koji imaju potencijal za razmenu unutar mreže COBISS.net. Osim toga, u kataloškoj struci povećava se svest o mogućnosti prikaza i pretraživanja na jeziku / pismu korisnika ili izvora (Riva, 2022). Stoga, raznolikost jezikâ i pisama u nacionalnim sistemima mreže COBISS.net može da bude i prilika. Istraživanje izvora u katalozima biblioteka može da se podrži normativnim podacima koji su na različitim jezicima i pismima.

U sklopu opasnosti treba uvažavati i (različite) pravne regulative koje se odnose na sakupljanje i postupanje s osetljivim podacima o ličnosti u svakom nacionalnom sistemu, kao i u celokupnoj mreži COBISS.net. To su prevashodno dileme o tome koji podaci mogu da se koriste za razlikovanje imenjaka, kao i koji podaci mogu da budu javno prikazani u odnosu na kataloškу praksu. Stoga se preporučuje da se postojeće kataloške prakse pregledaju i na odgovarajući način postave u izmenjeni kontekst podataka o ličnosti. Takođe, treba razmisliti i o etičkom aspektu i transparentnosti kataloške prakse u odnosu prema normativnim podacima, što bi povećalo poverenje u bibliotečku delatnost i podatke koje sakuplja.

Opasnosti za koje ne postoji ili postoji veoma mali uticaj predstavljaju finansijski i ljudski resursi koje pojedinačne ustanove u okviru mreže COBISS.net

At the same time, the aspect of extracting data from related activities must also be included as part of the danger. Library systems in the network COBISS.net are part of the environment of less widespread languages, therefore the possibilities for downloading data from domestic and foreign providers are limited. In particular, the publishing environment currently has poorly structured data or clumsy data systems. In addition to language diversity, the network COBISS.net is also distinguished by the diversity of scripts. Different languages and scripts of an individual catalogue environment can represent conceptual and technical limitations when modelling authority databases and authority control (Tominac, 2020). Therefore, it is more or less significant for catalogue environments in the network COBISS.net that they usually create their own authority data, that is, records that have the potential for exchange within the network COBISS.net. In addition, the awareness of the possibility of displaying and searching in the language/script of the user or source is increasing in the catalogue profession (Riva, 2022). Therefore, the diversity of languages and scripts in the national systems of the network COBISS.net can also be an opportunity. Researching sources in library catalogues can be supported by authority data in different languages and scripts.

As part of the danger, (various) legal regulations related to the collection and handling of sensitive personal data in each national system, as well as in the entire network COBISS.net, should be respected. These are primarily dilemmas about which data can be used to distinguish namesakes, as well as which data can be publicly displayed in relation to catalogue practice. It is therefore recommended that existing cataloguing practices be reviewed and appropriately placed in the changed context of personal data. Also, one should consider the ethical aspect and transparency of catalogue practice in relation to n data, which would increase trust in the library activity and the data it collects.

Risks for which there is no or very little impact are represented by the financial and human resources that individual institutions within the network COBISS.net have at their disposal. The success and efficiency of the project of establishing authority databases and authority control are based on the financial feasibility and perseverance of the individual institution, but the advantages that authority records and authority control bring must not be forgotten. In 1990, Kanič wrote that "expert analysis shows positive effects of authority control" (Kanič, 1990). Larger projects, therefore, must be carefully planned and included in strategic documents that can ensure the success of the projects.

4 Conclusion

imaju na raspolaganju. Uspešnost i efikasnost projekta uspostavljanja normativnih baza i normativne kontrole zasnivaju se na finansijskoj izvodljivosti i istrajnosti pojedinačne ustanove, ali se pritom ne smeju zaboraviti prednosti koje normativni zapisi i normativna kontrola donose. Još 1990. godine Kanič je zapisao da "stručna analiza pokazuje pozitivne efekte normativne kontrole" (Kanič, 1990). Veći projekti, dakle, moraju se brižljivo planirati i uneti u strateške dokumente kojima može da se obezbedi uspešnost projekata.

4 Zaključak

"Rad s entitetima" postaje centralni pojam u razumevanju bibliografskih informacija. IFLA model i standardi osnovna su referentna polazišta za razvijanje bibliografsko-informacionih sistema i pravilnika. Standardi omogućavaju jednostavnije razumevanje podataka i jačaju međunarodnu razmenu koja donosi veću racionalizaciju kataloških postupaka. Razvoj UNIMARC formata, na kojem se zasniva i COMARC format koji se koristi u mreži COBISS.net, prati ovaj princip. O UNIMARC formatu brine Stalni UNIMARC odbor koji već nekoliko godina ima sedište u IZUM-u i tako predstavlja priliku za bolji uvid u razvoj savremenih međunarodnih kataloških pristupa.

