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Digitalizacija in umetna inteligenca v arhivski teoriji in praksi

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KAZALO

Ivančica Sabadin[1]

THE PROCESS OF TRANSFORMING ARCHIVAL DATA INTO A MULTIDIMENSIONAL FORMAT

Abstract

Purpose*: The purpose of this research is to develop a process that will facilitate the conversion of archival records created according to the multi-level standard into records created according to the multidimensional conceptual model.*

Method/approach*: The main research method was case study, used to conduct research on the implementation of the proposed process to the archival description.. Other methods were descriptive, comparative and analytical.*

Results*: The process consists of five steps and has been presented on the existing description of technical documentation of former factory Tomos Koper. A knowledge graph containing entities and links was developed to enhance understanding.*

Conclusions/findings*: Upon completion of the case study, it can be concluded that the presented process is adequate and can be used as a basis for the development of a software tool for record conversion. However, to ensure the reliability, it will be necessary to test it on a larger number of records and to evaluate it by technical and archival experts.*

Keywords*: Archival records transformation, Archival standards, Multi-level description, Multidimensional description, ISAD(G)2, Records in Contexts*

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IL PROCESSO DI TRASFORMAZIONE DEI DATI DI ARCHIVIO IN UN FORMATO MULTIDIMENSIONALE

Abstract

Scopo: *Lo scopo di questa ricerca è sviluppare un processo che faciliterà la conversione dei record di archivio creati secondo lo standard multilivello in record creati secondo il modello concettuale multidimensionale.*

Metodo/approccio*: Il principale metodo di ricerca è stato lo studio di caso, utilizzato per condurre ricerche sull'implementazione del processo proposto nella descrizione archivistica. Altri metodi erano descrittivi, comparativi e analitici.*

Risultati: *Il processo consiste in cinque fasi ed è stato presentato sulla descrizione esistente della documentazione tecnica dell'ex fabbrica Tomos Koper. È stato sviluppato un knowledge graph contenente entità e collegamenti per migliorare la comprensione.*

Conclusioni/risultati: *Al completamento dello studio di caso, si può concludere che il processo presentato è adeguato e può essere utilizzato come base per lo sviluppo di uno strumento software per la conversione dei record. Tuttavia, per garantirne l'affidabilità, sarà necessario testarlo su un numero maggiore di record e valutarlo da esperti tecnici e archivistici.*

Parole chiave: *Trasformazione dei record d'archivio, Standard di archiviazione, Descrizione multilivello, Descrizione multidimensionale, ISAD(G)2, Records nei Contesti*

PROCES PRETVORBE ARHIVSKIH PODATKOV V VEČDIMENZIONALNO OBLIKO

Izvleček

Namen: *Namen raziskave je razviti proces, ki bo olajšal pretvorbo arhivskega gradiva, ustvarjenega po več nivojskem standardu, v gradivo, ustvarjeno po večdimenzionalnem konceptualnem modelu.*

Metoda/pristop: *Glavna raziskovalna metoda je bila študija primera, s katero smo izvedli raziskavo implementacije predlaganega procesa v arhivski opis. Druge vključene metode so deskriptivna, primerjalna in analitična.*

Rezultati: *Postopek je sestavljen iz petih korakov in je predstavljen na obstoječem opisu tehnične dokumentacije nekdanje tovarne Tomos Koper. Za izboljšanje razumevanja je bil razvit graf, ki vsebuje entitete in povezave.*

Sklepi/ugotovitve: *Po zaključku študije primera je mogoče ugotoviti, da je predstavljeni proces ustrezen in ga je mogoče uporabiti kot osnovo za razvoj programskega orodja za pretvorbo zapisov. Za zagotovitev zanesljivosti pa ga bo treba preizkusiti na večjem številu zapisov ter oceniti s strani tehničnih in arhivskih strokovnjakov.*

Ključne besede: *Transformacija arhivskega gradiva, Arhivski standardi, Več nivojski opis, Večdimenzionalni opis, ISAD(G)2, Zapisi v kontekstu*

1. INTRODUCTION

The Records in Contexts Conceptual Model (RiC-CM) has been developed over the last decade by the International Council on Archives (ICA). The model describes and explains the multidimensionality, which is made possible by Linked Data technology. Since there is not much research on the conceptual model of RiC and we do not have any information on whether and how this model would help us to describe archival docume ntation, a study will be carried out to help us make a final decision, which could also be useful for other Slovenian archives. One of the advantages of Linked Data technology is that it presents data in a machine-readable format, which means that the data is ready to be used to build various software tools and apply artificial intelligence or new technologies.

"The purpose of archival description is to identify and explain the context and content of archival material in order to promote its accessibility" (ISAD(G)2, 2000, 7). Archival records are described in accordance with standards. Four standards are currently in use regarding archival description:

- General International Standard Archival Description, second edition (ISAD(G)2)[2]
- International Standard Archival Authority Record for Corporate Bodies, Persons, and Families (ISAAR (CPF))[3]
- International Standard for Describing Functions (ISDF)[4] in
- International Standard for Describing Institutions with Archival Holdings (ISDIAH)[5]

ISAD(G)2 was developed by the ICA in 2000 and is the standard on which current legislation is based. The ISAD(G)2 standard sets out rules for archival description that can be applied regardless of the form or medium of the archival material and allows for the integration of descriptions from different locations into a single information system (ISAD(G)2, 2000, 7). The ISAD(G)2 standard enables multi-level description, which allows us to create a hierarchical model in which each level of the arrangement has a differing degree of detail (ISAD(G)2, 2000, 8).

2 See more: https://www.ica.org/resource/isadg-general-international-standard-archival-description-second-edition/.
3 See more: https://www.ica.org/resource/isaar-cpf-international-standard-archival-authority-record-for-corporate-bodies-persons-and-families-2nd-edition/.
4 See more: https://www.ica.org/resource/isdf-international-standard-for-describing-functions/.
5 See more: https://www.ica.org/resource/isdiah-international-standard-for-describing-institutions-with-archival-holdings/.

The question is whether the ISAD(G) standard is still relevant today, more than 20 years later, especially in light of the changes that have taken place in that time. Pitti et al. (2016, 175) state that since the first publication of the ISAD(G) standard, communication technologies have influenced changes in the processes archivists use to describe and provide access to materials. "Good archival description goes beyond a list of items in a collection and attempts to contextualize them" (Roke and Tillman, 2022, 175). The authors continue by noting that linked data technology allows for the creation of links between descriptions, making it easier to understand the material being described.

In 2012, the ICA established the Expert group on archival description (EGAD)[6], which was tasked with "developing a comprehensive descriptive standard that reconciles, integrates, and builds on the four existing standards" (Pitti et al., 2016, 174). This standard is now known as Records in Contexts (hereafter RiC). "The first goal of ICA, with RiC, is to unify the current standards ISAD(G), ISAAR, ISDF and ISDIAH, adding changes that reflects the new concepts observed in the archives. The centralization of the models tends to make easy the understanding and utilization of the standard by the archivists at the same time that allows the standardization of tools that support the archival description" (Souza & Flores, 2021, 2). "The multidimensional aspect of the RiC becomes its main difference from previous standards, intending to express in a more real and trustworthy way the environment in which the records are inserted. In contrast to the previous models, which are represented in an tree format that reflects the hierarchy of the archives, the RiC is represented through a non-directional graph, with the nodes being the entities with their properties and the edges being the relationships between the entities, also with their properties (Souza & Flores, 2021, 3)".

The conceptual model of RiC is based on entities, attributes, and relations between entities. The main objects of RiC-CM are entities, which are represented in a hierarchical structure. At the root is the *thing* entity, because all other entities are kinds of thing. Four core entities are record *resource*, *instantiation*, *agent* and *activity* (RiC-CM, 2023, 17). Popovici (2020) argues that instantiation is a new term for the archival community. The author states that based on the original definition of instantiation, there is no record without instantiation.

6 See more: https://www.ica.org/ica-network/expert-groups/egad/.

2. LITERATURE OR THEORETICAL BACKGROUND OVERVIEW

"When end users try to retrieve records, they run into problems like lack of accuracy and insufficient recall when using the search engines provided, interfaces and lists of results that are difficult to understand, links between items that are not visible nor processable when they exist, or even several interfaces provided for the same archival institution" (Clavaud & Wildi, 2021, 4).

"To faithfully describe archival records, archival descriptions should include the content, context, and structure of records as the fundamental components for describing a fonds/collection" (Zou, 2019, 2). "Due to insufficient/confusing contextual information in the current archival descriptions, when users browse and search for information from archival descriptions on the Web, it is difficult for them to find proper archival descriptions and understand what is described in the archival context" (Zou, 2019, 3). The author further states that archival records are most often stored in a relational database and presented online using HTML[7], PDF[8] or XML[9] technologies. Software tools such as AtoM[10] and ArchivesSpace[11] also allow data to be exported in the EAD XML[12] format (Zou, 2019, 4). The situation is similar in the Slovenian archives, as the scopeArchive[13] tool used also allows data to be exported in EAD XML format and thus published on the European Archives Portal Cunha (2020, i) conducted a study on the user experience of linked data systems in historical archives. The results showed that users are interested in new systems that allow them to create and link data to historical records. Graphical data visualisations are more suitable for searching data than for creating new records.

There are a growing number of examples in the literature of the implementation of the RiC standard in archives. "RiC-O Converter[14] is an open-source command-line tool to convert EAD finding aids and EAC-CPF[15] authority records to RDF[16] files conforming to ICA Records in Contexts ontology (RiC-O)" (Francart et al., 2021, 1).

7 HTML – Hypertext Markup Language. See more: https://html.spec.whatwg.org/ multipage/.
8 PDF –Portable Document Format. See more: https://www.adobe.com/acrobat/about-adobe-pdf.html.
9 XML –Extensible Markup Language. See more: https://www.w3.org/XML/.
10 See more: https://www.accesstomemory.org/en/.
11 See more: https://archivesspace.org/.
12 EAD XML –Encoded Archival Description XML. See more: https://www.loc.gov/ead/.
13 See more: https://www.scope.ch/en/product-overview/scopearchiv/.
14 See more: https://github.com/ArchivesNationalesFR/rico-converter.
15 Encoded Archival Context for Corporate Bodies, Persons, and Families. See more: https://eac.staatsbibliothek-berlin.de/.
16 Resource Description Framework. See more: https://www.w3.org/RDF/.

Souza and Flores (2021, 2) conducted a qualitative study on the use of the RiC model in the Federal University of Santa Maria, with the aim of analysing the changes brought by the new standard. Mikhaylova & Merilli (2023) conducted a study on the use of the RiC-O ontology in architectural archives. Based on the RiC-O ontology, the authors developed a new ontology for representing architectural records.

3. METHODOLOGY

The main objective of the research is to develop a process for transforming existing archival descriptions, produced according to the ISAD(G)2 standard, into archival descriptions based on the RiC conceptual model.

Several scientific methods were used. Descriptive method was used to describe basic concepts of ISAD(G)2 standard and RiC – Conceptual model. Elements of description defined by ISAD(G)2 were compared to attributes, entities and relations of RiC using the comparative method. Analytical method was used to prepare, represent and better understand data used in archival records. The main research method was case study. "Case studies are a strategy of inquiry in which the researcher explores in depth a program, event, activity, process, or one or more individuals" Creswell (2009, 30). The case study method was used to conduct research on the current Tomos technical documentation material. The results are presented in tabular form to show the entities, attributes and relations. A knowledge graph was created to better show the relations between the entities.

For the purposes of the paper, the research will be limited to holdings at the following levels: fonds, series and sub-series. The research will be carried out on the already described material of the Regional Archives Koper using the scopeArchive tool. Detailed research will be carried out as part of the PhD thesis.

4. RESULTS

The transformation will be done on the grounds of two forms available in the scopeArchive tool, the form for fonds ("SIRA_REGISTER_FONDOV") and the general form ("SIRA_DESCRIPTION_GENERAL"), which is used for units of description at the levels of series, sub-series, files and items.

4.1 TRANSFORMATION PROCESS

The data transformation process consists of the following phases:

1. *Data export from the scopeArchive tool*. The data can be exported in EAD XML format using the scopeArchive tool.
2. *Identification and interpretation of the relevant fields.* The transformation process is limited to units of description with the status "Completed" in the scopeArchive tool. This means that the archival description has been checked by a competent archivist, has been published in the Virtual Archive Reading Room[17] and contains at least the five essential elements of description (signature, title, extent, date of creation and level of description (UVDAG, 2017). If some units of description do not contain the basic elements, the description must be further processed by a competent archivist. In addition to the essential elements of description, conditions of accessibility and relations to other units of description are important.
3. *Ontology Mapping*. For the purposes of this paper, the "EAD to RiC" mapping proposed by Francart et al. (2021) and used to develop the RiC-O Converter tool will be used as a starting point. As the mapping was created for RiC-O 0.2[18] it will be analysed and adopted for RiC-O 1.0.2[19]. In this step, data will be analysed and compared to better understand the conversion from EAD to RiC-O. Rules for the data conversion will be developed in this step. This phase consists of the following steps:
   3.1. Rules for the identification of entities.
   3.2. Data mapping based on Francart et al. (2021). Identification of data transformation rules.
   3.3. Identification and mapping of entities not included in step 3.2. As some of the elements of description are characteristic of SJAS[20], and are not included in EAD, these elements should be identified and mapped separately.
4. Creation of relations between the entities. Relations should be created according to the RiC Conceptual Model and arranged in separated .rdf files according to the relation types listed in RiC-CM (2023, 75–76).
5. *Population[21] of RiC-O ontology*. Based on rules created in previous step, the RiC-O ontology is populated with instances and relations are created. The results are displayed in the form of a knowledge graph.

17 See more: https://vac.sjas.gov.si/vac.
18 See more: https://github.com/ArchivesNationalesFR/rico-converter/tree/master/docs.
19 See more: https://github.com/ICA-EGAD/RiC-O/tree/master/ontology/current-version.
20 SJAS – Slovenska javna arhivska služba (eng. *Slovenian public archival service*).
21 »Ontology Population (OP) looks for identifying instances of non-taxonomic relationships and properties of an ontology with knowledge discovered from different data sources such as text documents« (Faria et al. 2014, 27).

4.2 THE CASE STUDY OF TOMOS MANUFACTURING COMPANY

The official tool for describing archival material in Slovenia is scopeArchive, which is based on the ISAD(G)2 standard. According to the ISAD(G)2 standard, it is possible to describe material according to a multilevel principle. In relation to the objective, a case study was carried out for units of description at the fond, series and sub-series level for the archival description of Tomos technical documentation. For the case study, series and sub-series were created in the test environment of the scopeArchive tool.

1. **Data export from the scopeArchive tool**

   In the first step archival description was exported using plug-in in scopeArchive tool. An archival description was exported to EAD XML format.

2. **Identification and interpretation of the relevant fields**

   The units of description are checked, and it is established that all forms contain the basic elements of description. Conditions of accessibility were also present. Detected elements of description are showed in table 1.

Table 1: Identified elements of description

Elements of Description	Level of description	Original ISAD (g)2 elements
Name of creator (s) Administrative history Physical characteristics and technical requirements	Fond	YES
Provenance Archivist in charge Archival material acquisition	Fond	NO
Level of Description Reference Code Title Date (s) Extent Scope and content System of arrangement Language of material Finding aids Existence and location of originals Note(s) Creator(s) Rules or Conventions	Fond, Series, Sub-series	YES

Types of archival material Other holder Classification Record Status Record precision Record language Record script	Fond, Series, Sub-series	NO
Descriptor (s)	Series, Sub-series	NO

As the description was made at series and sub-series level, there were no relations to other documents. Relations will be more important for units at file and item level.

3. ONTOLOGY MAPPING

After analysing and comparing the data, the following rules were established:

3.1. Following entities should be created:

- **a. RiC-E03 Record Set** for each individual unit of description at fond, series and sub-series level
- **b. RiC-E18 Date** for each unique year and/or date.
- **c. RiC-E15 Activity** for each unique activity, e.g., acquisition, appraisal.
- **d. RiC-E22 Place** for each unique location, storage, shelf, etc.
- **e. RiC-E08 Person** for each unique person who has participated or is participating in the process of creating and preserving the materials and records.
- **f. RiC-E06 Instantiation** for each instance of record resource.

3.2. An example of data mapping is shown in the table 2.

Table 2: Data mapping example

ISAD(G) 2 - scopeArchiv	RIC	RiC-E03 Record set			
Elements of description	**Type**	**Value**	**Related To**	**EAD path**	**RiC-O**
Level of description	Attribute	RiC-A36 Record Set Type		/ead/archdesc/@level | /ead/archdesc/dsc//c/@level	rico:RecordSetType
Reference Code	Attribute	RiC-A22 Identifier		/ead/archdesc/did/unitid | /ead/archdesc/dsc//c/did/unitid	rico:identifier on the first rico:Instantiation of the rico:RecordResource.
Title	Attribute	RiC-A28 Name		/ead/archdesc/did/unittitle | /ead/archdesc/dsc//c/did/unittitle	rdfs:label and rico:title
Date (s)	Relationship	RiC_R069i OR RiC-R068i OR RiC-R071i OR RiC-R073i	RiC-E18	/ead/archdesc/did/unitdate | /ead/archdesc/did/unittitle/unitdate | /ead/archdesc/dsc//c/did/unitdate | /ead/archdesc/dsc//c/did/unittitle/unitdate	rico:hasBeginningDate + rico:date OR rico:hasEndDate + rico:date OR rico:isAssociatedWithDate + rico:date OR rico:hasModificationDate + rico:date
Types of archival material	Attribute	RiC-A10 Content Type		/ead/archdesc/physdesc/genreform | /ead/archdesc/dsc//c/did/physdesc/genreform | /ead//did/physdesc/genreform	rico:ContentType
Extent	Attribute	RiC-A35 Record Resource Extent		/ead/archdesc/physdesc/extent | /ead/archdesc/dsc//c/did/physdesc/extent | /ead//did/physdesc/extent	rico:recordResourceExtent

3.3. Identification and mapping of specific elements of description. As mentioned in the previous step, certain elements of description are specific to Slovenian archives. These elements are shown in the table 3. For this research some elements will not be mapped. It is necessary to conduct interviews with archivists in order to determine the necessity and mapping options for these fields.

Table 3: Elements of description specific to Slovenian archives

Elements of description	Type	Value	Related To	RiC-O
Acquisition	Activity	RiC-R033i	RiC-E15	rico:resultsOrResultedFrom + rico:Event
Processing notes	Atribute	RiC-A43 General Description		rico:generalDescription
Script	Atribute	RiC-A25 Language		rico:Language
Import classification	*not mapped*			
Archivist in charge	Relationship	RiC-R038i	RiC-E08	rico:hasManager + rico:Person
Descriptor (s)	*not mapped*			
Classification	Attribute	RiC-A07 Classification		rico:classification
Creator(s)	Relationship	RiC-R027	RiC-E08	rico:hasCreator+rico:Person
Record Status	Atribute	RiC-A39 State		rico:RecordState
Record precision	*not mapped*			
Record language	*not mapped*			
Record script	*not mapped*			
Rules or Conventions	Relationship	RiC-R063i	RiC-E16	rico:wasRegularedBy+rico:Rule

3.4. Creation of relations. Relations were created according to the example in table 4. For each relation there is an information about source, target, relation identification and type.

Table 4: Example of relations

Source		Relationship	Target		Type
RiC-E03 - Record Set	TOMOS Koper	RiC-R026 - Has provenance	RiC-E11 Corporate Body	TOMOS Koper	provenance
RiC-E03 - Record Set	TOMOS Koper	RiC-R068i - Has beginning date	RiC-E18 Date	1954	date
RiC-E03 - Record Set	TOMOS Koper	RiC-R071i - Has end date	RiC-E18 Date	1998	date
RiC-E03 - Record Set	TOMOS Koper	RiC-R038i - Has manager	RiC-E08 Person	Test Archivist	management
RiC-E03 - Record Set	TOMOS Koper	RiC-R025 - Has instantiation	RiC-E06 Instantiation	SI_PAK/1046 TOMOS Koper	record resource to Instantiation
RiC-E03 - Record Set	TOMOS Koper	RiC-R024 - Includes	RiC-E03 - Record Set	SI_PAK/1046/001 Fototeka	whole-part
RiC-E03 - Record Set	TOMOS Koper	RiC-R024 - Includes	RiC-E03 - Record Set	SI_PAK/1046/002 Tehnična dokumentacija	whole-part

4. POPULATION OF RIC-O ONTOLOGY

The RiC-O ontology was manually populated based on the rules defined in the third step. The results are presented in the example of a knowledge graph (Figure 1). For better visualisation, only part of a knowledge graph is shown.

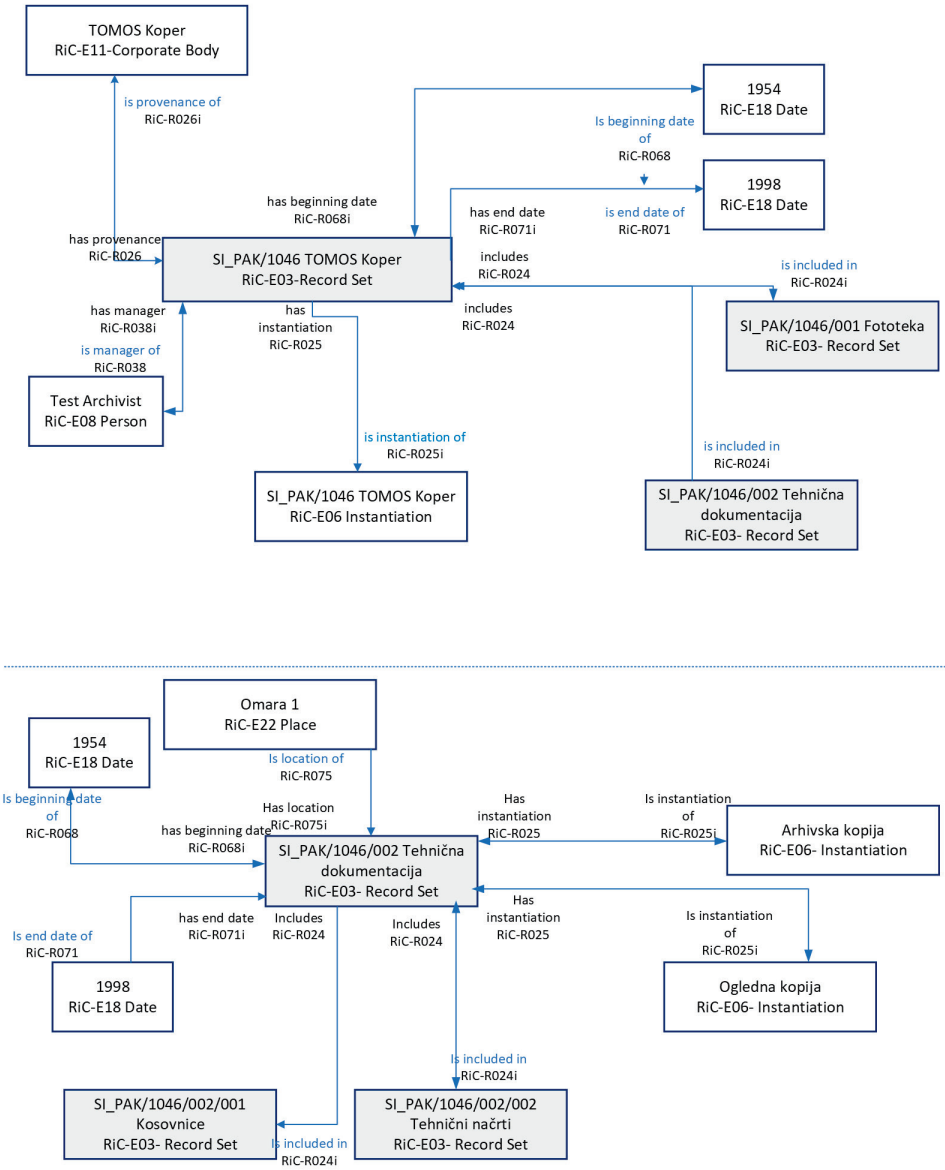

Figure 1: Knowledge graph

5. DISCUSSION

The main objective of the research is to develop a model for transforming existing archival records, created according to the ISAD(G)2 standard, into archival records created according to the RiC conceptual model. The methodology and the software tool for converting existing records to the RiC standard have been developed by the French National Archives. The software tool 'RiC-O Converter' (Francart et al., 2021) allows the conversion of EAC - CPF and EAD records to RiC-O. Francart et al. (2021) presented two processes that generate records corresponding to the RiC-O ontology from an initial EAC-CPF or EAD file. In the case of the input EAC-CPF file, agents, locations and relationships are generated as results. In the last step, a deduplication process is also performed with the aim of deleting duplicate links. In the case of an input EAD file, the result is the corresponding RDF/XML file. The tool also allows flexibility because " the output files can be splitted into smaller files, with the top Record Resource in one file, and each "branch" of the finding aid in a separate file" (Francart et al., 2021, 4).

The outcome of the mapping was also analysed by Souza and Flores (2021), who created an RDF/XML file based on the RiC-O ontology. The authors emphasised the significance of unique identifiers.: "All the entities are assigned to an identifier that is used to do the references in their relationships" (Souza & Flores, 2021, 5).

A case study is carried out on the units of description of the Tomos technical documentation, and a knowledge map is produced as a final result. In the case study, entities, attributes and relations are created and a unique identifier is assigned to each entity. It can be concluded that the model presented is appropriate and can be the basis for the creation of a software tool for the conversion of records. However, the model needs to be tested on a larger number of records and evaluated by technical and archival experts.

The advantage of RiC-CM and other standards based on Linked Data technology is that they can bring together cultural heritage records to provide comprehensive access for users, researchers and archivists. "Regardless of the actual model on which a particular system is based, it is expected to be interoperable and equipped with communication links that promote the seamless use of cultural heritage across institutions and technologies" (Koch et al., 2023, 20).

6. CONCLUSION

This paper presents transformation from ISAD(G)2 standard to Records in Contexts Conceptual Model. The emphasis is on transformation to conceptual model, because of better understanding. Ontology form and syntax is less user-friendly when compared to conceptual model. The transformation was presented from a data perspective and will be part of much more detailed PhD research.

The developed model includes five steps and has been tested on the currently existing description of the technical documentation of Tomos Koper (SI_PAK/1046 TOMOS Koper). Further steps are: extension and adaptation of the model for a representative number of records, which will include, in addition to series and sub-series, the records describing cut sheets and technical plans; development of a software tool for the conversion; testing of the software tool; and evaluation by experts. The developed model, the software tool and the result will be presented to technical experts and archivists. The evaluation will be carried out using an interview method.

The mapping of content is particularly important in the development of the model and the software application, as it must be accurate and allow users to reuse it on different records. The aim is to create a model and customize content mapping that will be useful for archival description in Slovenia.

RiC-CM and similar standards are challenging because of the different ways in which cultural heritage material is described and presented, but they also bring several benefits. »The process is not easy and needs to cover the most distinct realities of archives around the world. The description process will need to be adapted to reflect the graph way of thinking, allowing to archivists and systems to add relations between the elements that were not possible before. As consequence, these new relations will improve the records contexts of the archives« (Souza & Flores, 2021, 7).

As with any new technology, we need to be very critical of the introduction of RiC and involve the archival profession and the public in analysing the advantages and disadvantages of the new conceptual model and the way it works. In this process we can ask ourselves several questions, such as: What does RiC mean for our daily work? How does RiC affect the DUCAT[22] principles? Is RiC relevant for

22 Principles for long-term preservation of archival materials according to ZVDAGA (2006). Dostopnost – eng. Accessibility, Uporabnost – eng. Usability, Celovitost – eng. Integrity, Avtentičnost – eng. Authenticity, Trajnost – eng. Permanence.

users? Because of these and many other questions, we need as much research as possible to help us in the final decision and eventual implementation of the new conceptual model.

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Summary

Describing archival material is one of the archivist's most important tasks and is done in accordance with archival standards and legislation. The description allows, among other things, the access and the linking of the archival material. Four standards are currently in use regarding archival description: General International Standard Archival Description, second edition (ISAD(G)2), International Standard Archival Authority Record for Corporate Bodies, Persons, and Families (ISAAR (CPF)), International Standard for Describing Functions (ISDF)2 and International Standard for Describing Institutions with Archival Holdings (ISDIAH). The question is whether these standards are still relevant today, especially in the light of the changes that have taken place in the last 20 years. In 2012, the ICA (International Council on Archives) established the EGAD (Expert Group on Archival Description) group, which was tasked with developing a unique standard that would integrate four existing standards. This standard is now known as Records in Contexts (RiC). The conceptual model of RiC (RiC-CM) is based on entities, attributes, and relations between entities. The main objects of RiC-CM are entities, which are represented in a hierarchical structure. At the root is the thing entity, because all other entities are kinds of thing. RiC and similar standards are challenging because of the different ways in which cultural heritage material is described and presented, but they also bring several benefits.

The main objective of the research is to develop a process for transforming existing archival records, produced according to the ISAD(G)2 standard, into archival records based on the RiC conceptual model. A case study is carried out on the units of description of the Tomos technical documentation, and a knowledge map is produced as a final result. In the case study, entities, attributes and relations are created and a unique identifier is assigned to each entity. It can be concluded that the model presented is appropriate and can be the basis for the creation of a software tool for the conversion of records. The mapping of content is particularly important in the development of the model and the software application, as it must be accurate and allow users to reuse it on different records. The aim is to create a model and customize content mapping that will be useful for archival description in Slovenia. The emphasis is on transformation to conceptual model,

because of better understanding. Ontology form and syntax is less user-friendly when compared to conceptual model. The transformation was presented from a data perspective and will be part of much more detailed PhD research.

The advantage of RiC and other standards based on Linked Data technology is that they can bring together cultural heritage records to provide comprehensive access for users, researchers and archivists.

As with any new technology, we need to be very critical of the introduction of RiC and involve the archival profession and the public in analysing the advantages and disadvantages of the new conceptual model and the way it works. For this reason, we need as much research as possible to help us in the final decision and implementation of the new conceptual model.

Typology: 1.01 Original Scientific Article

Markus Schmalzl[1]

RESEARCH DATA MANAGEMENT - A COMMON TASK FOR ARCHIVES AND DATA PRODUCERS

Abstract

Purpose: *The purpose of the research was to examine to what extent public archives are affected by the archiving of research data and which challenges and opportunities exist here.*

Method/Approach: *The approach taken in this research builds on the evaluation of different research data management initiatives and cooperation projects of archives for archiving research data.*

Results: *Research data management is often only designed for the publication of the data and short subsequent periods of long-term storage of around 10 years. However, various branches of science require research data over much longer periods of time. To make this possible, close cooperation between data producers, research data managers and archivists is necessary*

Conclusions/findings: *Many public archives are already actively involved in archiving research data and have extensive skills for this and for the FAIR management of this data. The goal of sustainable content preservation can only be achieved from a practical point of view if data producers, data managers and responsible archives cooperate as early as possible in the data life cycle and ideally at an institutional level. Large-scale initiatives such as the National Research Data Infrastructure (NFDI) also enable the necessary standards and best practices to be jointly developed with the help of competence networks in the spirit of open archival science and to support the necessary cultural change towards sustainable data management.*

Keywords: *research data management, long term archiving, content preservation*

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GESTIONE DEI DATI DI RICERCA: UN COMPITO COMUNE PER ARCHIVI E PRODUTTORI DI DATI

Abstract

Scopo: *lo scopo della ricerca era esaminare in che misura gli archivi pubblici sono interessati dall'archiviazione dei dati di ricerca e quali sfide e opportunità esistono in questo caso.*

Metodo/approccio: *l'approccio adottato in questa ricerca si basa sulla valutazione di diverse iniziative di gestione dei dati di ricerca e progetti di cooperazione di archivi per l'archiviazione dei dati di ricerca.*

Risultati: *la gestione dei dati di ricerca è spesso progettata solo per la pubblicazione dei dati e brevi periodi successivi di archiviazione a lungo termine di circa 10 anni. Tuttavia, vari rami della scienza richiedono dati di ricerca per periodi di tempo molto più lunghi. Per rendere ciò possibile, è necessaria una stretta cooperazione tra produttori di dati, gestori dei dati di ricerca e archivisti.*

Conclusioni: *molti archivi pubblici sono già attivamente coinvolti nell'archiviazione dei dati di ricerca e hanno ampie competenze per questo e per la gestione FAIR di questi dati. L'obiettivo della conservazione sostenibile dei contenuti può essere raggiunto solo da un punto di vista pratico se i produttori di dati, i gestori di dati e gli archivi responsabili collaborano il prima possibile nel ciclo di vita dei dati e idealmente a livello istituzionale. Iniziative su larga scala come la National Research Data Infrastructure (NFDI) consentono inoltre di sviluppare congiuntamente gli standard e le best practice necessari con l'aiuto di reti di competenze nello spirito della scienza archivistica aperta e di supportare il necessario cambiamento culturale verso una gestione sostenibile dei dati.*

Parole chiave: *gestione dei dati di ricerca, archiviazione a lungo termine, conservazione dei contenuti*

UPRAVLJANJE RAZISKOVALNIH PODATKOV - SKUPNA NALOGA ZA ARHIVE IN PROIZVAJALCE PODATKOV

Izvleček

Namen: *Namen raziskave je bil preveriti, v kolikšni meri arhiviranje raziskovalnih podatkov vpliva na javne arhive in kakšni izzivi in priložnosti se pojavijo zaradi tega.*

Metoda/pristop: *Pristop, uporabljen v tej raziskavi, temelji na vrednotenju različnih pobud za upravljanje raziskovalnih podatkov in projektov sodelovanja arhivov pri arhiviranju raziskovalnih podatkov.*

Rezultati: *Upravljanje raziskovalnih podatkov je pogosto zasnovano le za objavo podatkov in kratka nadaljnja obdobja dolgotrajnega shranjevanja okoli 10 let. Vendar pa različne veje znanosti zahtevajo raziskovalne podatke v veliko daljših časovnih obdobjih. Da bi bilo to mogoče, je potrebno tesno sodelovanje med proizvajalci podatkov, upravljavci raziskovalnih podatkov in arhivisti*

Sklepi/ugotovitve: *Številni javni arhivi se že aktivno ukvarjajo z arhiviranjem raziskovalnih podatkov in imajo obsežna znanja za to in za upravljanje s temi podatki po principu FAIR (Findable, Accessible, Interoperable and Reusable / Najdljivo, dostopno, interoperabilno in ponovno uporabno). Cilj trajnostnega ohranjanja vsebine je s praktičnega vidika mogoče doseči le, če proizvajalci podatkov, upravljavci podatkov in odgovorni arhivi sodelujejo čim prej v življenjskem ciklu podatkov, in najbolje na institucionalni ravni. Obsežne pobude, kot je nacionalna raziskovalna podatkovna infrastruktura (NFDI), prav tako omogočajo skupni razvoj potrebnih standardov in najboljših praks s pomočjo kompetenčnih mrež v duhu odprte arhivske znanosti in podpirajo potrebne kulturne spremembe v smeri trajnostnega upravljanja podatkov.*

Ključne besede: *upravljanje raziskovalnih podatkov, dolgoročno arhiviranje, ohranjanje vsebine*

1. FOCUS ON RESEARCH DATA MANAGEMENT

For several years, various initiatives in Germany, as well as in other European countries and at EU level, have been trying to improve the management of research data. In recent years, many universities and research institutions have created positions to impart the relevant knowledge to employees, students and researchers and usually also make this available online. One example is the University of Konstanz, which offers an important information platform on the subject with the website Forschungsdaten.info. In addition, there are now a number of regional and supra-regional networks, including at state level, such as the Research Data Management Bavaria initiative. At the legislative level, work is currently underway on a research data law that is intended to significantly improve access to data for science (BMBF, 2024). The most important impetus in Germany was certainly given in 2020 with the promotion and development of a National Research Data Infrastructure (NFDI), in which over 270 universities, research and infrastructure institutions, including libraries and public archives, are currently participating. This major project also forms the German pillar for the European Open Science Cloud (EOSC), which pursues corresponding goals for a research data infrastructure at EU level. By building infrastructure and a large number of accompanying projects and initiatives, the aim is to significantly improve findability, accessibility, interoperability and reusability, in accordance with the so-called FAIR criteria. In the medium term, this is supposed to lead to nothing less than a change in the working culture of data producers. Research data should thus be verifiable and reusable for further research even a long time after it has been created, e.g. long after the completion of corresponding scientific projects. So-called data management plans are an important tool in this regard. These are intended to help data producers, e.g. the project staff, to clarify important questions about the filing, structuring, documentation, publication and long-term storage of the data before the data is created. The focus is usually primarily on the publication of the data and secondarily on its long-term storage, with a period of at least 10 years being assumed, as required by the German Research Foundation's guidelines for ensuring good scientific practice (DFG, 2019).

However, further processing of the data in accordance with the requirements of long-term content preservation of the data is often not considered (Paul-Stüve et

al., 2023; Markus et al., 2024). It became clear, not least during the development process of the NFDI, that a wide variety of scientific disciplines need to keep data interpretable for their own research over much longer periods of time than is currently taken into account in standard data management plans. For a wide variety of questions in earth system science, climate and biodiversity research, but also medical research and, of course, history, the periods of around 10 years that have been required so far are in no way sufficient. The same applies to cross-disciplinary research or disciplines such as the history of science. The need for sustainable data management is therefore obviously there. The German Council for Scientific Information Infrastructures (Rat für Informationsinfrastrukturen, RfII) has therefore declared longterm archiving to be one "of the most important tasks of a national research data infrastructure" (RfII, 2016).

2. RESEARCH DATA AND ARCHIVES

The extent to which the topic also affects public archives, in particular state archives, is often underestimated. Instead, it is often emphasized that these archives are not responsible for data from research processes but for the data of authorities and other public bodies and thus only for administrative data. However, this assessment is not correct in many cases. On the one hand, research institutions often also fall under the responsibility of these archives. In Bavaria, for example, there are several state authorities and their partly independent, partly affiliated subordinate bodies, such as the Bavarian State Office for Agriculture, the Bavarian State Office for Woods and Forestry, the Bavarian State Office for the Environment or the State Institute for Health and Food Safety. All these authorities mentioned here as examples, all of which are under the responsibility of the Bavarian State Archives, generate research data in the narrower sense, i.e. data from research projects that were partly funded with state funds, partly with third-party funds and produced by scientific employees of these authorities. The responsibility for the long-term archiving of this data, provided it is of lasting value for administrative or scientific purposes, undoubtedly lies with the Bavarian State Archives. However, it is debatable what is meant by the term research data. More narrowly defined definitions only include the interim results and results of scientific research (Kindling & Schirmacher, 2013). The definition currently used

for the National Research Data Infrastructure of Germany (NFDI) by the expert commission appointed by the Joint Science Conference of the Federal Government and the States, the Council for Information Infrastructure (RfII), defined the term research data much more broadly as early as 2019. Accordingly, this includes not only any data that originates from research processes or provides information about the methods and research tools used, but also data from surveys, measurements and data that was not obtained by the researcher, e.g. from official statistics or government information, which science accesses for research purposes, e.g. as a methodological basis (RfII, 2019). The NFDI‘s statement on the German Federal Government‘s planned Research Data Act also points out the importance of older data, which is stored in archives, among other places (NFDI, 2023) and advocates the adoption of the definitions of the German Data Use Act (Datennutzungsgesetz - DNG, 2021) and the so-called PSI or Open Data Directive of the EU (PSI-Richtlinie, 2019), according to which evidence that is used as part of the research process or that is generally considered necessary in the research community for the validation of research findings and results also falls under research data. According to these definitions, public and especially state archives hold research data on a large scale and, in accordance with their area of responsibility, are also responsible for the acquisition and long-term archiving of data that will arise in the future.

3. EXPERTISE OF PUBLIC ARCHIVES IN DATA MANAGEMENT

In addition, legislation in Germany has assigned archives the task of not only archiving data of lasting value, but also of advising data producers on the administration and storage of this data for decades. State archives in Germany in particular have taken this task very seriously with regard to administrative data in recent decades, as shown by the involvement of the State Archives of North Rhine-Westphalia in the introduction of e-files. (Friedrich & Schlemmer, 2018) Public archives therefore have extensive experience in the sustainable structuring, storage and documentation of data in a form that allows it to be reused in accordance with the primary purpose of use during the retention period, i.e. over the period of long-term storage. But that’s not all: For more than twenty years, state archives in Germany have been taking over electronic documents for long-

term archiving. Most of this data comes from administrative processes. However, some archives, such as the State Archives of Baden-Württemberg Bavaria and Hessen, have already incorporated research data in a narrower sense into their holdings.[2] Archives have also been able to gain a wealth of experience in the design of logical archiving interfaces, i.e. in the evaluation of data and the question of which formats, structures and transport routes these data take to reach the archive and which metadata and documentation material these data must be enriched with in order to keep them as interpretable as possible for the purposes of long-term archiving and to be able to make them usable again even after long periods of time.

4. DATA MANAGEMENT REQUIREMENTS FOR THE LONG-TERM AVAILABILITY OF RESEARCH DATA

If research data is to be kept interpretable for longer periods than just 10 years, this is evidently possible only through format migration according to the common preservation strategy. This in turn requires that the data is ideally migrated to formats that are suitable for long-term archiving before being transferred to the archive. Since a lot of information is lost during migration, the data must be sufficiently explained with metadata and documentation material on the context in which the information was created (Bachmann et al., 2023). In addition, the significant properties of the data must be defined (Puchta et al., 2023). And it must be determined in which structure and with which file and folder names the data should be transferred to the target archive. In numerous public archives in Germany, particularly in the relatively well-staffed state, municipal and church archives, this approach of defining and implementing logical archiving interfaces has been tested and implemented in recent years by a number of producers of data of lasting value from administrative processes. The cultural change towards sustainable data management, in which archiving is already considered when the data is created, is also slowly beginning to become noticeable here. In some cases, such as the cooperation between the Bavarian State Ministry of Food, Agriculture, Forestry and Tourism and the General Directorate of the Bavarian State

2 These include, among others, the archiving of data from the Württemberg State Museum by the Baden-Württemberg State Archives, biodiversity data from an inventory project at the Berchtesgaden National Park by the General Directorate of the State Archives of Bavaria, and the recording of biotopes in nature reserves in the Hessian State Archives.

Archives, archives are already involved in the conception phase of new IT systems or the conversion of existing systems in order to accompany the integration of appropriate interfaces if they are archival worthy (Holzapfl et al., 2023).

Progress in this direction has also been observed in recent years in born-digital data that matches to a greater extent with the narrower definition of research data, such as the agreements jointly drawn up between data producers and state archives in the federal states on the nationwide archiving of statistical raw data (KLA AG Statistical Data, 2008) since 2008 and of official geodata since 2015 (KLA Geodata, 2015). But public archives are also now involved in advising on the management of data that comes from research processes, with the NFDI offering a suitable framework with sufficient cross-linking opportunities for this. This major initiative not only includes data producers, but also those responsible for research data management as well as a wide variety of data repositories and libraries, of which some also have extensive experience in data curation and digital long-term archiving in the sense of content preservation.

5. COLLABORATION BETWEEN ARCHIVES AND DATA PRODUCERS IN DATA MANAGEMENT

These cooperations, which have so far been rather sporadic, already show the potential of collaboration, but also make clear the challenges of managing data that originates from research processes and may need to be archived permanently or at least for longer than 10 years in order to preserve information. The question of how to evaluate this research data is not easy to answer. The classic archival toolbox of vertical and horizontal comparison or random selection of large quantities of uniform documents quickly reaches its limits here. Formal criteria for identifying outstanding research projects are usually lacking. The archivists responsible for the evaluation are usually not specialists in the respective scientific discipline. In order to identify research projects and data of lasting value, collaboration between long-term archives and data producers or the specialist departments of the respective authorities and institutions is therefore urgently required. This applies not only to the evaluation of the data, but also to its management with the aim of long-term archiving. Only if data producers and target archives work together before the data is created the long-term preservation of the data can be guaranteed and the additional effort required to prepare the data for this purpose kept to

a minimum. This is particularly important in the case of data that is often generated in the context of tightly timed research projects with dynamic personnel development. On the basis of close institutional cooperation between the actors, i.e. the data producers, those responsible for research data management at these bodies and the archives, workflows for early evaluation and common principles of data management at the beginning of the life cycle of research data should be developed (Valena, 2024). The Bavarian State Archives are currently exploring options for this within the framework of the NFDI consortium FAIRagro with the research departments of the Bavarian State Ministry of Food, Agriculture, Forestry and Tourism. (StMELF, 2024)

6. CONCLUSION

Although there is still no generally accepted definition of the term research data, it can be assumed that many public archives already archive research data and will continue to be responsible for archiving research data in the future. With their experience in advising data producers and designing archiving interfaces for data that originate from administrative processes, public archives have skills that are also important for the management and sustainable FAIRification of research data. Similar to digital administrative documents, research data also requires close cooperation between data producers, research data management and the responsible archives as early as possible in the data life cycle in order to enable the data to be reused for relevant periods of time. However, it has also been rightly pointed out that the challenges and in particular the question of resources stand in the way of a systematic strategy for the archiving of research data in the narrower sense by public archives (Naumann, 2024). In view of scarce resources, a wide range of tasks and the parallel analog and digital sorting of administrative documents that will have to be managed over the next few decades, the archiving of research data does not appear to be a priority for many public archives. However, if these data come from data producers within the area of responsibility of the public archives and have lasting value for scientific or other purposes, the archiving of these data also falls under the responsibility of the respective archives. The extent to which research data in the narrower sense, which comes from other data producers, should also be archived in public archives, for example in an extension of the

archival collection mandate, still needs to be discussed within the archive community (Naumann, 2024). Last but not least there are further and legal questions that need to be answered here (Hodenberg et al., 2023). Ultimately, initiatives such as the NFDI, which not only function as a service portfolio and data infrastructure but also form an exchange platform and a competence network, offer the opportunity to develop work-efficient solutions and standards for these tasks together with data management experts from a wide range of memory institutions and scientific fields (Grau et al., 2023) in the spirit of open archival science.

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Summary

For several years, various initiatives in Europe have been trying to improve the findability, accessibility, interoperability and reusability of data for science and research. At the same time, the needs of a digitalized administration require electronic data to be stored in a fully interpretable manner, sometimes over several decades. This also requires consistent and sustainable records or data management. The lecture examines the question of what contribution public archives can make to overcoming these challenges and argues that data producers and archives must cooperate closely even before the beginning of the data life cycle.