Usled nedostatka regulative za izradu metapodataka o bibliotečkoj građi u COBISS sistemu, za sada ne može biti govora o radu na entitetima, odnosno entitetifikaciji, već se u duhu ICP-a razvijaju normativni zapisi kao osnov za budući rad s entitetima. Velika većina sistema u mreži COBISS.net već gradi barem bazu normativnih zapisa za lična imena, a implementirali su i normativnu kontrolu. Nekoliko sistema već izrađuje zapise i za druge vrste normativnih pristupnih tačaka, a ostali su još u početnim fazama uvođenja normativnih baza. Najviše normativnih zapisa nastaje i koristi se u COBISS.SI, a u drugim nacionalnim sistemima broj normativnih zapisa znatno je manji.

Uprkos prednostima koje normativni zapisi i normativna kontrola imaju za krajnje korisnike i bibliotečke sisteme, utvrđeno je da još uvek nije dovoljno etablirana u kataloškim postupcima. Nedovoljna posvećenost normativnim podacima u regionu Zapadnog Balkana mogla bi da postane opterećujući faktor za uključivanje bibliotečkih sistema iz regiona u savremene razvojne pravce bibliografske kontrole.

Ovakvi projekti su sasvim sigurno veoma zahtevni u vremenskom i finansijskom pogledu, a većina nacionalnih sistema mora tek da reši neka od otvorenih

"Working with entities" becomes a central concept in understanding bibliographic information. The IFLA model and standards are the basic reference points for developing bibliographic information systems and regulations. Standards enable a simpler understanding of data and strengthen international exchange, which brings greater rationalization of cataloguing procedures. The development of the UNIMARC format, on which the COMARC format used in the network COBISS.net is based, follows this principle. The UNIMARC format is managed by the Permanent UNIMARC Committee, which has been based in IZUM for several years and thus represents an opportunity for better insight into the development of contemporary international cataloguing approaches.

Due to the lack of regulations for the creation of library materials metadata in the COBISS system, for now, there can be no talk of work on entities, that is, entityfication, but in the spirit of ICP, authority records are being developed as a basis for future work with entities. The vast majority of systems in the network COBISS.net already build at least a database of authority records for personal names, and have also implemented authority control. Several systems already create records for other types of authority access points, while others are still in the initial stages of introducing authority databases. Most authority records are created and used in COBISS.SI, while in other national systems the number of authority records is significantly smaller.

Despite the advantages that authority records and authority control have for end users and library systems, it was determined that it is still not sufficiently established in cataloguing procedures. Insufficient dedication to authority data in the Western Balkans region could become a burdening factor for the inclusion of library systems from the region in contemporary development directions of bibliographic control.

Such projects are certainly very demanding in terms of time and finances, and most national systems have yet to resolve some of the open issues of cataloguing practice. In addition, it would be advisable to shed light on the legal and ethical aspects of dealing with sensitive data. The catalogue environments in the network COBISS.net are relatively small, and these environments have different languages and scripts. These environments also have limited opportunities to use data from related activities, although open data reuse projects are being strengthened. Despite this, all these limitations can also be an opportunity to put the development of authority databases and authority control in the strategy of developing catalogues and cataloguing in the perspective of the new conceptual model of IFLA LRM and other IFLA standards.

Also, consideration might be given to the possibil-

pitanja kataloške prakse. Osim toga, bilo bi preporučljivo da se osvetle i pravni i etički aspekti postupanja s osetljivim podacima. Kataloška okruženja u mreži COBISS.net relativno su mala, a ta okruženja imaju različite jezike i pisma. Ova okruženja imaju takođe ograničene mogućnosti korišćenja podataka iz srodnih delatnosti iako se jačaju projekti ponovne upotrebe otvorenih podataka. Uprkos tome, sva ova ograničenja mogu da budu i prilika da se razvoj normativnih baza i normativne kontrole stavi u strategiju razvoja kataloga i katalogizacije u perspektivi novog konceptualnog modela IFLA LRM i drugih IFLA standarda.

Trebalo bi takođe razmisliti o mogućnosti saradnje između pojedinačnih sistema, naročito između sistema i ustanova koje imaju isti jezik i/ili grade slične osnovne bibliotečke zbirke. SWOT analiza ukazuje na to da mreža COBISS.net ima dobre osnove za širenje saradnje i u oblasti normativnih podataka. Dosadašnja iskustva i ustaljenost praksi razmene podataka u mreži COBISS.net najveća su dodata vrednost koju pojedinačni sistemi i ustanove mogu da iskoriste. U mreži COBISS.net već je ustaljena ponovna upotreba podataka. Statistika za period 2017–2021. pokazuje da su članovi mreže COBISS.net u tom razdoblju razmenili više od 311 hiljada bibliografskih zapisa, prosečno približno 60 hiljada zapisa godišnje, što je svakako podsticajan podatak.

ity of cooperation between individual systems, especially between systems and institutions that have the same language and/or build similar basic library collections. The SWOT analysis indicates that the network COBISS.net has good foundations for expanding cooperation in the field of authority data as well. Previous experiences and stability of data exchange practices in the network COBISS.net are the greatest added value that individual systems and institutions can use. Data reuse is already established in the network COBISS.net.

The statistics for the period 2017–2021 show that the members of the network COBISS.net exchanged more than 311 thousand bibliographic records during that period, an average of approximately 60 thousand records per year, which is certainly encouraging information.

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