Typology: 1.01 Original Scientific Article

Katarina Horvat[1]

DIGITIZATION OF REGISTRY BOOKS IN THE STATE ARCHIVES IN ZAGREB - EXPERIENCES FROM PRACTICE

Abstract

Purpose: *The purpose of this text is to present experiences in the work on the digitization of registry books (registers) in the State Archives in Zagreb through the several steps that this process contains. This digitization started at the beginning of 2024 and is still going on. Its ultimate goal is the publication of all digitized books on the e-Kultura portal. The e-Kultura portal is an official portal intended for the publication of digitized collections kept by heritage institutions of the Republic of Croatia.*

Methods / Approach: *The individual steps and tools in the digitization process and the final publication of the digitized material on the Internet are described. The conclusions obtained in individual steps are also described.*

Results: *The text draws conclusions based on experiences in working on this project, in its various phases. Conclusions are also drawn that can be applied to digitization projects in general, especially related to the potential added value of human work (i.e. knowledge of archivists) in these projects.*

Conclusions: *Technology is taking a huge step forward in enabling the greatest possible availability of archival material. Human knowledge constitutes the added value that properly directs and upgrades / refines this digitization process.*

Keywords: *archives, digitization, registry books, e-Kultura, valorization*

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DIGITALIZZAZIONE DEI LIBRI DI REGISTRO NEGLI ARCHIVI DI STATO DI ZAGABRIA - ESPERIENZE PRATICHE

Abstract

Scopo: *Lo scopo di questo testo è presentare le esperienze nel lavoro sulla digitalizzazione dei libri di registro (registri) negli Archivi di Stato di Zagabria attraverso le diverse fasi che questo processo contiene. Questa digitalizzazione è iniziata all'inizio del 2024 ed è ancora in corso. Il suo obiettivo finale è la pubblicazione di tutti i libri digitalizzati sul portale e-Kultura. Il portale e-Kultura è un portale ufficiale destinato alla pubblicazione di collezioni digitalizzate conservate da istituzioni del patrimonio della Repubblica di Croazia.*

Metodi / Approccio: *Vengono descritti i singoli passaggi e gli strumenti nel processo di digitalizzazione e la pubblicazione finale del materiale digitalizzato su Internet. Vengono inoltre descritte le conclusioni ottenute nei singoli passaggi.*

Risultati: *Il testo trae conclusioni basate sulle esperienze nel lavoro su questo progetto, nelle sue varie fasi. Vengono inoltre tratte conclusioni che possono essere applicate ai progetti di digitalizzazione in generale, in particolare in relazione al potenziale valore aggiunto del lavoro umano (ad esempio la conoscenza degli archivisti) in questi progetti.*

Conclusioni: *la tecnologia sta facendo un enorme passo avanti nel consentire la massima disponibilità possibile di materiale d'archivio. La conoscenza umana costituisce il valore aggiunto che indirizza e aggiorna/affina correttamente questo processo di digitalizzazione.*

Parole chiave: *archivi, digitalizzazione, registri, e-Kultura, valorizzazione*

DIGITALIZACIJA MATIČNIH KNJIG V DRŽAVNEM ARHIVU V ZAGREBU - IZKUŠNJE IZ PRAKSE

Izvleček

Namen: *Namen tega besedila je predstaviti izkušnje pri delu na digitalizaciji matičnih knjig (registrov) v Državnem arhivu v Zagrebu skozi korake, zahtevane s strani omenjenega procesa. Ta digitalizacija se je začela v začetku leta 2024 in še vedno poteka. Njen končni cilj je objava vseh digitaliziranih knjig na portalu e-Kultura. Portal e-Kultura je uradni portal namenjen objavi digitaliziranih zbirk, ki jih hranijo dediščinske ustanove Republike Hrvaške***.**

Metode / Pristop: *Opisani so posamezni koraki in orodja v procesu digitalizacije in končne objave digitaliziranega gradiva na internetu. Opisani so tudi zaključki, pridobljeni v posameznih korakih.*

Rezultati: *Besedilo podaja sklepe na podlagi izkušenj pri delu na tem projektu v njegovih različnih fazah. Izvedeni so tudi zaključki, ki jih je mogoče uporabiti za projekte digitalizacije na splošno, zlasti v zvezi s potencialno dodano vrednostjo človeškega dela (tj. znanja arhivistov) pri teh projektih.*

Sklepi: *Tehnologija dela velik korak naprej pri omogočanju čim večje dostopnosti arhivskega gradiva. Človeško znanje je tista dodana vrednost, ki pravilno usmerja in nadgrajuje/izpopolnjuje ta proces digitalizacije.*

Ključne besede: *arhivi, digitalizacija, matične knjige, e-Kultura, valorizacija.*

1. INTRODUCTION – DIGITIZED REGISTERS IN STATE ARCHIVES IN ZAGREB BEFORE 2024

Digitized registry books (registers)[2] have been used in the State Archives in Zagreb (hereinafter: SAZG) since 2008. Digital recordings were previously obtained from the Croatian State Archives, where they were digitized indirectly, from previously recorded microfilms of registers.[3]

These digital records arrived at SAZG in the period before 2008 on DVDs. In 2008, the DVDs were recorded on the computer in the SAZG reading room and the recordings were prepared for use. The recordings were arranged in such a way that each book formed one folder, and all register books of the same parish (ie all folders that contained recordings of individual register books of the same parish) were grouped into a folder with the name of the parish to which they belong.[4] In this way, the digital recordings of the registers followed the inventory list of the original registers. Since 2008, users of the SAZG reading room have been able to use digital recordings of register books on the computer in the reading room of the Archives, without having to order the material in advance.[5]

The digital images received from the Croatian State Archives that have been prepared for viewing in the SAZG reading room (and which are still used for some registers) are black and white, jpg format, resolution 300 dpi. The size of one image that covers two pages of the book is about 500-900 kilobytes, 4416 (Wdth) x 3104 (Height) pixels, 8 - bit depth. They are viewed by scrolling the pages using the right-left arrows, with some additional options.

2. NEW DIGITIZATION IN 2024

When attending the Festival of Croatian Digitization Projects in the National and University Library in Zagreb in 2023 (D-FEST, 2024), SAZG employees who were present there called with a question about how to digitize archival material

2 The text talks about the registers (of births/baptisms, marriages, deaths) that are kept in the State Archives in Zagreb in the collection HR-DAZG-870 Zbirka matičnih knjiga s područja nadležnosti Državnog arhiva u Zagrebu (Collection of register books under the jurisdiction of the State Archives in Zagreb). These are mainly old church registers of large format. A large number of them are approximately 40 cm x 25 cm. See more Vodič kroz fondove i zbirke Državnog arhiva u Zagrebu, 2008

3 Part of these registers has been microfilmed in cooperation with the Croatian State Archives and the Church of Jesus Christ of Latter-day Saints and is available online on the FamilySearch website: https://www.familysearch.org/hr.

4 In 2008, archivist Katarina Horvat arranged the recordings and prepared them for use.

5 Not all register books from the HR-DAZG-870 Collection of register books under the jurisdiction of the State Archives in Zagreb were digitized then, but a great number of them was. Part of the registers were still used in their original form.

without a suitable large-format scanner. After that, the Archive was contacted by a person from the Ministry of Culture to connect it with the Museum of Arts and Crafts in Zagreb, which had a scanner for large-format materials.[6]

The scanner was acquired by the Museum of Arts and Crafts through public procurement as part of the "e-Kultura - Digitization of cultural heritage" project. The e-Kultura project was financed by the European Fund for Regional Development as part of the implementation of the Operational Program "Competitiveness and Cohesion 2014 - 2020". The project is implemented by the Ministry of Culture and Media of the Republic of Croatia in cooperation with partner institutions: Croatian State Archives, Croatian Radio and Television, the Museum of Arts and Crafts and the National and University Library in Zagreb (eKULTURA, 2023a). The project is aimed at digitization and secure storage and availability of the largest possible amount of digitized material. State archives, libraries and museums, as well as Croatian Radio and Television, as well as some other institutions, participate in the project as content providers.[7] In order to have a uniform approach to the digitization of materials, the Croatian State Archives adopted Instructions for Digitization, which were published on its website (Hrvatski državni arhiv, 2021). Digitized material created as part of the e-Kultura project is stored on the Central System ("Središnji sustav", everything digitized is stored on it). Only that part of the material intended for public publication is available through the e-Kultura portal. The e-Kultura portal is designed as a portal with interesting and relevant material, and it is not necessary to publish entire fonds or collections on it, but only what is selected as relevant from them. SAZG are also a participant in the e-Kultura project. They concluded a contract with the Ministry of Culture for the publication of their digitalized material on the e-Kultura portal.[8]

3. THE PROCESS OF DIGITIZATION IN 2024

The actual process of scanning the registry books began in early 2024.[9] The scanning is done in agreement with the Museum of Arts and Crafts in their digitization studio, at a time that suits them, i.e. when the scanner is not used by

6 I was informed about this by Danko Rusan, senior archive technician and Domagoj Čičko, archivist (both from SAZG).
7 Briefly about the project e-Kultura see more: Hrvatski državni arhiv, s. d.; About the institutions involved see eKULTURA, 2023a.
8 Some SAZG employees were trained at the Croatian State Archives and were trained as creators in e-Kultura.
9 At the time of writing this text (September 2024), the digitization was still in progress.

their employees.[10] It is a large Microbox A0+ Hornet scanner, with two CMOS sensors (cameras) of 71 Mpix, a separable bench and a cover glass. The scanner is intended for the digitization of (flat, paper) museum materials larger than A2, and now it is additionally used for the digitization of library and archival materials.[11]

After the book is set up for recording (scanning), a glass is placed over it, which covers it completely and holds it tightly. It is important to place the book straight. After that the pages are recorded. Pages are manually flipped after each recording. The scanner has its own lighting, there is no additional light in the room during scanning.[12] The resulting recordings are in color, in tiff format, about 95 to 105 MB in size. The resolution is 300 dpi. The dimensions are about 6675 (Wdth) x 5136 (Height) pixels. Bit Depth is 24. The quality of the recordings is extremely good, you can see very small details recorded on the pages of the books.

With register books, there are also some peculiarities related to their large format. If the book is thicker (it consists of many pages or the pages were strengthened during the restoration and are therefore thicker), it cannot be spread all the way when opened, so the middle cannot be seen. (Sometimes notes with relevant information are written on the very margins or in the middle of the book.) Therefore, for some books, it would be good to put weights, so that the pages spread out as much as possible. (So far, we have not used this possibility when recording.) There is also the possibility to hold the book open with the hands, and to subsequently delete the fingers on the recordings. This can be solved, for example, with a program available with the CZUR scanner, which uses special finger cots to recognize places that should be automatically deleted (CZUR, 2022).

In general, it can be said that when recording books, attention should be paid to small details, such as small notes written on the margins or in the middle of the book, i.e. whether they are visible enough.

During the recording process, some agreements were made “on the fly”. We agreed that all pages of the book should be recorded (front page - cover, pages

10 The space for the digitization of the Museum of Arts and Crafts was located at the time of writing this text in the building of the Museum of Contemporary Art in Zagreb, where it was temporarily located due to the earthquake in Zagreb in 2020, which significantly damaged the building of the Museum of Arts and Crafts.

11 Information on the acquisition, type (model) and purpose of the scanner was kindly provided to me by Zoran Svrtan, head of the MUO’s IT service in September 2024.

12 Danko Rusan, an archive technician, is in charge of scanning the registers. He provided me with information about the same.

that precede the entries themselves, pages with entries, pages at the very end that precede the cover and the last page - cover). The blank pages at the end of the book were not recorded, that is, only one blank page was recorded, which announces the other blank pages, and the others are not. In the event that, with an open book, the margins of the pages overlap each other in such a way that the data on one page does not seem legible (because it visually merges with the page below) or the page itself appears messy, white paper is placed under the page and it is recorded that way.[13] Records should be kept of these decisions and subsequently listed as notes with digitized registers.

4. PROCESS OF CHECKING RECORDED MATERIAL

After recording the registers, the process of checking the recorded material goes through several steps. The memory stick with the recordings is handed over to the person (in this case, the archive technician) in charge of checking the recordings. She reviews the recordings by comparing them to the original registers, page by page. Marks pages in the original book that may have been skipped or not very well recorded. After that, the person in charge of the registry digitization project (in this case the archivist) together with the mentioned archival technician responsible for checking, once again examines the recordings of the material and decides whether some pages should be recorded again or not. If the book is recorded well, it returns to its place in the archival depo. If an additional page needs to be recorded, the book is prepared in the place provided for re-recording so that the digitizer can take it during the next digitization going.

If it is necessary to record some pages in the book on which small notes are not clearly visible and cannot be recorded well with the scanner used for digitization, the book is placed on a special shelf with the note "for additional recording". (The pages with such notes remain marked in the book.) This recording is scheduled to be made after the digitization of the entire Collection of registry books from the jurisdiction of the State Archives in Zagreb. The plan is to use a photo camera to record only a part of the page with a small note that is not clearly visible after scanning, i.e. to focus the recording on that note and to insert that shot into the

13 This was introduced into the recording process by trainee archivist Lea Kasabašić, who led this project at the beginning of the digitization of the registers. After her, the project was taken over by Katarina Horvat, archival councilor.

folder with the shots of the said registry book behind the shot of the entire page on which the said note is located. Recordings of register books are copied from a memory stick to a special external hard disk, where they are also edited. They remain stored on the external hard drive, and the plan is to store them on the Central System and publish them on the e-Kultura portal.

5. EDITING OF DIGITIZED MATERIAL

The recordings are arranged in such a way that one folder represents one book. Each folder is named as the original book (order number within the Collection, parish name, book type, year range). If some pages in the book were subsequently recorded, these recordings are inserted among the already existing recordings of that registry book, in such a way that their position among the recordings within the folder must be identical to the location of those pages within the original book. Edited folders can already be used on the computer in the SAZG reading room and easily viewed by scrolling through the pages as images, using the arrows, with the possibility of enlarging, reducing and rotating them.

When reviewing the recordings, the importance of valorizing the registers as an informational and historical source came to the fore. Sometimes valuable information about a particular person is written down in tiny, barely visible notes, and they can also have a special value as a historical source. Some books require knowledge of the Latin language in order to decide what needs to be recorded later and what is not. For example, if it is about formulas that are repeated and easily identified, then it is not necessary because it is easy to guess what they say. If it is about special notes or parts of names, etc., then it is definitely recommended. That is why it is desirable that an archivist with experience in work on this registry books and knowledge of the Latin language works on this project, so that he can valorize such cases.

Checking the digital recordings of the registers comes in handy as an additional check of the registers themselves (originals). In the case of some books, it was found that some pages were wrongly pasted after the previous restoration. This can be added as a note in the folder with the recorded registers. Pages can also be digitally cut out and inserted where they should be (A decision must be made - fix the digital recordings or follow the original book. If the book in digital form no longer fully follows the original, a note must be made about this).

6. CREATION OF METADATA AND EXPORT TO THE CENTRAL SYSTEM

After digitization, it is necessary to create metadata for the recordings. The metadata contain precise information about the Collection, series and each individual book. Metadata are created in an Excel spreadsheet. They are not visible to end users but serve to describe the digitized materials before sending them to the Central System, as well as for records visible to the archivists who describe these materials. Mandatory fields when entering metadata are Identifier, Title, Level, Higher ID, Order, Time FROM, Time TO, Record Type, Content Type, Collection, Record Status, To Publish and Terms of Use.[14] Some metadata have fields for free text entry (descriptive, which will be searchable later with the full text search option), and some for selecting terms from the drop-down menu. When creating descriptive metadata, the information of the archivist working on the description can come to the fore - the more relevant keywords are added to the description, the easier it will be for end users to find the material.

Once this is completed, the export of digital material to the Central System can be accessed, which is done using the Goobi application. It is an application with various processes, some manually and some automatically done (Igrec & Sušac, 2023).[15] At the time of writing this paper, the metadata for the registry books had not yet been created. However, SAZG employees already had experience in their creation. In September 2024, the SAZG had digitized material from eight archival fonds and collections published on the e-Kultura portal. Also, SAZG had digitized archival material from six additional archival fonds stored in the Central System.

It is important to note at this point that the metadata and digitized materials do not have to, and often will not, fully accompany the informational aid and material of the fonds / collection (or part of the fonds / collection) designated for digitization. By selecting materials for digitization and storage on Central System or publishing on the e-Kultura portal and by creating the associated metadata, we are actually creating a new archival entity and a new information tool. This new

14 Croatian: *Identifikator, Naslov, Razina, VisaID, Redoslijed, VrijemeOD, VrijemeDO, VrstaZapisa, VrstaSadrzaja, Zbirka, StatusZapisa, ZaObjavu* and *Uvjeti koristenja*. Precise instructions for creating metadata for SAZG employees were prepared by specialist archivist Sonja Galina.

15 For SAZG employees, the instructions for the Goobi application were created by specialist archivist Sonja Galina.

archival entity has its own digital life that can be changed and updated and needs to be looked after so that it is constantly available under accepted conditions. Here too, the knowledge of the archivist comes to the fore, deciding which part of the material will be digitized and published and which will not.

7. CONCLUSION

Technical progress and the wider availability of devices for scanning and recording materials have made the digitization of archival material at a higher level easier. Digitization and the widest possible availability of the entire cultural heritage, and thus archival material, is encouraged by the European Union, and in this direction the e-Kultura project was designed in Croatia. In addition to the digital world, in the sense of a joint portal where material from archives, libraries and museums is published, cooperation on this project is also visible through the joint use of very valuable devices, as in the example of the use of a large scanner of Museum of Arts and Crafts for the needs of SAZG. Although the advancement of technology has made digitized material far more accessible, human knowledge, in this case the knowledge of the archivist who leads the digitization processes, is still valuable. The added value to the digitization process will depend on his amount of knowledge, visible in the valorization of records (e.g. visible when deciding what from a certain fonds or collection will be chosen for digitization and/or publication; visible also when deciding on the additional recording of individual notes in the original books), as well as descriptions that are entered in metadata, which can significantly facilitate someone's search for material. That is why knowledge of the material by the competent archivist should continue to be a prerequisite for valid control and valorization of digitized material. Thus, the end result created by the joint action of new technologies and human knowledge will be not only digitized and quickly accessible archival material, but also that end users find exactly the archival material they need as quickly as possible.

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Summary

This year, the new digitization of the registry books in the State Archives in Zagreb began. This process is carried out in cooperation with the Museum of Arts and Crafts in Zagreb, which owns the scanner for large-format books. The scanner was acquired as part of the "e-Kultura - Digitization of cultural heritage" project. The e-Kultura project was financed by the European Fund for Regional Development as part of the implementation of the Operational Program "Competitiveness and Cohesion 2014 - 2020". It is implemented by the Ministry of Culture and Media of the Republic of Croatia in cooperation with partner institutions: Croatian State Archives, Croatian Radio and Television, Museum of Arts and Crafts and the National and University Library in Zagreb. The purpose of the project is the digitization, safe storage and availability of the largest possible amount of digitized material - the cultural heritage of the Republic of Croatia. Various heritage and other institutions, as well as state archives, participate in the project as content suppliers. The State Archives in Zagreb is also a participant in the e-Kultura project. The project of digitization of registry books aims to store the resulting digital recordings on the Central System and publish them on the e-Kultura portal.

The scanning of registers is done in agreement with the Museum of Arts and Crafts in their digitization studio. When scanning books, you should also pay attention to small details, such as small notes written on the margins or in the middle of the book, i.e. whether they are visible enough. In the process of digitalization, some agreements were created "on the fly". Records should be kept of these decisions and subsequently listed as notes with digitized registers.

After scanning the original registers, the process of checking the recorded material goes through several steps. Digital recordings are arranged in such a way that one folder represents one registry book. Each folder is named as the original book (r. no. within the Collection, name of the parish, year range). Edited folders, i.e. recordings of registers, can be used on the computer in the reading room of the State Archives in Zagreb.

It is preferred that an archivist with experience in working on registry books and knowledge of the Latin language works on this project, so that he can valorize possible cases of doubt regarding the need to re-record a page or part of a page.

After digitization, it is necessary to create metadata for the recordings in an Excel table in which precise information about the Collection, series and each individual book is given. Metadata and digitized materials do not have to, and often will not, fully accompany the finding aid and material of the archival fonds / collection (or part of the fonds / collection) designated for digitization. By selecting materials for digitization and storage/publishing on the e-Kultura system and creating associated metadata, we are creating a new archival entity and a new finding aid. This new archival entity can be changed and updated, and it needs to be looked after so that it is constantly available under accepted conditions. The knowledge of the archivist who decides which part of the material will be digitized and published and which will not be very valuable here.

The process of digitizing the registry books is carried out through several steps, the goal of which is to publish the digitized registers on the e-Kultura portal. Sophisticated scanners and processes have made digitized material far more accessible. Nevertheless, human knowledge, in this case the knowledge of the archivist who leads the digitization processes, is still valuable. The result created by the joint action of new technologies and human knowledge should not only be digitized and quickly accessible archival material, but also that end users find exactly the archival material they need as quickly as possible.

Typology: 1.04 Professional Article

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THE USE OF LANGUAGE MODELS (LLMS) IN THE PUBLIC SECTOR AND THE IMPACT ON PUBLIC RECORDS: A CASE OF SWEDEN AND CROATIA

Abstract

Purpose: *This study is part of a bigger study being conducted under the auspices of the InterPARES project (https://interparestrustai.org/). Its purpose is to investigate the use of large language models (LLMs) in the public sector and the impact they have on the management of public records. The investigation was conducted in a Swedish and Croatian research settings. LLMs rely on substantial amounts of data from the Internet that might include a risk of generating inaccurate responses and biases. Since LLMs are used in decision-making processes, it is crucial that the records that derive are identified and managed for accountability and transparency purposes. The questions therefore records managers and archivists should be asking during the implementation of LLMs in government administrations is what type of critical public records can be identified in processes where they have been deployed and additionally, in case of wrong responses, how can transparency and accountability be maintained?*

Method/approach: *The authors have applied a case study method, interviews, and literature review to the investigation.*

Results: *The results reveal that despite the current deployment of LLMs in the public sector, little attention is paid to the identification and capture of public records. The focus is mostly put on the efficiencies that the LLMs are to bring, through the claimed lessened administrative burdens. Further the testing that was done of a chatbot demonstrated the challenges associated with ensuring the reliability and accuracy of information generated by LLMs.*

Conclusions/findings*: It is through the public records that the transparency of processes where the LLMs are being deployed can be maintained and where things go*

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wrong, those accountable can be held responsible. Despite the many opportunities that the LLMs are providing, it is equally of paramount importance to understand record making amidst the deployment of LLMs in government administrations.

Keywords: *Large Language Models (LLMs), Implementation, Public Records, Government Administrations, Transparency and Accountability*

L'USO DEI MODELLI LINGUISTICI (LLM) NEL SETTORE PUBBLICO E L'IMPATTO SUI REGISTRI PUBBLICI: UN CASO DI SVEZIA E CROAZIA

Abstract

Scopo: *questo studio fa parte di uno studio più ampio condotto sotto gli auspici del progetto InterPARES (https://interparetrustai.org/). Il suo scopo è quello di indagare l'uso dei grandi modelli linguistici (LLM) nel settore pubblico e l'impatto che ha sulla gestione dei registri pubblici. L'indagine è condotta in un contesto di ricerca svedese e croato. Gli LLM si basano su grandi quantità di dati da Internet che potrebbero includere un rischio di generare risposte imprecise e distorsioni. Le domande che gli archivisti dovrebbero porsi durante l'implementazione degli LLM nelle amministrazioni governative sono: che tipo di documenti pubblici critici possono essere identificati nelle aree in cui vengono implementati gli LLM e, inoltre, in caso di risposte errate, come possono essere mantenute la trasparenza e la responsabilità?*

Metodo/approccio: *gli autori hanno applicato un metodo di studio di caso, interviste e revisione della letteratura all'indagine.*

Risultati: *I risultati rivelano che, nonostante l'attuale impiego dei modelli linguistici di grandi dimensioni (LLM) nel settore pubblico, viene prestata poca attenzione all'identificazione e alla registrazione dei documenti pubblici. L'attenzione si concentra principalmente sulle efficienze che gli LLM dovrebbero apportare, in particolare attraverso la presunta riduzione degli oneri amministrativi. Inoltre, i test effettuati su un chatbot hanno dimostrato le sfide associate a garantire l'affidabilità e l'accuratezza delle informazioni generate dagli LLM.*

Conclusioni/risultati: *è attraverso i documenti pubblici che è possibile mantenere la trasparenza dei processi in cui vengono implementati gli LLM e, quando le cose vanno male, i responsabili possono essere ritenuti responsabili. Nonos-*

tante le numerose opportunità che gli LLM stanno offrendo, è ugualmente di fondamentale importanza comprendere la creazione di documenti durante l'implementazione degli LLM nelle amministrazioni governative.

Parole chiave: *Modelli linguistici di grandi dimensioni (LLM), implementazione, registri pubblici, amministrazioni governative, trasparenza e responsabilità.*

UPORABA JEZIKOVNIH MODELOV (LLM) V JAVNEM SEKTORJU IN VPLIV NA JAVNE EVIDENCE: PRIMER ŠVEDSKE IN HRVAŠKE

Izvleček

Namen: *Ta študija je del večje študije, ki poteka pod okriljem projekta InterPARES. Njegov namen je raziskati uporabo velikih jezikovnih modelov (LLM) v javnem sektorju in vpliv, ki ga imajo na upravljanje javnih evidenc. Preiskava poteka v švedskem in hrvaškem raziskovalnem okolju. LLM se zanašajo na velike količine podatkov iz interneta, ki lahko vključujejo tveganje ustvarjanja netočnih odgovorov in pristranskosti. Vprašanja, ki bi si jih arhivisti morali zastaviti med uvedbo LLM v javni upravi, so, katere vrste kritičnih javnih evidenc je mogoče prepoznati na območjih, kjer se uporabljajo LLM, in poleg tega, v primeru napačnih odgovorov, kako je mogoče ohraniti preglednost in odgovornost?*

Metoda/pristop: *Avtorici sta v raziskavi uporabila metodo študije primera, intervjuje in pregled literature.*

Rezultati: *Rezultati razkrivajo, da se kljub trenutni uvedbi LLM v javnem sektorju le malo pozornosti namenja identifikaciji in zajemanju javnih evidenc. Poudarek je predvsem na učinkovitosti, ki jo prinašajo z zmanjšanimi administrativnimi bremeni. Poleg tega je testiranje klepetalnega robota pokazalo izzive, povezane z zagotavljanjem zanesljivosti in točnosti informacij, ki jih generirajo LLM.*

Sklepi/ugotovitve: *Z javnimi evidencami je mogoče vzdrževati preglednost procesov, v katerih se uvajajo LLM-ji, in če gredo stvari narobe, se lahko od odgovornih zahteva odgovornost. Kljub številnim priložnostim, ki jih ponujajo LLM-ji, je prav tako izjemno pomembno razumeti izdelavo zapisov med uvajanjem LLM-jev v javni upravi.*

Ključne besede: *veliki jezikovni modeli (LLM), implementacija, javne evidence, javna uprava, preglednost in odgovornost.*

INTRODUCTION

Large Language Models (LLMs) are claimed to present unparalleled capabilities for numerous sectors such as business, communication, education, and government operations. These models offer a wide array of applications such as question-answering through chatbot interactions, summarization, translation, text generation, content creation, customer support, research, educational assistance, to mention but a few. The models use natural language processing algorithms to interpret and respond to text based human input. Governments are harnessing LLMs to deliver efficient public services and to ensure equal treatment, security, and privacy of citizens (Fang & Xu, 2023). Jingfeng et. al. (2024) investigated the practical aspects of LLMs in the real world and argued that their use requires an understanding of their limitations and capabilities, the quality of the data on which they are trained, the tasks they are meant to solve and knowledge regarding how to select the most suitable LLM. They confirmed that currently, there is no agreed-on definition of LLMs and posited that the end-users need to factor in their size, the computational requirements and the availability of domain-specific pre-trained models.

According to the Analysis and Research Team of the Council of the European Union, LLMs are being implemented in the public sector and will only continue to grow in sophistication (Council of the European Union, 2023). AI driven technologies are being incorporated in public administrations to substitute human intellectual work. This is because, they have the potential to analyze large amounts of data at a fast speed and accurately and hence deliver informed decisions. It is argued that this reduces bias and promotes fair and consistent outcomes. However, the challenge they pose is lack of transparency and yet, citizens who receive AI-based decisions need to understand how they were arrived at. Those who receive negative decisions have a right to know whether the decision was based on accurate information. AI technologies are also said to perpetuate and amplify biases and therefore to avoid such situations, public administrations need to develop and implement a framework and safeguards for the use of AI technologies (Carullo, 2023).

Though LLMs are praised for their innovative capabilities, scholars such as Weidinger et. al. (2021) argued that they equally pose risks that must be identified. They identified fairness and toxicity that emanate from unfair discrimination through stereotypes and social biases, risks related to private data because of

the LLMs' capability to make inferences based on the private data in the training corpus. Furthermore, the LLMs can give misleading information and create less informed users which could erode trust in shared information. The authors argue that this could result in misinformation capable of harming all aspects of life. They further highlighted the possibility for misuse of LLMs by unscrupulous users with the intent to harm others. This could manifest in form of personalized scams, computer codes for viruses or weapon systems. The training and operation of LLMs also has a high environmental cost and yet, the applications that are based on them are only available to some groups of people, because the models are still inaccessible to many. They therefore concluded, that to measure and to mitigate the ethical and social risks that emanate from LLMs, will require collaboration, a broad range of expertise and inclusion of the affected communities.

Nashwan & AbuJaber (2023) on the other hand highlighted the potential benefits LLMs can bring to the management of e-health records. They argued that LLMs can revolutionalize healthcare practices by streamlining data-input processes, expedite information extraction from the patients' unstructured narratives and personalize communication. However, they also raised concerns regarding a patient's privacy, data security and biases which can hinder the delivery of equitable care.

It has not been easy to identify literature that has focused on public records management amidst the deployment of LLMs in the public sector, which has motivated the authors to undertake this study. We would like to understand what type of records grow in areas where LLMs have been deployed in the public sector and how they are captured to enhance transparency and accountability of government institutions. Though LLMs are delivering unprecedented advantages to society, the risks they pose are real. Therefore, we see this development as a rich ground for records managers and archivists to engage in, to defend the transparency and accountability of public administrations since it is underpinned by effective public records management. Records managers and archivists need to understand this development to be able to identify public records that should serve as evidence, especially in situations where citizens have been unfairly treated or hurt. The article offers an introduction, a literature review, a method, research findings that problematizes the issue of implementing LLMs in the public sector, findings, a discussion and conclusion and a summary.

THE RESEARCH PROBLEM

Large Language Models (LLMs) are being deployed in the public sector because of the claims that they enhance efficiency, reduce the administrative burden, deliver less biased decisions and hence equal treatment of citizens and their capability to deal with mass cases to mention but a few of the advantages (Fang & Xu, 2023). There are however also claims that counter the above stipulated advantages such as data privacy violations, biases, lack of representation and promotion of stereotypes, inaccurate information delivery and lack of transparency in the way they execute tasks (Weidinger et. al. 2021). The General Secretariat of the Council of the European Union argued that while it might be easy to understand how LLMs work, companies that develop them and mostly US based, are not willing to release detailed information and the parameters upon which they base the responses they provide to their users. This complicates their assessment once integrated in a workplace (Council of European Union, 2023). Public institutions are not for-profit organizations and are stringently held by transparency and accountability requirements, in most democratic societies. They must have safeguards against unfair treatment of the citizens (Carullo, 2023). Therefore, the implementation of new technologies requires that the open structure of public institutions is maintained. This is what makes it of paramount importance for the public sector records managers and archivists to understand what type of public records grow out of processes where LLMs have been deployed and to effectively capture them. This is to enhance democratic values of accountability and transparency, impartiality and reliability especially where decision making processes are concerned. Citizens have a right to know how decisions are arrived at, and this is through access to public records. Though big claims are being made about the many advantages that the LLMs bring to the public sector, there is less discussion on the management of public records which underpin the government administrations' open structure (Council of European Union, 2023).

LITERATURE REVIEW

We searched for articles related to the subject under investigation using words such as; 'large language models and the public sector,' 'LLM implementation in the public sector and public records' and 'challenges and opportunities of LLMs.'

We consulted databases such as Emerald, Science Direct and Google scholar. The literature search revealed that even though there is emerging literature on the deployment of Large Language Models (LLMs) in the public sector, we have not been able to find studies that are focusing on their impact on the management of public records.

LARGE LANGUAGE MODELS AND PUBLIC INSTITUTIONS

Recent research explores the potential of Large Language Models (LLMs) deployment in government administrations and highlights both opportunities and challenges. LLMs can enhance public services by automating responses to citizen inquiries, improving efficiency and accuracy in digital governance (Fang & Xu, 2023). However, the use of LLMs in government contexts raises significant security and privacy concerns, that include vulnerabilities such as data poisoning, and personally identifiable information leakage (Das et al., 2024). While LLMs can enhance code security and data privacy protection, they may also be exploited for malicious purposes due to their advanced reasoning capabilities (Yao et al., 2023). As governments increasingly adopt LLMs, addressing these security and privacy challenges become crucial to ensure the responsible and effective use of this technology in public service delivery. Das set al. (2024) reviewed the application-based risks of LLMs in various domains, such as transportation, education, and healthcare. They identified research gaps in the domain of LLM security and privacy and highlighted the need for more research in this direction.

Nagoudi et. al (2024), presented work that is being conducted under the auspices of the InterPARES TrustAI project: https://interparestrustai.org/ in the UNESCO SCEaR newsletter where they argued that, LLMs such as ChatGPT are offering unprecedented capabilities to generate text and understandability. They however warned that the models still pose a challenge of delivering inaccurate or fabricated information. They informed that a solution to this challenge and that could also be relevant to the archives domain is called Retrieval Augmented Generation (RAG). This solution now exists and enables the models to retrieve information from various external databases. They proposed a RAG model that is open source and that would ensure a robust and diverse knowledge base. RAG would enhance the reliability of LLMs by ensuring that output is based on verified data and would fos-

ter a trustworthy digital information environment. Papageorgiou et al. (2024) also proposed a modular framework using Retrieval-Augmented Generation (RAG) for integrating LLMs into e-government systems. Their approach aims to improve scalability and transparency, though it highlights the need for further empirical validation to optimize e-government service delivery. Like Nagoudi et. al. (2024), Ghodratnama (2024) who explored methodologies to optimize information retrieval was equally worried about the issue of inaccurate and misinterpreted data.

Raeini (2023) investigated privacy-preserving techniques that could be used to transform LLMs to preserve the privacy and security of data and users. LLMs have caused huge concerns related to transparency and privacy issues, which are discussed in large corporations and research centres. The Center for Democracy and Technology (2023) explored how LLMs can enhance government chatbots by simplifying legal and technical documents and discussed challenges like maintaining accuracy and the privacy risks associated with these systems. Oxford Insights (2023) in their report *LLMs in Government: Brainstorming Applications,* discussed potential applications of LLMs, such as improving procurement processes and citizen services. However, they cautioned against risks such as lack of transparency, environmental impacts, and the potential for hallucinations in high-stake decision-making.

The research presented by Fang and Xu (2023) presented the needs of government institutions that have to manage large volumes and diverse citizens' inquiries, which are primarily executed by human agents, with limited AI assistance. They argued that LLMs could be applied to address citizens' requests and to generate human-like answers. They however stated that, LLMs are general-purpose GPT models with limited understanding of professional expressions in the government domain and are unable to effectively respond like public officials. This research aimed to build a question and answer guidance system, specialized in government affairs based on LLMs and historical citizen question vector databases. Antonidas et al. (2021) used AI models to provide citizens with accurate, personalized and accessible information on Public Services (PS). For this purpose, they developed a chatbot named PassBot that gives personalized information on getting a Greek passport. Pena et al. (2024) used LLMs classify public documents, and analyse them which is crucial to promoting transparency and accountability. Guererro et. al. (2024) investigated whether the exisitng AI regulations in Sweden,

Finland and South African covered the management of public records. They concluded that there was a disconnect between AI regulations and the management of public records. Their study confirmed, that the focus was on the management of data and not records. They however highlighted the advantages AI technologies could bring to the records management field through enhanced efficiency and organization of information (classification, indexing and tagging of records), improved search and retrieval possibilities, increased transparency and accountability because even sensitive information could be redacted. This development would promote data-driven insights and innovation. They however recommended that governments need to invest in education, to create a workforce that will be equipped with the skills to embrace the opportunities that AI technologies offer but also deal with the challenges that they pose.

E-GOVERNMENT AND CHATBOTS

Seljan et al. (2020) examined transformations that encompass not only differences in ICT usage but also social, economic, educational, and business changes, which contribute to the risks associated with the "digital divide." One such development is e-Government, which has led to an ever evolving digital landscape. Governments now face new challenges as they strive to provide enhanced public services and empower citizens. The goal of e-Government is to streamline the delivery of information and services, improve efficiency and productivity, reduce costs, and enable greater citizen engagement in public policy decision-making. The interaction between government and users can include accessing information, completing forms, making payments, submitting online comments, and more.

Palvia & Sharma (2007) categorized e-government development through levels 1 to 5. Level 1 represented the most basic form, where it is limited to simple websites providing links to relevant institutions. At Level 2, the government offered an enhanced presence, providing a greater number of resources to the public, such as laws, regulations, policies, newsletters, and downloadable databases. Level 3 featured further improvement, with online services like downloadable forms for tasks such as tax payments and license renewals. Level 4 introduced transactional presence, enabling two-way communication between the government and citizens, allowing services such as online tax payments and applications for birth certificates

or ID cards. Finally, Level 5 represents networked presence, where services are fully integrated, encouraging societal participation in open, constructive dialogue through online forms, comments, and other interactive features. Chatbots could be harnessed at this level, due to their potential to deliver responses to questions.

The use of chatbots to provide answers in a wide range of everyday situations has become a research topic for numerous researchers. Wangsa et al. (2024) conducted research on the use of five chatbots (ChatGPT, Bard, Llama, Ernie, and Grok) in education and healthcare, and underlined the importance of the context. The researchers used the criteria of accuracy, consistency, domain expertise, computational efficiency and scope of knowledge for evaluation, showing the strong performance of ChatGPT, followed by Bard and the Llama. Bahak et al. (2023) focused on question-answering evaluation of ChatGPT, using precision, recall, and F1 scores to measure performance and human evaluation for robustness and fluency. They found that while ChatGPT excels in conversational fluency, challenges remain in ensuring accuracy, confirming challenges in task-specific issues. Guo and Dong (2024) explored the adoption of chatbots for government use, outlining the main challenges, such as managing data and ensuring consistent, accurate responses, but also the importance of user expectations. In the context of e-government, there are also efforts to develop chatbot solutions that provide citizens with streamlined access to government services and information. These chatbots, like those in India's Digital India initiative, aim to centralize and simplify information from various agencies, making services more accessible (Kumar et al., 2024)

THE METHOD

This study builds on a bigger study that is being conducted under the auspices of the InterPARES project (https://interparestrustai.org/) and that focuses on ' Records Management Challenges Amidst AI Deployment in the Public Sector: The Case of Sweden, Finland and South Africa. The Croatian case is an addition to the study. The authors have employed the case study method because Creswell (2007) argued that it is an appropriate method, when an inquirer seeks an in-depth understanding of a phenomenon. Case studies offer a variety of evidence through interviews, documents, artefacts and observations (Yin, 2009). It is through data collection that a researcher can give a detailed description of the case being studied. Patton (2002)

argued that researchers interview people because we cannot observe everything. Interviews therefore allow us to enter into other people's worlds. Interviews were carried out via Teams with an archivist and information security officer in the Swedish municipality hereto referred to as Municipality C, because they were the ones behind the implementation of a project that was relevant to the phenomenon under investigation that is, the Large Language Models (LLMs) implementation in the public sector. The interviews were carried out in December 2023 for the bigger InterPARES study mentioned above. The data presented in this case is therefore based only on the two interviews that were conducted with the archivist and information security officer who were in charge of the creation of a project that aimed to implement a ChatGPT-like model, to address the administrative burden. By the time of the interviews, the project was to be presented to the management to secure funding. The interviews were transcribed, analyzed and the relevant extractions from the gathered data are presented under the findings.

The second case looked at the implementation of a Chatbot in a Croatian setting. This research investigated the accuracy, reliability, and overall performance of responses generated by a general-domain chatbot, focusing on questions relevant to citizens of the Republic of Croatia. The evaluation was based on principles from the Archival Science domain, particularly in the areas of accessibility, verification, and trustworthiness of information sources. Emphasis was on the critical role of authoritative sources, such as:

- Official bank websites,
- The Croatian Institute for Health Insurance (HZZO),
- Faculty websites,
- Public transportation schedules (e.g., night tram schedules),
- The Ministry of Internal Affairs,

The chatbot responses were evaluated using a multi-faceted framework:

1. Accuracy: This measures whether the information provided is fully correct, partially correct, or inaccurate. Each response was cross-verified against reference sources. Accurate information was essential to determine the chatbot's utility, as prior research showed that chatbots often struggled with fact-based queries.

2. Reliability: This evaluated the credibility of the references cited or inferred by the chatbot. The criterion drew upon archival theory, where the provenance and authenticity of sources are paramount. For instance, information provided by public institutions (such as banks and HZZO) was regarded as reliable, whereas answers were not accurate
3. Efficiency: This pertained to the speed with which the chatbot retrieves and delivered information. Studies suggest that users place high value on response time in practical contexts, such as when accessing government services online.
4. Relevance: This assessed how closely the chatbot's answer aligned with the posed question, ensuring the response was both on-topic and specific. Relevance is often correlated with user satisfaction, especially when addressing legal, health, or transportation queries
5. Fluency: The linguistic quality of the chatbot's output, focusing on the clarity, coherence, and naturalness of the language used. A fluent response is essential for maintaining user understanding.

The study used a three-level rating system:

Positive: The response was accurate and complete.

Partially correct: The response contained correct elements but lacked full accuracy or completeness.

Incorrect: The information provided was wrong, non-existent, or irrelevant

The overall objective was to highlight the necessity for records managers and archivists to engage in these spaces where LLMs are being deloyed to effectively identify and manage public records because they are critical to decision-making processes, accountability and transparency of government institutions.

RESEARCH FINDINGS

The section below presents research findings from two cases: a Swedish and a Croatian research setting.

CASE 1 - THE USE OF LLMS IN A MUNICIPALITY – PROJECT UNDER CONCEPTION

The Archivist of Municipality C informed about a project was being conceived but had not yet been presented to the management. It was about an AI Generator

likened to a ChatGPT that was to be suggested, and discussions were on-going with the supplier. The intent was to gather documents that were critical to the daily operations of the organization such as; steering documents to facilitate the administrative burden. The archivist did not have full knowledge of the AI generator but was to a certain degree participating in the conception of the project. He explained that the AI generator was to be fed with documents to enable it to generate answers. When the archivist was asked to share what he saw as a challenge with the project, he informed that, it would be the generation of wrong responses. This required an administrator using the ChatGPT to be critical.

The Information Security Officer in Municipality C was responsible for data protection. He pinpointed the importance of maintaining trustworthy and authentic information. He informed that he was together with the Archivist planning to present the conceived project to the municipality's management. An IT company was helping them to create an AI based administrative support function that is likened to ChatGPT 3.5-4.0. The company was using language models – machine learning models and selling licences to those interested in the support function. The language model was to be used as a base infrastructure upon which they could add their own data. Since the municipality was striving to facilitate the daily administrative routines for the employees, they were to start with the steering documents, guidelines for archives management, archival descriptions and later if the project was accepted, they would advance to the laws governing different areas and hence create their own ChatGPT. The system must be fed with the data that the municipality decided on. ChatGPT was supposed to help the administrators to get responses to questions that relate to their processes. He informed that through reading the responses from ChatGPT he as an information security officer could easily identify areas for improvement. He argued that this could also serve as support for the authors of the steering documents – to improve language and understanding. The support function would easily be accessible to the employees in their daily work.

The Security Officer however informed that one needs to include a disclaimer and reiterated what the archivist had also mentioned that the administrators need to embrace critical thinking when reading through ChatGPT responses. The administrators needed to deepen their understanding by reading the documents that ChatGPT based its responses on and had to consider the support function as

guidance and not the absolute solution. Reading from the information that was being shared, one could not stop thinking about the efficiencies the solution was to bring but also the increased stress levels depending on the type of process an administrator was involved in. We also understood that the employees needed to be informed and educated about how the support function would work. The trustworthiness of the responses from the AI Generator function would require that it is only authorized that would upload documents upon which the responses would be based, to avoid erroneous responses. The language model had to be secured to avoid any data leakage – it had to be within the Swedish borders. This was why municipalities were paying licenses for this function to be able to access a language model to which they could add their own data. They also needed to ensure the right to own their information. The disadvantage of this development was the generation of wrong responses where wrong information was fed to the language model. The language model also needed to be trained on the Swedish language. Issues of Provenance and authenticity of the documents uploaded had to be clear. The Security Officer argued that it would be good to use a Swedish language model for all public sector organisations as a base infrastructure.

CASE 2 – VERIFICATION AND RELIABILITY OF INFORMATION SOURCES FROM A CHATBOT

This case revealed inconsistencies in the chatbot's ability to provide correct information. Out of five responses, two answeres were partly correct, but matched authoritative sources, such as banks and Croatian Health Insurance Fund. Two answers related to faculty enrollement criteria and public transport schedule were correct but did not provide links to exact web-sites containg the provided answer, while one answer related to Ministry of interior affairs was incorrect and the chatbot's link led to a non-authoritative source, highlighting a gap in source reliability. This finding aligns with studies that show chatbots often struggle to maintain updated knowledge, particularly when web links are involved. Despite these accuracy and relevance issues, the chatbot's performance was strong in areas of efficiency, relevance, and fluency. All responses were delivered promptly and in clear, grammatically sound language, demonstrating a high level of usability in terms of user experience. However, the reliability of some information was questionable, especially where certain links did not lead to trustworthy or expected

sources. The analysis underscores the importance of integrating more robust verification mechanisms into chatbot systems, which aligns with results of Bahak et al. (2023). Ensuring that responses align with trusted or authoritative sources is critical for maintaining the reliability. As suggested by prior research, combining real-time data retrieval with a strong verification process could mitigate some of the issues observed, particularly around the use of outdated or incorrect links

DISCUSSION AND CONCLUSION

The potential of Large Language Models (LLMs) has been highlighted by some of the reviewed researchers. Governments face new challenges in delivering enhanced public services, aiming to reduce administrative burdens, and empowering citizens. Large Language Models (LLMs) present significant potential for improving the efficiency of public services, promoting equal treatment, and safeguarding the security and privacy of citizens. Specifically, LLMs can be deployed as chatbots to provide rapid, informative responses, thereby reducing administrative workloads. However, existing research underscores the need for specialized domain training to ensure the accuracy and reliability of the information provided, but also raise question of verification and reliability of information sources.

Since LLMs are currently being deployed in the public sector, it is crucial that government administrations equally have in place, safe guards where citizens are unfairly treated. This could be in form of unfair decisions. Citizens have a right to understand how such decisions are arrived and decisions have to be based on accurate, complete and trustworthy information. The Croatian case study demonstrated that given the vast amount of outdated or erroneous information on the web, there is a risk that LLMs may generate incorrect or uncomplete responses. However, in such cases, the question on responsibility for wrong answers remains open. The deployment of LLMs in the public sector has to consider that AI-generated information has to be reliable and trustworthy. This should be the basis upon which AI-decisions should be made. Traditionally, what has underpined the open governance structure of government administrations has been public records. Records managers and archivists need to understand what type of records are growing in these new spaces and how can they be managed. This is what will promote accountability and transparency amidst the deployment of LLMs.

LLMs indeed can enable the delivery of efficient services but since the way they operate is not fully understood and companies behind their developments are not that transparent, then they need to be carefully implemented in the public sector. We understand that the ultimate goal is to enhance efficiency and productivity, reduce operational costs, and enable greater citizen engagement in public policy and decision-making processes but, the negative side of the LLMs need to be well studied to understand the impact they can have on the management of public reords and the citizens. Therefore, the use of LLMs in the government administrations still raises critical concerns related to privacy, security, data protection, fair decion-making processes, malicious misuse, the hindrance of accountability and transparency. Ensuring the trustworthiness and reliability of LLMs is crucial to maintaining public confidence in AI-driven public sector services.

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SUMMARY

This study, conducted by Proscovia Svard and Sanja Seljan under the InterPARES project, examines the impact of Large Language Models (LLMs) on public sector operations and management of public records, focusing specifically on Sweden and Croatia. The research aims to address how the deployment of LLMs in government practices influences the identification, capture, and management of public records essential for accountability and transparency.

The investigation reveals that while LLMs are increasingly being leveraged to enhance service delivery and reduce administrative burdens, there remains a significant neglect of the systems necessary for capturing public records. The current emphasis is predominantly on the efficiencies gained through LLMs without due regard for the implications of inaccurate responses or inherent biases. The authors highlight the crucial role of archivists and records managers in identifying and managing records that emerge from LLM usage to ensure that decision-making processes remain transparent and accountable.

A case study approach was utilised, incorporating interviews and literature reviews to gather insights. Findings from two specific cases—a proposed AI project in a Swedish municipality and an evaluation of a Croatian chatbot—illustrate the challenges associated with ensuring the reliability and accuracy of information generated by LLMs. The Swedish case reveals concerns regarding the risk of generating incorrect responses due to poor data input, while the Croatian analysis indicates shortcomings in the chatbot's ability to provide verifiable and authoritative answers.

The conclusion underscores the dual nature of LLMs—they offer unprecedented efficiencies but also pose significant risks, particularly concerning privacy and transparency in public decision-making. The authors advocate for a balanced approach where public institutions actively engage records management strategies to navigate the complexities introduced by LLMs, thereby reinforcing the essential tenets of democratic governance: accountability, transparency, and equitable citizen treatment.

Ultimately, while LLMs present innovative opportunities for public service enhancement, careful implementation, and oversight are paramount to mitigate the associated risks and potential for misuse, thereby preserving public trust in governmental operations.

Typology: 1.01 Original Scientific Article

Ildikó, Szerényi[1]

HOW TO BUILD A DATABASE WITH CROWDSOURCING TECHNIQUES – PROJECT REPORT OF THE NATIONAL ARCHIVES OF HUNGARY (NAH)

Abstract

Introduction: *The project detailed in this article covers the indexing of secret-service themed 20th century archival documents with the help of volunteers and the integration of these data into a database. The State Security Records of the Royal Hungarian Ministry of the Interior form a register, which was created between the two world wars. It contains information on persons considered dangerous to the state, mainly those associated with left-wing movements. In 1945, after the siege of Budapest, these documents were taken to the Soviet Union by the Soviet troops.*

Method/approach: *The 40 archival boxes of original paper documents are now preserved at the Military Archives of the Russian Federation, NAH have purchased digital copies of these documents in 2011. The register files are rich in information, so the aim was to transcribe the basic personal data, any other additional information can be read from the published images.*

Results*: In April 2023 the new database of these 70000 personal records was published on Databases Online*[2] *portal of NAH. Another benefit of this project in Hungary was the huge social activity it generated: 70 volunteers participated in this project, and in this way the cooperation between the Hungarian Society for Family History Research and NAH has been further strengthened.*

Conclusions/findings: *Since the documents were digitised in the Russian Federation, the design of the database structure was the biggest challenge during the project. The registration files often had an additional information sheet, so it was necessary to link the related pages. During the processing work, about 550 register files of prominent persons was discovered in the archival material, some of them are internationally renowned, for instance Josip Broz Tito, Walter Ulbricht, Klaus Mann.*

Key words: *transcribing, volunteers, crowdsourcing, database building, IT solutions*

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COME COSTRUIRE UN DATABASE CON TECNICHE DI CROWDSOURCING – RAPPORTO DI PROGETTO DEGLI ARCHIVI NAZIONALI DELL'UNGHERIA (NAH)

Abstract

Scopo: *Il progetto descritto in dettaglio in questo articolo riguarda l'indicizzazione di documenti d'archivio del XX secolo a tema servizi segreti con l'aiuto di volontari e l'integrazione di questi dati in un database. I Registri della sicurezza dello Stato del Ministero reale degli interni ungherese formano un registro, che è stato creato tra le due guerre mondiali. Contiene informazioni su persone considerate pericolose per lo Stato, principalmente quelle associate a movimenti di sinistra. Nel 1945, dopo l'assedio di Budapest, questi documenti furono portati in Unione Sovietica dalle truppe sovietiche.*

Metodo/approccio: *Le 40 scatole di archivio di documenti cartacei originali sono ora conservate presso gli Archivi militari della Federazione Russa, la NAH ha acquistato copie digitali di questi documenti nel 2011. I file di registro sono ricchi di informazioni, quindi l'obiettivo era quello di trascrivere i dati personali di base, qualsiasi altra informazione aggiuntiva può essere letta dalle immagini pubblicate.*

Risultati: *Ad aprile 2023 il nuovo database di questi 70000 record personali è stato pubblicato sul portale Databases Online della NAH. Un altro vantaggio di questo progetto in Ungheria è stata l'enorme attività sociale che ha generato: 70 volontari hanno partecipato a questo progetto e in questo modo la cooperazione tra la Società ungherese per la ricerca sulla storia della famiglia e la NAH è stata ulteriormente rafforzata. Conclusioni/risultati: Poiché i documenti sono stati digitalizzati nella Federazione Russa, la progettazione della struttura del database è stata la sfida più grande durante il progetto. I file di registrazione avevano spesso un foglio informativo aggiuntivo, quindi era necessario collegare le pagine correlate. Durante i lavori di elaborazione sono stati scoperti nel materiale d'archivio circa 550 fascicoli di registri di personaggi illustri, alcuni dei quali di fama internazionale, ad esempio Josip Broz Tito, Walter Ulbricht, Klaus Mann.*

Parole chiave: *trascrizione, volontari, crowdsourcing, creazione di database, soluzioni IT*

KAKO ZGRADITI PODATKOVNO BAZO S TEHNIKAMI CROWDSOURCINGA – POROČILO PROJEKTA MADŽARSKEGA NACIONALNEGA ARHIVA (NAH)

Izvleček

Namen: *Projekt, ki je podrobno opisan v tem članku, zajema indeksiranje arhivskih dokumentov 20. stoletja na temo tajnih služb s pomočjo prostovoljcev in integracijo teh podatkov v bazo podatkov. Evidence državne varnosti Kraljevega madžarskega ministrstva za notranje zadeve tvorijo register, ki je nastal med obema vojnama. Vsebuje podatke o osebah, ki so za državo nevarne, predvsem tistih, ki so povezane z levičarskimi gibanji. Leta 1945, po obleganju Budimpešte, so sovjetske čete te dokumente odnesle v Sovjetsko zvezo.*

Metoda/pristop: *40 arhivskih škatel originalnih papirnatih dokumentov je zdaj shranjenih v Vojaškem arhivu Ruske federacije, NAH je leta 2011 kupil digitalne kopije teh dokumentov. Datoteke so bogate z informacijami, zato je bil cilj prepisati osnovne osebne podatke, morebitne druge dodatne informacije se lahko razberejo iz objavljenih slik.*

Rezultati: *Aprila 2023 je bila nova baza teh 70.000 osebnih evidenc objavljena na portalu Databases Online NAH. Druga dodana vrednost tega projekta na Madžarskem je bila ogromna družbena aktivnost, ki jo je ustvaril: v tem projektu je sodelovalo 70 prostovoljcev in na ta način se je sodelovanje med Madžarskim društvom za raziskovanje družinske zgodovine in NAH še okrepilo.*

Zaključki/ugotovitve: *Ker so bili dokumenti digitalizirani v Ruski federaciji, je bila zasnova strukture baze podatkov največji izziv med projektom. Registrirane datoteke so pogosto imele dodaten informativni list, zato je bilo potrebno povezati povezane strani. Med obdelavo je bilo v arhivskem gradivu odkritih približno 550 registrskih dosjejev uglednih osebnosti, med njimi so tudi mednarodno poznana imena, na primer Josip Broz Tito, Walter Ulbricht, Klaus Mann.*

Ključne besede: *transkripcija, prostovoljci, crowdsourcing, izgradnja baz podatkov, IT rešitve.*

1. INTRODUCTION/PREVIOUS EVENTS

In 2021, the National Archives of Hungary published the database of the 1828 national census, which was implemented using artificial intelligence and involved volunteers within the framework of the European Digital Treasures international project. In addition to the publication of the database on the Databases Online portal of the National Archives of Hungary, the social collaboration that made it possible to process the records and publish the name-searchable database proved to be a success story. This positive experience has encouraged the archives to continue working with the volunteer community and to set the goal of creating another database of great interest. The Hungarian Society for Family History Research has also become a partner in the second crowdsourcing project, deepening the long-standing and fruitful cooperation between the archives and the society.

2. THE DOCUMENTS USED

In the selection of the archival material to be processed, the social use of the archival collection, serving the needs of citizens engaged in family history research played an important role, since social cooperation can be best ensured along this goal. However, the emphasis of the scientific role of the archives was also a priority.

The Hungarian language files had been created by the Hungarian police and gendarmerie between 1920 and 1944 and after the siege of Budapest in 1945, they were taken to the Soviet Union by the Soviet armed forces as booty of war. The 40 archival boxes of original paper documents are now preserved at the Military Archives of the Russian Federation (Российский государственный военный архив – RGVA), previously they were in the possession of the Soviet Secret Service (Комитет государственной безопасности – KGB).

The digitised set of 69,208 files was subsequently inserted by Hungarian archivists into the archival system of the Ministry of the Interior's Archives with the reference code HU-MNL-OL-K 150-VII-9/b. In terms of content, the secret service-themed documents contain information of persons associated with left-wing movements between the two world wars and as such considered dangerous to the state. This police background, mostly Hungarian language material contains the registration files and data of about 60 000 persons filled in with varying degrees of detail. The personal files also include some 9,000 additional documents. The

forms, filled in by hand or typewriter, contain details of the person under surveillance and often describe the action taken in their case. The richness of the data on persons is outstanding: name, maiden name in case of married women, alias, father's and mother's names, exact date of birth or age from which the year of birth can be calculated, place of birth and residence, religion, occupation, description of physical appearance, distinguishing marks, detailed description of the reason for registration and surveillance, which might be a longer text with additional file numbers that could potentially allow further research in other archival materials, provided they had not been destroyed. A small number of fingerprints or photographs of the person observed may also be found in this archival material purchased from the Russian Federation.

Image 1: Additional information to the register file of Jakuboff Mussa

The general condition of the documents is satisfactory although earlier they had been transported over long distances in wartime. Some documents are easy to read, some are difficult to decipher. You could also find damaged and torn documents, where data was impossible to unravel. There were also corrected, crossed-out data on the files, and some documents were filled in carelessly and incompletely.

The register forms often bear a stamp with the text "Processed in the pocketbook", which refers to the State Security Pocketbook (commonly called 'black book'), a printed version of the register with less data, without a detailed case description. Decree No 4400/1931/VII.res. of the Minister of the Interior of 31 July 1931 ordered the publication of this pocketbook. In fact, it was an extracted

version of the State Security Register and was a periodical publication of the Ministry of the Interior between 1931 and 1944. Even political investigators were only allowed to consult this confidential publication with the permission of their commanding officer. The document was published in small numbers and due to the destruction of many documents during the Second World War, very few surviving copies are known to exist. A copy of the Hungarian language pocketbook was provided by PhD Bendegúz Cseh-Gergő, Director General and PhD István Papp, Head of Department of the Historical Archives of the Hungarian State Security. The copy has been digitised in the digitisation workshop of NAH and published as an annex to the database in a double-layer PDF format. The document has been made text searchable using OCR and can be downloaded from the database information page.

3. IMPLEMENTATION OF THE PROJECT

The archives planned to process the large volume of documents by re-engaging the volunteers who helped the work of the archives earlier, so no public recruitment was carried out this time. The call and sample pages of the register forms were sent to volunteers from the previous project, and within a week the previous team was almost fully signed up for the new task. Members of the Hungarian Society for Family History Research, with many years of experience in indexing, joined the group, bringing the total number of people who started the processing work to 70 on 1 October 2022.

The launch event also served as the closing ceremony for the previous crowdsourcing project, the 1828 census database. Those who were unable to attend the event in person were able to follow the event live via Zoom, which was later made available on video by the archives.

The task faced by the volunteers was to record 9 basic records per master file, which meant transcribing about 450-500 thousand records in total. The archives planned to publish the images of the digitised documents in the database, so that any additional data can be read from the documents and the recorded data could be checked by users. The volunteers of this project were interested in Hungarian history and family history research, they already had a certain degree of palaeographical knowledge, had experience with handwritten documents and of

German, Jewish and Slavic surnames and forenames, and a higher than average level of geographical knowledge to help them read the names of settlements. The candidates were able to test their knowledge and palaeographic skills by using sample pages and to familiarise themselves with the interface of the data entry software before starting the project.

The data to be recorded were mostly in the top left-hand corner of the pre-printed register forms.

The online accessible Oracle database data entry user interface, which did not require installation, was developed by Helion Ltd. on behalf of NAH. The user-friendly interface could be accessed with a unique password.

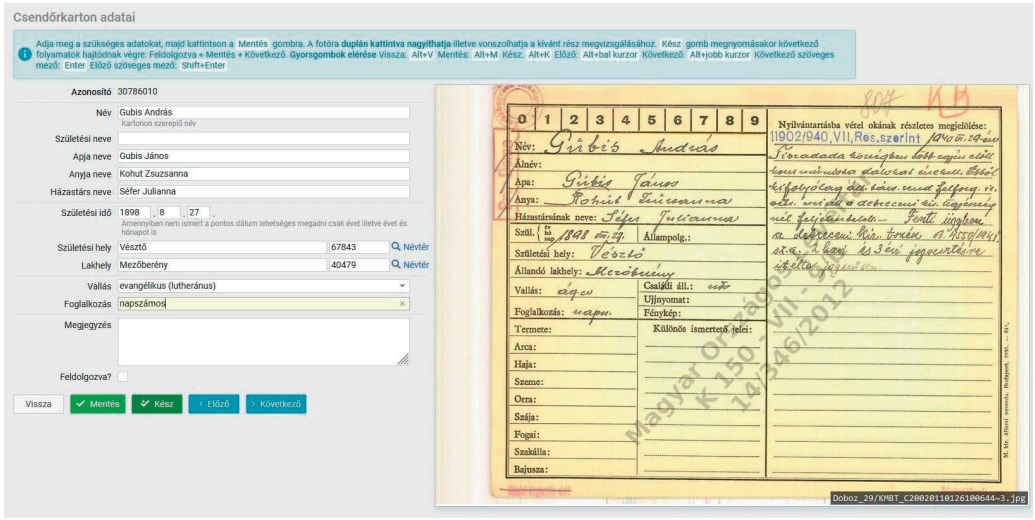


Image 2: Oracle database data entry user interface.

The fields of the nine basic personal data to be entered were predominantly free text fields in the database. The data field *Religion* could be filled in by selecting from a list. Connecting the data fields *Place of Birth* and *Place of Residence* to the Geographical Namespace of NAH was an interesting novelty for those doing the indexing work.

During the project, the list view provided basic statistical information on the status of the workflow. The information line (in orange) displayed the following text, which was constantly updated: 12 815 files processed (18.517 %), 56 393 files to be processed (81.483 %).

Azonosító	Születési neve	Név	Apja neve	Anyja neve	Házastárs neve	Születési idő	Születési hely	Lakhely	Vallás	Feldolgozva?
30772436		Janku Gyula		Janku Júlia		1890.08.20.	Fegyvernek	Fegyvernek	római katolikus	igen
30776154		Veninger István	Veninger Mihály	Kovács Verona	Csomán Mária	1871	Fegyvernek	Rákócifalva	római katolikus	igen
30776504		Pap Ferdinánd	Pap Ferdinánd	Klein Borbála	Ábrahám Borbála	1885	Fegyvernek	Újpest	római katolikus	igen
30779944		Szutorisz Rezső Géza	Szutorisz Sándor	Karhanek Mária		1889	Felsőfegyvernek	Balassagyarmat	római katolikus	igen
30782898		Szutorisz Zoltán	Szutorisz Sándor	Karhanek Mária	Szmrezsik Anna	1887.07.19.	Felsőfegyvernek	Balassagyarmat	római katolikus	igen
30784478		Szutorisz Rezső Géza	Szutorisz Sándor	Karhanek Mária	Kollner Katalin	1889.10.04.	Felsőfegyvernek	Balassagyarmat	római katolikus	igen
30903988		Simon Mihály	Simon Gáspár	Dobok Verona		1900.04.26.	Fegyvernek	Örkény	római katolikus	igen

Image 3: Screenshot of the database list view filtered by a place name Fegyvernek in Jász-Nagykun-Szolnok County, Hungary.

The database offered the images to the volunteers randomly, who had three different options available to choose from when the image appeared: a. to fully transcribe the data (green colour code), b. not to transcribe the data (black colour code), c. to skip it or partially transcribe it and classify it as incomplete (blue colour code). The records marked with black and blue colour codes later reappeared for another volunteer until someone finalised the solution, i.e. gave a green colour code. What one person couldn't read, someone else could, so the collaboration was also shown at document level.

At the start of the processing work, the indexation task was estimated to take approximately 5 months to complete, but in reality, the data capture was finished much sooner than that; this phase of the project started on 1 October 2022 and ended on 15 November. During the transcription phase, PhD Balázs Kántás, Chief Archivist of the NAH, contributed to a deeper understanding of the period with scientific and educational Facebook posts, providing insights into the work of political investigators and the work of the secret services between the two world wars.

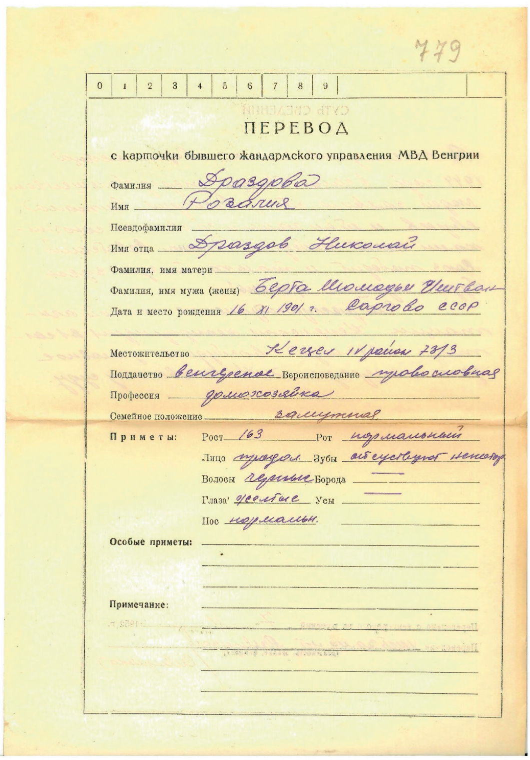
Volunteers do not work for financial reward, yet the archives would like to express their gratitude for their work in a symbolic way. As in the previous project, prizes were drawn at the end of the programme to reward those who had processed at least 300 registration files. The 1st prize was a 3-month subscription to Ancestry, the 2nd prize was a meal for two at Sir Lancelot's Medieval Restaurant and the 3rd prize was a 1-year online subscription to a History Magazine called Rubicon. In addition, the top three most diligent volunteers were awarded theatre tickets as a special prize. At the

end of the programme, all participants received a certificate of appreciation designed by NAH's graphic designer. The background of the commemorative certificate shows the symbols of the two opposing political forces: a gendarme hat and a Lenin cap.

4. POST-PRODUCTION

4.1. RUSSIAN TRANSLATIONS

With the completion of the transcription phase, the post-production phase of the database could begin, which affected both the data content and its structure to a great extent. The Soviet secret service prepared Russian translations of all the files (which were placed alongside the documents) in order to map the Hungarian population with communist sentiments as accurately as possible. The Russian partner institution was commissioned to digitise the original Hungarian-language files, but by coincidence some 300 documents translated into Russian have also been digitised, these are published in the database as well. The transliteration of the Cyrillic-lettered files translated into Russian earlier was carried out by Gergő Szikla and András Husvéth, archivists of the Hajdú-Bihar County Archives of NAH.



779

0 1 2 3 4 5 6 7 8 9

ПЕРЕВОД

с карточки бывшего жандармского управления МВД Венгрии

Фамилия Дроздова
Имя Розалия
Псевдофамилия
Имя отца Дроздов Николай
Фамилия, имя матери
Фамилия, имя мужа (жены) Берта Шомоды Иштван
Дата и место рождения 16 XI 1901 г. Сарґово ссср

Местожительство Кецел IV район 73/3
Подданство венгерское Вероисповедание православная
Профессия домохозяйка
Семейное положение замужная
Приметы: Рост 163 Рот нормальный
Лицо продол. Зубы отсутствуют некотор.
Волосы черные Борода —
Глаза желтые Усы —
Нос нормальн.
Особые приметы:

Примечание:

Image 4: A Russian language translation of a registration file

The data content was checked and corrected using manual and IT methods. The correction of errors detected in the list view was also carried out by 5-6 volunteers. The sorting of the columns in the list view resulted in similar data being placed underneath each other, which facilitated the detection of incorrectly recorded information, and other errors. Overall, the volunteers did an excellent job, with very few errors detected in the list view. With such a large amount of data it is not possible to check every detail manually, yet the result is considered to be close to 95% accuracy.

4.2. IT SQL QUERIES

The next stage in the workflow was the IT SQL queries, which resulted in much larger lists to be resolved. There were 8,000 cases where the namespace binding was missing for some reason, some of which could be replaced automatically, but there were also manual tasks in this area, e.g. identifying municipalities. The volunteers worked thoroughly and accurately, recording data in many cases in addition to the 9 basic data: in 18,000 cases data were entered in the Comment field resulting in an overcrowded and unclear data field. The solution was to structure and break down the data content of the Comment field. A prefix is a short name or group of letters used in databases to identify fields, followed by a colon, then followed by the data itself, e.g. Nationality: French. In the present case, 27 different prefixes were needed to split the data. Some of the prefixes created are the following: Family status, Title, Workplace, Language of document, Address etc.. The use of prefixes has made it possible to display this information in a separate row in the database and to filter on this data. As the use of the Comment field provided each volunteer with the option of recording data on an individual basis, the data recorded in this way is not exhaustive and does not cover all files, so some extra information beyond the basic data is available for some files.

Post-processing, data cleaning, sorting and editing was a time-consuming task for the staff of the Digital Services Development Department. This situation will be avoided in the future by creating a form that covers all details.

4.3. PROMINENT PERSONS

During the processing work, a large number of prominent persons was discovered in the archival material, and the files of about 550 more or less well-known

persons were revealed. Those persons were considered as prominent, who have an independent Hungarian or foreign language Wikipedia page or are listed in the personal register of the Petőfi Literary Museum in Hungary. Communist politicians, writers, artists, doctors and other intellectuals who later became famous, such as Antal Apró, János Kádár, Tibor Déry, Sándor Weöres, Walter Ulbricht, Heinrich Mann, Klaus Mann, John Dos Passos, Berthold Brecht, Martin Andersen Nexö, Romain Rolland or the Hungarian genealogist Elemér Hanuszik are just a few examples of this category.

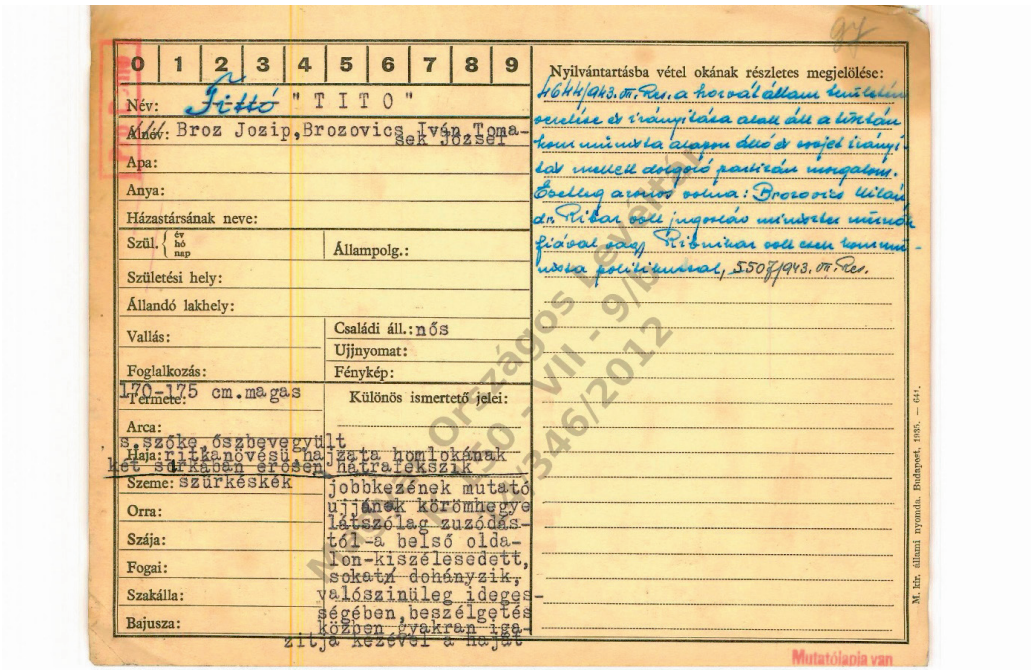


Image 5: The registration file of Josip Broz, Tito

Not so surprisingly, Tito's registration form can also be found in the database. Some interesting facts, that a simple biography might not reveal about him, can be read from this document. People engaged in secret activities may have used multiple aliases to avoid detection: Josip Broz for example had three aliases: Tito, Brozovics Iván, Tomasek József and he became well known as Tito. According to this document, he was 170-175 cm tall. His physical appearance was described by the agent observing him as follows: dark blonde hair going grey, few hairs, greyish blue eyes. The distinguishing marks relate to his behaviour: he smokes a lot, probably in nervousness, he often adjusts his hair with his hands when talking.

And finally, the reason for registration states, that he was the leader and director of a partisan movement on the territory of the Croatian state, this movement was based on communist principles and was operating under Soviet control.

By filtering the occupation, it was also possible to discover lesser-known people in the database. Prominent persons were subsequently entered into the Personal Namespace of NAH; in about 200 cases it was necessary to create a new personal namespace record. It was a great experience for both the volunteers and the archivists when a famous person appeared in the files, which also added to the attractiveness of the project.

4.4. DATABASE STRUCTURE

The design of the database structure was the biggest challenge during the project. As a starting point, the National Archives of Hungary received 69 208 digital image files in .jpg format. It was obvious from the beginning that the database should be based on persons, since the files were basically sorted by persons within the archival boxes. The digitization order reflected this structure and the usual digitisation sequence looked like: front page, back page, additional information page(s). At the same time the order of digitization was not always correct, occasionally the back page was digitised first. Back pages that did not contain information were not digitized, it was therefore necessary to find those places where one person's archival documentation ended and another one's began in order to link the related information. No logical element was observed in this sequence; a person's archival documentation could consist of one image, two images, or, in special cases, up to six images.

To mark the related images, Zsolt Záros software developer created an image linking program, which displayed the thumbnails of the digitised documents in a list view, where the related images could be linked by clicking on them. When several single items followed each other there was nothing to do, in many cases the front page and back page needed to be connected: the decision was made by checking the physical characteristics of the pages. This method proved to be very efficient as the visual approach is much faster than reading, as opening the image can be avoided. How to link pages based on physical characteristics? It is illustrated by the following example. There is a damp stain in the lower left corner and a tear in the upper right corner of the images presented here, these character-

istics are clearly visible on the back of the document in reversed state. If in doubt, the image can be opened and the text, which usually continues the back can be checked by reading. Human intelligence has quickly mastered the new working method, and the 70000 images could be browsed effectively. In some cases, it was impossible to avoid reading the text of the documents, as this was the only way to establish the link with certainty.

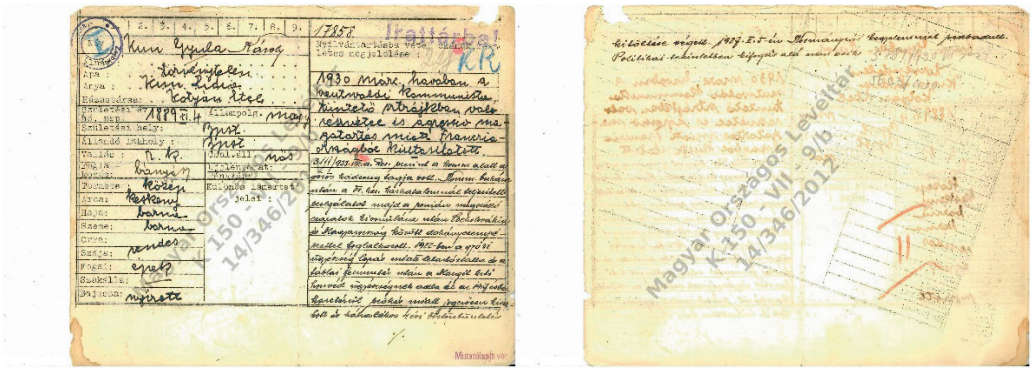


Image 6: Front side and back side of the same document, where the physical characteristics are clearly observable.

The links created by 'clicking' on the image thumbnails were distinguished by a variable computer-generated colour coding. To ensure that the links were uniquely distinguishable across the nearly 70,000 image files, the software used so many different shades of colour that, when placed side by side, the human eye would not be able to distinguish. If you were to express this range of colours in numbers, you would be talking about a 20-digit numerical series. Using IT language, it is a variable computer-generated colour coding system.

Image 7: The image linking programme in operation. The physical characteristics are clearly visible: the backs mirror the appearance of the fronts: there are tears, stains or paperclip marks.

The database was published in April 2023, and it was visited by 16433 users in that year.

The National Archives of Hungary's staff involved in the project: Zoltán Szatucsek (director), Zsolt Bánki (head of department), Ildikó Szerényi (project leader), Zsolt Záros (IT software developer) László Debreczeni (IT specialist), Balázs Kántás (research fellow), István Németh (research fellow, head of department).

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Summary

This article discusses a project focused on indexing secret-service themed 20th-century archival records from the Royal Hungarian Ministry of the Interior. These records, preserved in Russia, detail individuals seen as state threats between the world wars, with a significant number linked to left-wing movements. In 2011, the Hungarian National Archives acquired digital copies of the 40 archival boxes, which were transcribed with the help of 70 volunteers. In April 2023, a database containing 70,000 personal records was published on the NAH's Databases Online portal. Notably, 550 records of prominent figures, including Josip Broz Tito and Klaus Mann, were identified. This initiative also fostered collaboration within Hungary's historical research community.

Typology: 1.04 Professional Article

Adriano Buzzanca[1]

CULTURAL HERITAGE PRESERVED THROUGH DIGITAL

Abstract

Purpose: *Data breaches can devastate cultural heritage, hence necessitating a multi-level approach that extends beyond technology to include IT security culture and administrative processes across the data lifecycle. Public administrations should focus on employee training, sensitive data management, and partnering with secure tech suppliers. Central to the digitization of cultural heritage are the 2022-2023 guidelines.*

Methods / Approach: *The Guidelines for the digitization of cultural heritage define the approaches and procedures for the creation, meta dating and archiving of digital objects, or reproductions, performed with different technical methods and procedures, of analogue heritage.*

Conclusions*: In conclusion, the intersection of digital innovation, cybersecurity, and data protection in the realm of cultural heritage requires a nuanced, legally informed, and technologically sophisticated approach. This ensures not only the preservation of our historical legacy but also its responsible and secure engagement in the digital age. Concdrafting identification of the goals and objectives constitutes the first action in the definition and drafting of a digitalization project. In fact, it is with them that the economic and human resources available and the set times must be linked, to arrive at a product that meets the initial expectations.*

Keywords: *Cultural heritage, digitization*

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PATRIMONIO CULTURALE PRESERVATO ATTRAVERSO IL DIGITALE

Abstract

Scopo: *Le violazioni dei dati possono compromettere gravemente il patrimonio culturale, rendendo necessario un approccio multilivello che vada oltre le soluzioni tecnologiche per includere una cultura della sicurezza IT e processi amministrativi lungo l'intero ciclo di vita dei dati. Le pubbliche amministrazioni devono concentrarsi su formazione del personale, gestione dei dati sensibili e collaborazione con fornitori tecnologici sicuri, elementi fondamentali per la protezione del patrimonio culturale digitalizzato.*

Metodi: *Le linee guida 2022-2023 per la digitalizzazione del patrimonio culturale delineano approcci e procedure per la creazione, la metadatazione e l'archiviazione di oggetti digitali. Questi oggetti digitali sono riproduzioni di beni culturali analogici, realizzate secondo procedure e tecniche diversificate, che richiedono metodologie standardizzate per garantire qualità e sicurezza.*

Risultati: *La definizione di finalità e obiettivi è un primo passo cruciale per la progettazione di iniziative di digitalizzazione efficaci. Collegando queste finalità con le risorse economiche, umane e temporali, si può realizzare un prodotto finale che rispetti le aspettative iniziali e le esigenze del progetto.*

Discussione: *L'intersezione tra innovazione digitale, sicurezza informatica e protezione dei dati nel contesto del patrimonio culturale richiede un approccio sfumato, giuridicamente consapevole e tecnologicamente avanzato. Questa strategia garantisce non solo la conservazione della nostra eredità storica, ma ne promuove anche un uso responsabile e sicuro nell'era digitale.*

Parole chiave: *Patrimonio culturale, digitalizzazione*

OHRANJANJE KULTURNE DEDIŠČINE Z DIGITALIZACIJO

Izvleček

Namen: *Kršitve varstva podatkov lahko uničijo kulturno dediščino, zato je potreben pristop na več ravneh, ki presega tehnologijo in vključuje varnostno kulturo IT in upravne procese v celotnem življenjskem ciklu podatkov. Javne uprave bi se morale osredotočiti na usposabljanje zaposlenih, upravljanje občutljivih podatkov in partnerstvo z dobavitelji varne tehnologije. Osrednji del digitalizacije kulturne dediščine so smernice 2022–2023.*

Metode/pristop: *Smernice za digitalizacijo kulturne dediščine opredeljujejo pristope in postopke za ustvarjanje, metadatiranje in arhiviranje digitalnih objektov oziroma reprodukcij, izvedenih z različnimi tehničnimi metodami in postopki analogne dediščine.*

Rezultati: *Presečišče digitalnih inovacij, kibernetske varnosti in varstva podatkov na področju kulturne dediščine zahteva niansiran, pravno utemeljen in tehnološko dovršen pristop. To zagotavlja ne le ohranjanje naše zgodovinske dediščine, temveč tudi njeno odgovorno in varno vključevanje in delovanje v digitalni dobi.*

Zaključek: *Priprava identifikacije ciljev predstavlja prvo dejanje pri opredelitvi in pripravi projekta digitalizacije. Pravzaprav je treba z njimi povezati razpoložljive gospodarske in človeške vire ter upoštevati zastavljene čase, da pridemo do izdelka, ki izpolnjuje začetna pričakovanja.*

Ključne besede: *kulturna dediščina, digitalizacija*

1 INTRODUCTION

The immense and precious documentary heritage of our country is preserved both in public archives and in private archives of cultural interest, mirror of the life of individuals and their communities.

The archive of a public administration (State, territorial authority, public body) is considered by the legislator a cultural object and therefore subject to the legislation contained in Legislative decree 42/2004, containing the Code of cultural heritage and landscape.

On the other hand, the archive over time is recognized as a cultural asset, with reference to those documents that, once their legal or administrative validity is exhausted, retain relevance for historical purposes such as to make it appropriate unlimited conservation.

As is well known, the current notion of cultural goods is the result of a doctrinal elaboration that has led to the abandonment of the materialistic conception underlying the fundamental law of 1939, relating to the protection of things of artistic and historical interest where the recipients of the obligations contained therein were identified through a relationship of the subject with the good - to embrace an open notion of an immaterial type, which sees in the good an expressive value of civilization.

The normative fabric traced out by the legislator to guard the cultural value of the good finds the supreme result in the affixing of the bond that does not constitute a deprivation of the right to property but determines a new vital course of the good and motor of economic-social development of the territory on which the good is located.

The proper value of cultural heritage, as a „witness of civilization“, transfers from belonging to the destination the focal point of its legal regime, so much so that as authoritatively held in doctrine, the cultural good must be qualified as «public as a good of use and not of belonging».

Pursuant to art. 10, paragraph 1 of d.lg. n. 42/2004 and s.m.i., are presumed to be classified as cultural assets movable or immovable objects that are of artistic, historical, archaeological and anthropological interest belonging to the State, the Regions, other local public bodies, as well as any other public body and institution and private non-profit-making legal persons.

2 A VIRTUOS EXAMPLE: FICARELLI FUND

The Ficarelli Fund, after having been declared of cultural interest by the Archival Superintendence, was purchased on 13 October 2003, by Ministry of Cultural Heritage and Activities and was intended for the State Archives of Bari competent for the territory. The same is subject to the protection regime referred to in part II of Legislative Decree No. 42/2004.

Through photography, the Ficarelli fund brings to memory the passage of illustrious figures in art, industry and commerce and pays great attention to events and representatives of politics, including Mussolini, Matteotti, De Gasperi, Gronchi, Segni, Einaudi and his friend Aldo Moro, whom he portrayed several times on public and private occasions.

The photos document the great events involving the city and rural areas: the war period, the floods, the naval disasters but also the realization of major works such as the Fiera del Levante, the inauguration of the railway lines, the urban transformations.

The photographic fund is constituted approximately 150.000 negatives on plate and film, divided into two parts.

The first, oldest, is made up of 46 series which include 1.984 plate and film negatives, with images dating from the end of the 1800s to 1960 and organized by the photographer Ficarelli already by major themes. This part has been entirely inventoried, digitized and placed in special containers suitable for conservation, and is fully usable and consultable by scholars who request it.

The second, containing mainly film negatives, testifies to the activity of the photographer from Bari from the 1940s to the 1970s, and that of his studio from 1970 to approximately 1990.

The Ficarelli fund, given its importance for the historical reconstruction of the city of Bari and the surrounding area, enjoys a high interest from users, who have been waiting for years to be able to use it in its entirety. Requests for consultation and reproduction of the negatives are in fact the order of the day, arriving from all over Italy.

The main objective is to deliver and make the community better aware of a photographic collection with a strong historical-documentary value.

COURTESY OF THE STATE ARCHIVES OF BARI

Figure 1: Bari, Old Port Fishermen 1930

The development of an information system, interoperable with that of the digital resource aggregator bodies, will make it possible to expand the possibilities for sharing the preserved cultural heritage, with a view to technological innovation in terms of use and in line with the actions aimed at the transition digital in the PA.

Among the expected results, the digitization of all the negatives will make it possible to guarantee the preservation of the images over time, preventing the risk of deterioration and loss of information by improving their long-term conservation.

The use of digital technologies will make it possible to streamline the activities linked to the use of the fund with a view to bringing the PA closer. To the citizens and free access to culture.

2A VIRTUOS EXAMPLE: PENAL COLONY OF TREMITY FOUND

In 2018 the project for the recovery, protection and enhancement of the historical archives of the Penal Colony of Tremiti was relaunched by the then Superintendent.

The property of state property (as it was shown by an employee of the City) which were in a state of total neglect and in precarious hygienic conditions at the premises of the former monastery, were placed in safety by officials appointed by the Superintendent.

In fact, one of the priority tasks was to immediately secure what was left of the historical archive to safeguard its contents. As is well known, the emergency in the archival field is not manifested only in the cases of major hydrogeological disasters, such as floods and earthquakes, unfortunately increasingly frequent, but occurs very often in cases of what have been called "micro-disasters". This is due to the inadequacy of buildings and conservation structures, which affect individual archives or portions of them, but also neglect, water infiltration, collapse, infection and biological infestation, contamination resulting from toxic agents.

Since 2002, the need to enhance disaster prevention has consistently been identified as a priority in European Union (EU) archives documents.

Even when the losses of archival material are not caused by premeditated actions, man can favor them through carelessness, which produces profoundly different effects depending on the physical support of the documents, but which in the long run condemns any kind of archive.

In such situations, it is essential to maintain the necessary calm and organization to react in a rational and coordinated manner, to intervene as quickly and effectively as possible. The emergency management is managed as a continuous process that develops from the first inspections to the phase of restoration and restoration of assets, according to the procedures indicated by ministerial directives.

In the present case, the Superintendence has ensured the security of the property found, near the island of San Nicola.

Subsequently, the Superintendence supervised the transactions of transfer of the goods that were materially carried out by the same officials with the help of a single citizen who for the high sense of citizenship cooperated in this undertaking.

The recovery of assets, until then never went well, was carried out in record time in a total of six days (3 in October and 3 in November 2018).

All the above operations were conducted in agreement with the Carabinieri Command for the Protection of the Cultural Heritage of Bari and recorded.

After the transfer of the archival assets, due to their importance, they were subjected to sanitization along with the sorting operations, inventorying and digitalization took place thanks to the funding of the Presidency of the Council of Ministers with the funds of eight per thousand of the IRPEF, for a total amount

of Euro 65,550.00. For the work, the Presidency of the Council of Ministers has made available a first payment of Euro 47,775.00. After the first phase of the work, the Presidency of the Council of Ministers provided the difference.

"There is a heritage to bring to light ... there is a heritage that continues to surprise. It is your cultural heritage", says the text of the institutional spot created by the Ministry of Culture, to invite Italians to allocate 8x1.000, to the protection and enhancement of the artistic heritage.

In this case, it was precisely through the 8 per thousand funds that it was possible to carry out the project of reorganization, inventory and digitization of the archives of the penal colony of Tremiti.

3 CULTURAL BOND AND THE PRIVATE PROPERTY RIGHTS

Among the main distinctions relating to cultural assets, the one relating to the subjective profile in relation to the regime of belonging is fundamental: if the asset belongs to public bodies or private non-profit legal entities, these assets must be classified as public; if the subjects are private owners, the Code[2] requires that the interest be declared by an administrative provision[3].

For things belonging to private individuals, other than non-profit entities, the subjection to the regulations envisaged for cultural heritage cannot ignore a specific declaration from the administration, pursuant to art. 10 paragraph 3 of the Legislative Decree No. 42/2004. This declaration is aimed at ascertaining the actual existence of a cultural interest of particular importance, or of an exceptional nature in the case of book collections or collections.

In the latter case, the asset remains privately owned but, as a consequence of the particular regime to which it is subjected, in conjunction with the need to protect the public interest underlying the declaration of cultural interest, it is subject to particular conservation rules, protection and valorisation: private ownership must coexist with public prerogatives which affect the rights of enjoyment and disposal of the asset.

2 T.u. del 1999 - law n. 1089/1939.

3 The cultural bond is a particular act of the public administration. (adopted by the Ministry and, at regional level, by the Superintendence) of destination or unchangeability which consequently limits the free alienability or changeability by the owner, both public and private. The procedure for identifying cultural assets consists of two parts: 1) the declaration, to which a substantial nature is attributed; 2) notification, to which a procedural nature is attributed. Indeed, the identification pursuant to art. 13 of the Code is made through a declaration of "considerable interest" which is notified to the owners or holders of the property. Once the restriction measure has been notified, the property is subject to the authorizations of the Superintendence for non-ordinary activities (Council of State, 2002).

This peculiar regime translates into a series of limitations both in making modifications in contrast with the established cultural interest and in diverting the thing from its proper destination or in altering or transferring it (Sandulli, 1989, 140).

However, all this cannot be considered a "limit" to the private owner's rights, but rather is the way in which the law resolves particular conflicts, caused by the convergence and possible incompatibility of the private owner's interest with the public interest in that cultural asset.

In fact, the provision that declares the cultural interest of an asset, in fact, in binding it lays the foundations and introduces, through its content and its motivation, a series of specific requirements (i.e. limitations) regarding the use of the object asset of the provision

The decree by which the restriction is affixed, therefore, in addition to recognizing the cultural interest inherent in the property, has a fundamental impact on the legal regime covered by the provision itself, which before that moment is subject to the ordinary discipline of private property provided for by the Civil Code and by the other laws in force on the subject[4].

As a consequence of the cultural value of the property, the owner certainly cannot make modifications in conflict with the ascertained cultural interest, nor can he divert the thing from its proper destination or alter it or transfer it without the required legal authorizations (Marzocca, 2006).

However, the declaration of cultural interest on an asset is synonymous with advantages, since from that moment on the State can contribute, partially or even totally, to the costs of conservation, protection and valorization of the cultural asset (Grisolia, 1952).

Having regard to the legal condition of the cultural property, it is not only the right of ownership (or other real right) that is relevant, which is further enhanced by the affixing of a constraint following the declaration of cultural interest - and not as otherwise claimed by some as a limitation to the right of ownership on the

4 With reference to the legal nature of the declaration of cultural interest, there has been much discussion both in doctrine and in jurisprudence among those who consider the declaration to be of a merely declaratory nature (with the consequence that the assessment should be assimilated to an act of science, given the lack of comparison of the cultural interest with the others of the interests involved, public and private) *ex plurimis* cf. Council of State, Sec. VI, 30.11.1995, n. 1362; Council of State, Sec. VI, 22.03.1993, n. 255; and those who believe, on the other hand, that the declaration produces a constitutive effect and is preceded by a discretionary assessment by the public administration regarding the cultural value of the asset, cf., Council of State, Sec. VI, 12.12.1992, n. 1055. For a broad reconstruction of the doctrinal debate

good itself - but they also note the activities suitable for creating a connection between the subject and the good.

In fact, the effect of the cultural protection constraint allows the exercise of public control, aimed at preventing the assets subject to it from suffering damage to their state of conservation, through the request for prior consent from the competent authority for the carrying out of activities suitable for affecting the material condition of the property (Perlingieri, 1985, 607).

The constraint is substantiated in a series of legal situations preordained to guarantee the cultural function performed by the asset and, once the connection between the function and the asset has been ascertained, it expresses all the legal effects that act as a safeguard for the maintenance of the conditions on which this connection is based.

Precisely as proof of what has been observed, the traditional doctrine had classified the regime of things of antiquity and art - cultural heritage - in the category of administrative limitations of private property, showing, on the other hand, little interest in the concurrent presence of public ownership of the goods referred to in Law no. 1089/1939 (Alibrandi & Ferri, 1987, 223).

This thesis, considered by some to be "short-sighted", was aimed exclusively at reinforcing the moment of limitation of the owner's faculties, without considering the elements characterizing the legal status of the property, contained in the regime of historical and artistic protection, elements that subsequently led to an interpretation of the compression of the right to property not in negative terms.

The cultural asset, which draws on the thing as a material testimony of civilization, is superimposed on the patrimonial asset that is inherent in the same thing and whose regime of belonging does not affect the essential features of the cultural asset as an autonomous object of protection (Fish, 2008).

Unlike other goods, whose functional destination is implemented by means of a specific prescription from private property, the things that constitute cultural goods remain bound to the function connected to their nature and to their being cultural goods.

The special discipline prepared for cultural heritage defines forms and ways of coexistence between two different utilities, the cultural and the economic, thus

making it possible to identify the faculties that the private owner can exercise, which are, on the other hand, precluded and which are allowed under public control (Sandulli, 1954).

The Constitutional Court (2003) considered unfounded the questions of constitutional legitimacy raised regarding a hypothetical illegitimacy due to the compression of the dominical faculties relating to the right to property, as the special regime of protection to which cultural heritage is subject finds sufficient justification in the intrinsic quality of the goods subject to it, for the aptitude and destination for the satisfaction of a general interest.

In particular, the legislator has provided that the subjection to the particular protection regime (Cattaneo, 1960) must be conditional, for privately owned assets, to the prior issuance of the formal declaration of cultural interest, without which any possibility of intervention by the bodies of the public administration is precluded[5].

The reflections formulated by the Franceschini Commission are sworn by the Constitutional Court, which with sentence no. 118 of 09 March 1990 (Council of State, 1990) stated that: *"culture never assumes autonomous, separate and distinct importance with respect to assets of historical, artistic, archaeological and ethnographic interest, but is interpenetrated in the things that constitute its material support; It follows that culture cannot be protected separately from the good: this is the real meaning and the key to understanding art. 9 of the Constitution"*.

Furthermore, the Constitutional Court, with the aforementioned ruling, further specified that: "the State must take care of the cultural formation of its members, to which every value suitable for stimulating and enriching their sensitivity as persons contributes, as well as the perfection of their personality and their spiritual and material progress: this is why, in order to achieve the objectives of the promotion and development of culture, the State must provide not only for the protection of those goods that they are the value of material evidence of it and which, as such, are of instrumental importance for the achievement of the

5 This condition of the property had already been analysed by the Franceschini Commission in 1964, considering that the imposition of a particularly or exceptionally important constraint of cultural interest on an asset should have been considered a condicio sine qua non for the asset to be considered subject to the powers of the administrative bodies, with the consequence of obliging the owner to possess or hold the property in compliance with five fundamental obligations enshrined in legislation at the time in force: to preserve them, to ensure their maintenance, not to change their physical state, not to use them in a prejudicial way, to allow public use in the ways provided for by law.

aforementioned objectives, both for their intrinsic cultural value and for the reference to the history of local civilization and custom, but it must also ensure the community the enjoyment and fruition of the cultural values expressed by the assets themselves".

Therefore, the obligations incumbent on private individuals are included in those mandatory duties of solidarity referred to in Article 2 of the Italian Constitution (Tamiozzo, 2009).

It is clear, however, that the questions that arise are all largely attributable to the dichotomy between the two administrative functions that characterize the cultural heritage sector: on the one hand, protection, aimed at safeguarding the physical conservation of the "material support" of cultural value[6]; on the other, enhancement, aimed at the enjoyment and dissemination of the same value.

The peculiar legislation contained in the 2004 Code dictates a series of provisions aimed at implementing the established requirements on the protection and enhancement of cultural heritage.

The various criteria for subjection to the relevant rules are justified by the relationship between private property and public prerogatives.

This relationship with the public authorities has, in fact, gone through different stages, due to the preponderance of interests incorporated in the property.

We have moved from a first phase, characterized by the coexistence of the owner's interest in the enjoyment of the property and the public interest in its conservation, which has found expression in the exercise of the function of conservative protection; to a second phase, in which these interests were joined by that of the community in the enjoyment of the asset, which introduced a new objective of the action of the public authorities, represented by the enhancement of cultural heritage for the purpose of public use of the same

6 The essentially declaratory nature of the identification of the cultural good – since it is a matter of recognising the presence of original characteristics in things or places – does not exclude that the same act also has a constitutive effect. A lien must be understood as a set of legal situations designed to ensure the preservation of the current condition of the tied property; Once the link between the way of being of a material thing or complex and the public interest connected to cultural protection has been established, the bond expresses all those legal effects that govern the maintenance of the conditions on which this connection is based. The value to be protected is interpenetrated by the material object (sculpture, building, etc.), preserving means safeguarding the physical integrity of these entities, with specific regard to their components that express their cultural significance. Conservation protection can extend not only to the physical dimension of the cultural property, but also to the surrounding space called "environmental frame" or "buffer zones".

4 THE GUIDELINES FOR THE DIGITIZATION OF CULTURAL HERITAGE

Central to the digitization of cultural heritage are the 2022–2023 guidelines (MiC, 2022). These outline procedures for digital object creation, metadata, and archiving, catering to various technical methods of digitizing analogue heritage. The guidelines address project rationale, participant roles, operational methods, asset selection, and timelines. Specifications include file formats, metadata, resource identifiers, nomenclature, and preservation media.

A digitization (Guercio, 2019) project's primary goals are the conservation of originals, asset utilization and valorization, heritage study, and integrating prior digitization efforts. The process, essential for preserving historical memory, must be scalable and adaptable.

However, technologies like cloud computing and AI, while enhancing accessibility, also introduce cybersecurity threats. Data breaches can devastate cultural heritage, hence necessitating a multi-level approach that extends beyond technology to include IT security culture and administrative processes across the data lifecycle. Public administrations should focus on employee training, sensitive data management, and partnering with secure tech suppliers.

A significant challenge in digitization is balancing historical document authenticity with personal data protection (Buzzanca, 2023). This necessitates aligning European and national data protection laws with cultural heritage legislation.

Regarding archive access and confidentiality, the cultural heritage code specifically addresses State and public body archives. Restrictions apply to confidential documents (accessible after 50 years) and those containing sensitive or criminal data (accessible after 40 or 70 years, depending on the nature of the data). Prior to these terms, access is governed by administrative document access regulations. These provisions also apply to private archives and documents in State or public body archives.

5 CONSENSUAL FORMS FOR THE DEVELOPMENT OF CULTURAL HERITAGE

The forms of private participation in the cultural heritage sector can take different configurations that can be traced back to various hypotheses, such as, for

example, additional services, sponsorships, donations. The public, on the other hand, participates in the management and enhancement of those cultural assets of the private owner through the use of conventions for public use and various consensual instruments, including, to name a few by way of example, collaboration agreements, negotiated programming, memoranda of understanding, organizational and program agreements, to which private owners can also join. The State, through the aforementioned negotiation tools, allows the private owner of the asset to access public subsidies for the rehabilitation of the cultural property, so that the cultural asset is enhanced through public support and ad hoc regulations for the purpose of public use by the community. The role of the private sector is becoming increasingly important, also in a broader perspective, as in the case of urban recovery and redevelopment interventions in which cultural heritage is considered a tool for social and economic development. In this context, the enhancement of cultural heritage takes on a broader meaning, because it is part of the relationship between society and territorial identities.

The activity of the administrative apparatus is now largely marked by the logic of negotiation regarding relations both between different institutions and between the administration and private individuals

In particular, the applicability of the agreement is different from that of the two forms of the supplementary (or procedural) agreement and the substitute agreement. The supplementary agreement is an act of a private nature, which accesses an administrative measure subject to compliance with the provisions of the agreement: the case of supplementary agreement and measure is therefore characterized as a "two-stage" case. The substitute agreement, on the other hand, replaces the measure in its entirety and constitutes a single and perfect act, capable of producing both private and public effects.

If, with regard to the administrative agreement as an act, it is necessary to take into account the rules described by Law No 241 of 1990 on the procedure and in particular by Art. 11, which outlines the institution, and the profiles outlined above with reference to the requirements of the administrative agreement, with regard to the relationship between public administration and private individuals, which arises from the agreement, it is necessary to examine the applicability of the civil law principles and any pathological profiles inherent in the administrative agreement.

This new way of understanding administrative action, no longer as authoritative and imposing, but in which the subjects involved operate in different ways that suggest mediated choices, induces the transition from a centralized model of administration to a polycentric model, where there is also room for agreements between public administrations: these are instruments of negotiated settlement of the public interests involved, open to the participation of private individuals, defined by the doctrine as "infrastructural coordination procedures", through which the hierarchical organization of subjects and interests is tended to be overcome, without giving rise to a new legal entity distinct from the participating administrations. The Court of Auditors has also intervened on the subject, which considers that the agreements between public administrations, referred to in art. 15 of Law no. 241 of 1990, constitute the instrument to regulate the collaborative performance of activities of common interest and, therefore, to compose in a unitary framework the public interests of which each administration is the bearer.

6 CONCLUSION

In conclusion, the intersection of digital innovation, cybersecurity, and data protection in the realm of cultural heritage requires a nuanced, legally informed, and technologically sophisticated approach. This ensures not only the preservation of our historical legacy but also its responsible and secure engagement in the digital age.

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Summary

Data breaches pose a serious threat to cultural heritage, highlighting the need for a comprehensive approach that goes beyond technology to incorporate IT security culture and administrative processes throughout the data lifecycle. Public administrations are encouraged to prioritize employee training, sensitive data management, and collaboration with secure technology providers. The 2022-2023 guidelines for cultural heritage digitization outline standardized procedures for creating, metadata tagging, and archiving digital reproductions of analog heritage. This approach ensures the preservation and secure management of cultural assets, connecting resources and timelines to clear objectives to meet project goals effectively.

Typology: 1.04 Professional Article

Corinna Simonini[1]

BETWEEN DOCUMENT MANAGEMENT AND HISTORICAL ARCHIVE: THE CASE OF THE UNIVERSITY OF UDINE

Abstract

Purpose: *The aim of the paper is to present the development framework of the relationship between the University of Udine and its archives, identifying which elements have influenced the administrative actions directed at the care of the archives themselves. Specifically, we intend to illustrate how the institution has acted in defining and treating the documentary material it has produced and what elements are emerging in the modelling of the historical archive section, the establishment of which is being planned in compliance with the requirements of the regulations in force.*

Method/Approach: *The methodology applied for this investigation is part of a broader research project that is analyzing in general terms how management and valorization of historical archival fonds has developed in Italian Universities, starting from the point of view of the University of Udine. The specific aspects considered in this intervention are part of the historical context analysis made for the project, which concerned the reconstruction of the University history, the investigation of the document management in the administrative organization, and the census of the archival materials.*

Results: *Considering the University of Udine, the development of document management has been upgraded by the concomitant presence of several aspects, such as the participation in the major national projects born in the context of the National Conferences of the Archives of Italian Universities, the creation of an archives commission and the institutionalization of the General University Archives. Since the 2000s, the administration has provided for various projects focusing on both current and deposited archival records. Currently, the census of the University's historical documents is showing how articulate the anatomy of the different archival fonds produced and acquired by an institution so complex is, particularly in its structure.*

Keywords: *university archives; University of Udine; historical archives; Italian Universities.*

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TRA GESTIONE DOCUMENTALE E ARCHIVIO STORICO: IL CASO DELL'UNIVERSITÀ DI UDINE

Abstract

Scopo: *Obiettivo dell'intervento è esporre il quadro di sviluppo della relazione tra l'Ateneo di Udine e il suo archivio, individuando quali elementi abbiano influenzato le azioni amministrative rivolte alla cura dell'archivio stesso. In modo particolare, si intende illustrare come l'ente abbia agito nel trattare i materiali documentali che ha prodotto e quali spunti di riflessione stiano nascendo nella definizione della sezione separata d'archivio, la cui istituzione è in progettazione nel rispetto degli adempimenti previsti dalla normativa vigente.*

Metodo/Approccio: *Le metodologie utilizzate rientrano in un piano di ricerca più ampio legato al progetto che sta analizzando in linea generale le modalità di gestione e valorizzazione dei fondi storici delle università, partendo dallo specifico caso dell'archivio dell'Ateneo di Udine. Gli aspetti considerati in questo intervento rientrano nelle indagini di contesto compiute per il progetto, che hanno riguardato la ricostruzione della storia dell'Ateneo, l'analisi dei documenti relativi alla storia dell'ufficio che si occupa dell'archivio e il censimento dei materiali.*

Risultati: *Nel caso di Udine lo sviluppo della gestione documentale ha avuto un potenziamento grazie alla presenza concomitante di diversi elementi, quali la partecipazione ai grandi progetti nazionali nati nel contesto delle Conferenze organizzative degli archivi delle università italiane, la nascita di una commissione archivi e la nascita dell'Archivio generale di Ateneo. A partire dagli anni Duemila, l'amministrazione ha previsto diversi progetti incentrati sulla tenuta sia dei documenti in fase corrente che di deposito. Ad oggi, il censimento dei nuclei storici dell'Ateneo sta mostrando quanto sia articolata la costellazione di fondi archivistici prodotti e acquisiti da un ente così complesso nella sua struttura.*

Parole chiave: *archivi universitari; Università di Udine; archivi storici; università italiane.*

MED UPRAVLJANJEM Z DOKUMENTI IN ZGODOVINSKIM ARHIVOM: PRIMER UNIVERZE V VIDMU

Povzetek

Namen: *Cilj prispevka je predstaviti razvojni okvir odnosa med Univerzo v Vidmu in njenimi arhivi ter ugotoviti, kateri elementi so vplivali na administrativne aktivnosti, usmerjene v skrb za arhivsko gradivo. Konkretno želimo ilustrirati, kako je zavod ravnal pri opredeljevanju in obravnavi dokumentarnega gradiva, ki ga je izdelal, in kateri elementi se pojavljajo pri vzpostavitvi oddelka zgodovinskega arhiva, katerega ustanovitev se načrtuje v skladu z zahtevami veljavnih predpisov.*

Metoda/pristop: *Metodologija, uporabljena v tej raziskavi, je del širšega raziskovalnega projekta, ki na splošno analizira, kako se je upravljanje in valorizacija zgodovinskih arhivskih fondov razvijala na italijanskih univerzah, začenši z vidika Univerze v Vidmu. Posebni vidiki, obravnavani v tem pristopu, so del analize zgodovinskega konteksta, ki je nastala za potrebe projekta in se nanaša na rekonstrukcijo zgodovine univerze, raziskavo upravljanja dokumentov v upravni organizaciji in popis arhivskega gradiva.*

Rezultati: *Na Univerzi v Vidmu je bil razvoj upravljanja z dokumenti nadgrajen s sočasno prisotnostjo več vidikov, kot so sodelovanje v velikih nacionalnih projektih, nastalih v okviru nacionalnih konferenc arhivov italijanskih univerz, ustvarjanje arhivske komisije in institucionalizacija Splošnega univerzitetnega arhiva. Od leta 2000 je uprava poskrbela za različne projekte, ki so se osredotočali na deponirano arhivsko gradivo ter gradivo v pripravi in analizi. Trenutni popis zgodovinskih dokumentov univerze kaže, kako različna je lahko sestava različnih arhivskih fondov, ki jih ustvari in pridobi tako zapletena institucija, zlasti v svoji strukturi.*

Ključne besede: *univerzitetni arhivi; Univerza v Vidmu; zgodovinski arhivi; Italijanske univerze.*

1. INTRODUZIONE

La relazione tra l'ente che produce i documenti e la sedimentazione del suo archivio, che è naturale conseguenza dello svolgimento delle proprie attività, può assumere forme articolate, la cui analisi non è banale. Sicuramente tra i diversi aspetti da considerare rientra anche la complessità del rispecchiamento tra archivio ed ente (Pavone, 1970), ma prima di applicare l'indagine della relazione tra archivio *come è* e *come dovrebbe essere* ad un particolare caso archivistico è utile avere un quadro definito della situazione in cui si sono trovati quello specifico ente e quello specifico archivio.

Partendo da questa considerazione, lo studio delle dinamiche che hanno caratterizzato l'Archivio dell'Università di Udine si pone come premessa per una futura e più ampia analisi della relazione tra archivio ed ente, e il suo caso può rivelarsi interessante per due motivi: prima di tutto perché la nascita dell'Ateneo si inserisce nel processo di riforma nazionale dell'istruzione superiore ed è quindi un caso esempio da cui si possono trarre degli aspetti comuni anche per gli altri atenei nati o sviluppatisi in questo periodo storico; in secondo luogo perché il percorso di nascita dell'università di Udine è dipeso da dinamiche interne del Friuli Venezia Giulia che offrono uno spaccato importante del legame fortemente radicato tra la popolazione, il territorio e l'università, dinamiche che si riflettono nell'archivio stesso e nella sua valorizzazione.

Diversi aspetti hanno influenzato l'Università di Udine nella progettazione della gestione documentale, a partire dall'adesione al progetto *Titulus 97* e dagli adempimenti che ha comportato, fino allo sviluppo dell'ufficio preposto alla gestione dell'archivio. Nel corso degli ultimi venticinque anni l'Ateneo ha curato diversi progetti per garantire il corretto adempimento delle attività legate alla gestione della documentazione corrente e in deposito, ma solo di recente, avvicinandosi il suo cinquantesimo compleanno, si è trovato a dover riflettere sull'istituzione della propria sezione separata d'archivio, e tramite un progetto specifico sta oggi affrontando la definizione del primo nucleo del suo archivio storico. L'indagine di tutti questi aspetti può aiutarci a fare alcune considerazioni sulla complessità della sedimentazione e acquisizione dei documenti storici in relazione alla struttura dell'ente universitario.

2. SULLA RELAZIONE TRA STORIA DELL'ENTE E ARCHIVIO

La forte spinta al cambiamento che ha caratterizzato l'Italia degli anni Sessanta e Settanta si è strutturata attorno a temi molto rilevanti in ambito culturale e sociale, e nell'immaginario comune spiccano le immagini delle proteste studentesche e dei movimenti del Sessantotto. All'interno di questi anni di rivoluzione, le politiche amministrative si sono rivolte al problema di riformare l'assetto statale dell'istruzione, coinvolgendo tutti i livelli, dalle scuole elementari fino alle università (Ricuperati, 2015). Uno dei cambiamenti fondamentali che ha toccato in modo particolare lo sviluppo degli Atenei è stata la liberalizzazione dell'accesso universitario sancita con la legge Codignola che, aprendo la possibilità di iscrizione ai corsi di laurea a tutti "*i diplomati di istituti di istruzione secondaria di secondo grado*" (L. 910/1969, art. 1) ha comportato un accrescimento della domanda di corsi universitari. Questo passo, assieme ai successivi decreti e leggi che compongono la complessa riforma universitaria di questi decenni[2], ha quindi aperto la strada alla nascita di nuovi Atenei, spesso tramite simili dinamiche quali la creazione di consorzi, libere facoltà, o di nuove sedi a partire da facoltà distaccate di altre Università[3]. Questi "nuovi" atenei si trovano oggi a dover ragionare rispetto all'istituzione della sezione separata d'archivio, così come prevista dalla normativa italiana sui beni culturali (D. Lgs. 42/2004, art. 30). Riflettere quindi sulle dinamiche che hanno caratterizzato la relazione tra atenei e archivi è un punto di partenza che servirà in futuro per individuare elementi comuni a supporto degli interventi di istituzione e valorizzazione degli archivi storici di questi enti, sulla scia delle riflessioni congiunte e comunitarie che allo stesso modo si sono occupate di normalizzare le metodologie applicate alla tenuta degli archivi universitari, a partire dal primo progetto di *Titulus 97*, fino all'ultimo di individuazione di un massimario comune presentato all'*8° Conferenza organizzativa degli archivi delle università italiane* nell'aprile di quest'anno[4]. A partire da queste considerazioni, la progettazione dell'archivio

2 Si vedano in particolare gli schemi con indicazione degli adempimenti di riforma (Gattullo and Visalberghi, 1986, 192–218).

3 Tra il 1970 e 1985, tramite Decreti Presidenziali per la statalizzazione di libere università e tramite Leggi istitutive nascono gli Atenei di Ancona, di Roma Tor Vergata, della Tuscia, di Cassino, della Basilicata, di Brescia, del Molise, di Reggio Calabria, di Verona, di Trento e dell'Abruzzo.

4 Gli atti dell'8° Conferenza organizzativa sono in fase di pubblicazione, mentre sono disponibili online le presentazioni degli interventi. In merito al massimario di selezione per gli archivi universitari si veda la presentazione di Chiara Cabbia (Cabbia, 2024).

storico dell'Università di Udine può offrire un punto di osservazione per la riflessione archivistica comune sugli atenei nati in questo periodo. Al tempo stesso, va però considerato che il suo archivio riflette le vicende particolari che le sono proprie e che sono legate alla storia locale e regionale del Friuli Venezia Giulia. Di certo, per quanto gli aspetti normativi e organizzativi di un ente implichino politiche di gestione dell'archivio similari, l'archivista in quanto tale lavorerà sempre nel definire il singolo contesto e ricostruire le sue peculiarità e non è quindi possibile prescindere dall'analisi della correlazione tra storia locale, storia del soggetto produttore e storia archivistica (Carucci, 1998).

Per comprendere quanto il percorso per l'istituzione dell'ateneo di Udine sia radicato nella storia locale si deve tenere presente che, per quanto l'Ateneo sia nato nel 1978, l'intenzione di sviluppare corsi universitari nella città risale a quasi quindici anni prima. Già nel 1964 si hanno infatti le prime richieste di una facoltà a Udine, al tempo dotata di una struttura ospedaliera ampiamente sviluppata, tanto che l'ordine dei medici della città la indica come sede preferibile per la nascita di corsi universitari di medicina, al tempo ancora assenti in regione (Carrozzo & Ellero, 1967). Gli studenti e diverse personalità udinesi caldeggiano per la proposta e, quando la sede della facoltà di medicina viene invece destinata a Trieste, i circoli studenteschi uniscono le loro forze e organizzano manifestazioni e tre giornate di sciopero. A partire da questa prima forte movimentazione il tema prende ampiamente parte nella discussione politica regionale e vede la partecipazione di diversi protagonisti, tra politici, istituzioni regionali, locali, Ateneo di Trieste e movimenti popolari. Senza soffermarci troppo sui singoli aspetti di questa vicenda, che sarà ampiamente trattata dal progetto sull'archivio storico, ricordiamo che Udine vive una prima fase come sede distaccata dell'Università di Trieste, prima con la nascita della facoltà di lingue nel 1968 e poi con i corsi di ingegneria nel 1972. Negli anni successivi continuano le richieste di un Ateneo completamente autonomo, anche in considerazione di diverse problematiche delle facoltà distaccate, fino alla raccolta firme per una proposta di legge di iniziative popolare iniziata già prima del terremoto del 1976, su iniziativa del *Comitato per l'Università friulana*.[5]

5 Riguardo le vicende che hanno caratterizzato la nascita del Comitato e i suoi sviluppi, fino all'istituzione della Facoltà di medicina nell'Università di Udine si veda la pubblicazione dei diari di Tarcisio Petracco (Petracco, 2022). Per comprendere invece i singoli avvenimenti a partire dalle testate giornalistiche locali esiste come fonte la rassegna stampa conservata nel fondo di Lucio Peressi, attualmente in fase di ordinamento, e la cui valorizzazione è prevista nel progetto sull'Archivio storico dell'Ateneo di Udine.

Tutti gli aspetti di questo percorso si riscontrano proprio nell'archivio d'Ateneo, che riflette in maniera diretta le sue vicende storiche e amministrative: le serie archivistiche dei fascicoli degli studenti e delle tesi di laurea hanno infatti come estremo cronologico iniziale l'anno accademico 1969/1970, e conservano i materiali afferenti alle facoltà di lingue e ai corsi di ingegneria con la chiara intestazione dell'Università di Trieste. Allo stesso modo, si conservano anche i documenti legati all'amministrazione di questi corsi distaccati, al tempo sostanzialmente gestite dal *Consorzio per la costituzione e lo sviluppo degli insegnamenti universitari in Udine*, istituto collaborativo nato nel 1967 (Petracco, 2022) proprio per favorire lo sviluppo di corsi universitari a Udine e fare da tramite con la Regione (Rossetti, 1994). A partire da questi elementi, possiamo considerare che uno dei primi aspetti in cui si concretizza la relazione tra soggetto produttore e archivio sta nell'esplicitazione degli eventi storici che hanno portato alla nascita dell'ente all'interno dei documenti che compongono il suo archivio, il quale, come il serpente orubòro che vive nutrendosi della sua coda, diviene fonte diretta per comprendere sia il proprio soggetto produttore che sé stesso.

3. SULLA DEFINIZIONE DEL PROPRIO ARCHIVIO DA PARTE DEL SOGGETTO PRODUTTORE

Negli anni di definizione delle strutture amministrative centrali dell'Ateneo di Udine, a partire dalla legge istitutiva del 1978 fino agli anni Novanta, il rapporto tra l'ente in quanto soggetto produttore e il suo archivio non è stato esplicitato con provvedimenti particolari, ma ha preso avvio dalla necessaria nascita dell'ufficio protocollo. Nella naturalezza dettata dai fini pratici, questo ufficio si è occupato di gestire documenti e fascicoli attivi e di conseguenza l'archivio corrente si è costituito con l'uso di criteri e strumenti canonici; in particolare, ad oggi si conservano i registri di protocollo e gli "*indici dell'archivio protocollo*", di fatto dei veri e propri titolari di classificazione, divisi inizialmente in partizioni numerate progressivamente, e dal 1985 gerarchizzati in posizioni che rappresentassero le funzioni del soggetto produttore in modo più sistematico.

A partire da questa prima fase improntata alla "pura" amministrazione dell'archivio corrente, la gestione documentale si è poi articolata in modo sempre più strutturato, influenzata dalle iniziative nazionali, dai cambiamenti organizzativi dell'ufficio e dall'istituzione della commissione archivi.

Il momento che ha segnato una nuova articolazione della gestione documentale e una presa di consapevolezza dell'amministrazione universitaria rispetto al proprio archivio è individuabile nell'adozione del *Regolamento per la gestione, tenuta e tutela dei documenti amministrativi dal protocollo all'archivio storico*[6] nel giugno del 1998. Il regolamento è stato approvato come naturale conseguenza dell'adesione al progetto di *Titulus 97*, sancita dall'Università di Udine con una lettera di intenti nell'aprile del 1998, e ha ripreso in maniera evidente l'atto adottato dall'Università di Padova all'avvio del progetto, riadattandolo però alla propria situazione e definendo sì tutti gi aspetti relativi alla tenuta dei documenti e dell'archivio, ma omettendo le parti relative ai servizi dell'archivio storico, che a quel tempo ancora non erano strutturati. Il punto di svolta è individuabile nel fatto che per la prima volta in un regolamento interno fossero sia esplicitate le definizioni di archivio e delle sue suddivisioni, sia individuate le funzioni dell'infrastruttura tecnica destinata alla sua gestione.

Da qui si è inoltre avviata la sperimentazione sull'uso di un titolario normalizzato e creato un gruppo di lavoro interno con coordinamento del personale dell'archivio generale e supervisione del delegato del Rettore per i servizi del protocollo e dell'archivio[7]. L'importanza che l'avvio di questo progetto ha avuto è evidente anche dagli atti della *1° conferenza organizzativa degli archivi delle università italiane*, nella quale personalità e ruoli diversi dell'ateneo udinese hanno offerto il loro contributo per esporre la molteplicità dei risultati raggiunti in contesti diversi dell'amministrazione[8]. In particolare, si è giustamente puntualizzato il vantaggio di applicare queste novità ad un ateneo la cui vita era talmente recente che, ponendosi come sede sperimentale, avrebbe potuto dimostrare con il tempo come una buona sedimentazione documentale potesse dare in futuro i suoi frutti sull'archivio storico, se combinata con un'organizzazione dell'archivio corrente costantemente aggiornata con la normativa e con le novità proposte in ambito di ricerca (Maniassi, 1998).

Nell'anno 2000 l'Università ha approvato il nuovo *Ordinamento degli uffici e dei servizi*[9], dando una puntuale definizione delle sue strutture organizzative. In

6 Decreto Rettorale n. 556 del 30/06/1998 dell'Università degli Studi di Udine.

7 Ruolo al tempo ricoperto dal professor Roberto Navarrini, titolare della cattedra di archivistica presso la Facoltà di Lettere e Filosofia.

8 Si vedano in particolare il contributo di Michela Maniassi e la sezione relativa alle Esperienze udinesi negli atti della *1° conferenza organizzativa degli archivi delle università italiane* con i contributi di Maria Cristina Guanin, Anna Olivo, Franca Pasqualotto, Fabio Romanelli, Stefania Capellupo, Sonia di Giorgio, Manuela Tomad, Cristina Zannier.

9 Approvato con Decreto Rettorale n. 1031 del 01/09/2000 dell'Università degli Studi di Udine.

questa occasione l'ufficio incaricato di occuparsi della gestione documentale ha acquisito una propria autonomia diventando *Centro gestione documenti*, e rientrando in quelle unità organizzative denominate Centri di supporto Gestionale, operanti per la fornitura di servizi operativi. L'autonomia acquisita, combinata alla presa in servizio come responsabile di un funzionario con specifiche competenze archivistiche, rientra tra gli aspetti che hanno influenzato l'incremento dei progetti rivolti alla gestione dell'archivio (Bonfiglio-Dosio,1996).

Altro elemento caratterizzante per il potenziamento di politiche interne rivolte all'archivio è rappresentato dalla nascita della commissione archivi che, come organo specializzato, ha assunto un ruolo propositivo fondamentale. Già prevista secondo il regolamento interno del 1998, è stata effettivamente nominata nel 2002[10], e ha visto tra i suoi componenti il Direttore Amministrativo, il responsabile del Centro Gestione documenti, del Centro Elaborazione dati amministrativi e del Centro per le relazioni con il pubblico, due docenti universitari (uno di materie umanistiche e uno di materie scientifiche) e un soprintendente archivistico del Friuli Venezia Giulia. La molteplicità dei ruoli coinvolti ha permesso negli anni di far nascere discussioni che mettessero a confronto i diversi punti di vista, considerando gli aspetti pratici, gestionali e amministrativi assieme ai punti di vista accademici, e normativi. La periodicità degli incontri ha anche permesso di monitorare i progetti svolti negli anni e di analizzare collegialmente le problematiche riscontrate. Alcune di queste, comuni a molte amministrazioni, sono state riportate in modo reiterato all'attenzione della commissione, in particolare la necessità di spazi più ampi per accogliere i trasferimenti periodici di materiale in deposito e le lacune di personale, non tanto "qualitative", dato che negli anni ha operato personale con formazione specifica nell'ambito archivistico, quanto più "quantitative" perché la permanenza del personale nell'ufficio è stata spesso precaria.

Quando nel 2011 l'Ateneo ha affrontato una nuova riorganizzazione del proprio assetto, il Centro ha ripreso la propria natura di ufficio gestione documentale, inserendosi all'interno del Servizio affari istituzionali e legali (SAIL). Sempre a partire dallo stesso anno non è stata più rinnovata la commissione archivi, e si è così perso un organo di confronto. I progetti di interesse archivistico hanno

10 Nomina della prima commissione archivi con Decreto Rettorale n. 268 del 15/04/2002 dell'Università degli Studi di Udine.

comunque continuato a nascere, improntati allo sviluppo dei servizi intorno alla consultazione delle tesi e alla loro descrizione, ma anche legati al censimento e individuazione di locali idonei per i materiali d'archivio.

Non è banale considerare cosa influenzi lo sviluppo delle politiche gestionali dell'archivio di un ateneo: gli aspetti che andrebbero considerati sono tanti, tra questi anche la presenza di docenti di archivistica assunti stabilmente, la posizione geografica dell'università e la presenza di fondi pubblici per la gestione degli archivi. Va detto però, che dal quadro che abbiamo fin qui definito risulta evidente come una visione archivistica improntata alla condivisione con l'esterno abbia influito molto sulla visibilità e attuazione dei progetti legati all'archivio, sia attraverso la partecipazione a progetti nazionali sia tramite l'interesse di professionalità diverse, di ambito scientifico o amministrativo, interne ed esterne all'ateneo stesso.

4. SUGLI ADEMPIMENTI DOVUTI ALL'ARCHIVIO E SULLA COMPLESSITÀ DI UN ARCHIVIO STORICO UNIVERSITARIO

Aldilà delle premesse gestionali che hanno portato l'amministrazione dell'Università a riconoscere e definire l'Archivio dell'Ateneo nella sua più ampia accezione, va considerato come la relazione con quest'ultimo si sia sviluppata negli anni. I cambiamenti nella gestione documentale hanno influenzato in particolare la tenuta dell'archivio corrente, anche in risposta allo sviluppo delle norme in materia di amministrazione digitale e protocollo informatico[11], ma il progetto attualmente in cantiere per l'istituzione dell'archivio storico ci offre la possibilità di fare una riflessione diversa, legata invece alla tenuta della documentazione cartacea prodotta e acquisita a partire dai primi anni di attività dell'Ente. Lo studio delle modalità di gestione di questa documentazione, di fatto in fase di deposito, nel caso di un ente complesso come quello universitario, permette di inquadrare come sono state poste le fondamenta per un coerente sviluppo dell'archivio storico.

Sappiamo che l'archivio di deposito rappresenta la fase più delicata della documentazione in virtù della sua transitorietà (Carucci & Guercio, 2008); la ques-

11 Si tralasciano in questa occasione tutti i passaggi di adeguamento alle novità normative sulla tenuta del protocollo informatico e in generale il tema della gestione dell'archivio corrente, aspetti comunque molto rilevanti rispetto ai diversi adempimenti portati avanti dall'ufficio. Per approfondimenti sul tema si veda l'intervento di Brunetti D. & Simonini C. negli atti dell'*8° conferenza organizzativa degli archivi delle università italiane* attualmente in fase di pubblicazione.

tione si complica maggiormente nel caso dell'archivio universitario, che si trova a coordinare i trasferimenti di documentazione proveniente sia dall'amministrazione centrale che dalle strutture didattiche o dai centri gestionali, e deve amministrare coerentemente le operazioni per mantenere un quadro chiaro della situazione tramite l'organizzazione degli aspetti conservativi, la predisposizione di strumenti di gestione e la selezione dei documenti.

A partire dalla definizione degli adempimenti spettanti per la gestione dell'Archivio generale secondo il regolamento del 1998, l'Ateneo di Udine si è posto il problema di individuare un luogo adeguato alla conservazione dei materiali che periodicamente andavano esaurendo le loro funzioni correnti. Negli anni successivi un magazzino nell'area scientifica dell'Università è stato destinato al deposito e sono presto stati trasferiti diversi materiali documentali prima conservati in locali non idonei. La sede è stata interessata poi da alcuni lavori di adeguamento, comprensivi di acquisto di armadi compattabili e di strutturazione di impianti antincendio. Nel tempo si sono susseguiti trasferimenti di materiali archivistici provenienti da uffici e sedi distaccate, e il deposito ha raccolto anche documenti di ripartizioni o centri che nel tempo sono stati chiusi. Per garantire una gestione coerente di tutti i materiali, che permettesse di ritrovare con rapidità fascicoli ancora utili per fini giuridico-amministrativi, il personale dell'ufficio ha lavorato alla redazione di elenchi e strumenti di gestione; in modo particolare ricordiamo due censimenti fatti su larga scala, che ancora oggi risultano essere uno strumento efficace ad uso interno, a riprova del fatto che attività archivistiche definite a priori in modo chiaro e coerente hanno una loro validità anche dopo decenni.

Tra il 2004 e il 2005 è stato attuato il primo importante censimento di natura topografica, corredato da una pianta delle scaffalature posizionate nei locali ad uso archivio, con indicazione delle loro numerazioni e con i riferimenti dei metri lineari occupati e di quelli disponibili. Le voci principali del censimento intendevano definire il quantitativo di materiale versato e il posizionamento topografico, ma è interessante che siano stati specificati anche i riferimenti degli uffici versanti, così da ricostruire un primo quadro di come si siano riflesse nell'archivio le modifiche strutturali che hanno interessato gli uffici, le ripartizioni e i centri di Ateneo. L'elenco di censimento è stato impostato in modo da esplicitare già le

serie conservate, con indicazione dello stato di ordinamento e riferimento alla necessità di eseguire eventuali operazioni di selezione e scarto.

Quando nel 2016 si è reso necessario il trasferimento di tutti materiali di deposito in una nuova sede, l'ufficio gestione documentale si è occupato della redazione di un nuovo strumento gestionale, che nel momento rispondeva al fine pratico di garantire la coerente gestione del trasloco e il ritrovamento dei materiali. Il passaggio di sede è stato coordinato dando in *outsourcing* la documentazione ad una ditta esterna per il tempo di adeguamento del nuovo magazzino ad uso archivio. Per farlo, i faldoni sono stati numerati provvisoriamente, inscatolati e ogni scatola identificata anch'essa con un numero e con il riferimento al bancale cui era destinata per la conservazione. L'elenco risultante dal monitoraggio di queste operazioni rappresenta di fatto una mappatura chiara di tutti i materiali trasferiti in deposito negli anni ed è risultato fondamentale per la successiva messa a scaffale, permettendo di definire a priori gli spazi da occupare e l'ordine da seguire per la disposizione.

Accanto alle operazioni di censimento, l'ufficio ha curato diversi interventi di selezione: dal 1999 al 2023 si contano più di una dozzina di elenchi di scarto con relative autorizzazioni della Soprintendenza archivistica e verbali di esecuzione del macero. La selezione ha rappresentato un aspetto qualificante per la definizione delle unità archivistiche e delle serie, oltre ad agevolare la liberazione di spazio per altri trasferimenti in deposito. In particolare, la selezione a fascicolo fatta sui materiali archivistici relativi ai concorsi del personale docente e amministrativo ha permesso di alleggerire la serie da materiali voluminosi, che avrebbero reso il ritrovamento dei documenti veramente essenziali più problematica e più difficoltosi riordinamento e descrizione. L'ufficio ha attuato con cura una massiva selezione a fascicolo di questa serie, scartando intere scatole contenenti buste di prove non aperte per assenza dei candidati, oppure prevedendo l'invio al mittente o in biblioteca di titoli e pubblicazioni per l'iscrizione ai bandi. Altra importante selezione è stata fatta sulle tesi di laurea, in molti casi pervenute presso l'archivio di Ateneo in tripla o quadrupla copia perché derivanti dagli uffici dei docenti e dalle sedi delle biblioteche di dipartimento, oltre che dalla segreteria didattica.

Tutte queste operazioni ci forniscono solo un breve quadro delle attività che hanno interessato i documenti in deposito presso l'ufficio gestione documentale, ma negli anni

sono venuti in essere molti progetti relativi a singole serie archivistiche, tra questi, i progetti per l'ordinamento e la descrizione dei verbali degli organi collegiali, dei fascicoli degli studenti, della documentazione dell'ufficio protocollo, oppure il progetto svolto in collaborazione con l'ufficio sviluppo applicativi per la descrizione delle tesi di laurea e la creazione di un catalogo online per la consultazione delle stesse.

Con l'inizio del 2024 l'Ateneo ha dato avvio ad un progetto che sta studiando gli adempimenti portati avanti finora e che intende porre le basi per l'istituzione della sezione separata d'archivio. In breve, gli obiettivi principali del progetto sono il censimento dei materiali archivistici conservati dall'università, la redazione di una guida generale dei fondi storici e la modellizzazione delle operazioni da svolgere sulla documentazione storica, esemplificata nel riordinamento, inventariazione, digitalizzazione e descrizione su sistema informatizzato di un fondo storico, con relativa restituzione sul web dei risultati.

La ricerca legata a questo progetto sta portando alla luce diversi aspetti relativi alla correlazione tra ente e archivio, che riflettono la specifica complessità dell'ente-università. Al contrario di un'amministrazione pubblica più "tradizionale", infatti, l'università è dotata di una particolare autonomia (Penzo Doria, 2021), e questo rende più sfuggente porre a confronto i modi in cui le articolazioni gestionali si sono modificate nel tempo in atenei diversi. In questo senso dobbiamo considerare che le università, per via dell'ampiezza dei loro obiettivi, che oggi si imperniano su didattica, ricerca e terza missione, sono costituite da una struttura amministrativa centrale e da centri e strutture didattiche e di ricerca. In ogni Ateneo l'assetto delle strutture ha subìto diverse trasformazioni nel tempo, dovute o a modifiche normative nazionali o a revisioni strutturali specifiche della singola università, e l'analisi di questi cambiamenti è imprescindibile se si vuole ricostruire i percorsi seguiti dai documenti prodotti o ricevuti dall'Ente.

Nell'esempio dell'Università di Udine, si consideri che nell'anno della sua istituzione l'Ateneo era costituito da un'amministrazione centrale ancora in definizione e da due sole facoltà attive; nel giro di pochi anni, con l'assestamento delle strutture, le facoltà principali sono diventate sei[12], corredate da ben venti istituti destinati a occuparsi degli aspetti relativi alla ricerca. Con gli anni Novanta, a cominciare dal-

12 Nel 1983 la didattica era strutturata nelle seguenti facoltà: lingue e letterature straniere, ingegneria, agraria, scienze matematiche, fisiche e naturali, lettere e filosofia, medicina e chirurgia.

la nascita del *Dipartimento di matematica e informatica*, sono state via via attivate le nuove strutture dipartimentali e soppressi gli istituti. La riforma universitaria del 2010 ha poi comportato un nuovo cambiamento, abolendo le facoltà e trasferendo le loro funzioni ai dipartimenti (L. 240/2010). Queste le modifiche principali che hanno interessato le articolazioni di ricerca e didattiche, ma anche l'amministrazione centrale negli anni ha visto diverse riorganizzazioni di uffici e competenze.

Quando ci si approccia al censimento dei materiali trasferiti in deposito, nell'ottica del loro versamento nell'archivio storico, è dunque importante anche considerare il percorso seguito dalla documentazione prodotta e come è stata trattata negli anni che hanno preceduto i regolamenti interni relativi alla gestione documentale. In tal senso va per esempio capito se istituti e facoltà, alla chiusura delle loro strutture, abbiano trasferito la documentazione all'amministrazione centrale dandola in gestione all'archivio di deposito, oppure se per motivi di continuità amministrativa, le pratiche siano passate alle nuove strutture, o ancora se i documenti trasferiti da istituti chiusi si conservino in qualche stanza nascosta e dimenticata.

Per complicare ulteriormente il quadro di analisi dei fondi storici è anche utile inquadrare l'università sia in quanto soggetto produttore che in quanto soggetto conservatore, e di conseguenza avere chiarezza di quali strutture conservino archivi aggregati e come questi siano arrivati dove sono. È molto comune che docenti, studiosi, associazioni o privati di varia natura donino archivi in loro possesso e decidano di destinarli a specifiche strutture o centri in virtù di un legame, spesso tematico, con i materiali contenuti negli archivi stessi. Si possono quindi trovare archivi di docenti di storia dell'arte donati al Dipartimento di studi umanistici, o archivi di associazioni culturali donati alla biblioteca di Ateneo, e la dislocazione di tutti questi fondi archivistici può costituire una costellazione complicata. Nello svolgimento del progetto si desidera fare chiarezza sulle responsabilità legate ad ognuno di questi fondi e, nel riflettere sulla loro totalità, individuare quali afferiscano all'amministrazione centrale per propria natura amministrativa, e quali alle strutture didattiche o ai centri per via di donazioni esterne, esplicitando questi legami per evitare equivoci.

Queste brevi considerazioni scaturiscono dalle operazioni di censimento generale che hanno come obiettivo la definizione di una guida generale dei fondi storici dell'Università di Udine, e rappresentano una riflessione che l'Università sta di

fatto svolgendo su sé stessa e sul proprio archivio, e che diventerà sempre più articolata considerando non solo gli aspetti legati al censimento, ma anche all'ordinamento, inventariazione e descrizione dei singoli fondi storici. La definizione di un archivio universitario è quindi complessa, e richiede diverse operazioni preliminari utili a ricostruire i tracciati che collegano la storia dell'ente, l'archivio di deposito e l'archivio storico, perché gli adempimenti spettanti per la gestione dei documenti esauriti si va a intrecciare con la complessità di una struttura composita e sempre unica.

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Summary

The present paper intends to investigate the relationship between archives and creators of archival documents in the context of university administrations, observing them both as a producers and as record keepers. Specifically, it aims to observe this relationship in the case of the University of Udine, which is currently involved in a research project structured along two directions: the first intends to detect the historical archival materials produced and acquired by the institution, and the second is focused on the creation of a model for describing the materials identified, also considering how to structure a digitization project and how to present the results on the web.

In the context analyses that were undertaken for this project, several aspects were considered, including the relationship of the University of Udine with the national and local historical context, the development of archive management policies, and the complexity of identifying and defining archival fonds, related to the complexity of the university structure itself.

If observed within the national background, Udine is one of the universities that came into being in the 1970s, during the twenty-year period in which several reforms of the education system brought changes in Italian universities structures. On the other hand, if seen in a more locally focused analysis, the events that led to the birth of the University have a strong correlation with the specific historical, geographical and political context of the Friuli Venezia Giulia area. In fact, local committees and popular interventions played an important role in the university foundation, as well as the relation between local institutions and the University of Trieste, and the peculiar structure of the Regional Body, officially established in 1963 and endowed with managerial peculiarities and administrative autonomy. The study of both these contexts is fundamental, on the one hand because common aspects can be found with other universities born and developed in this national context, and on the other hand because the analysis of the university's documentation cannot be separated from the framing of its historical context.

By analyzing the internal dynamics of document management, we can observe the several aspects that had an influence on the development of administrative structures and on the emergence of specific projects around the university archive governance. Primarily, the participation in national research groups such

as Titulus 97, born with the intention of creating a standard on document management methods and to establish relationships between different universities, led to various positive results such as the creation of document management focused working groups, the revitalized attention on aspects related to record keeping, and the official definition of the institutional archive and the infrastructures intended for its management. After this first phase, other aspects influenced the care around document management, including the autonomy of the office and the presence of internal monitoring committees composed of people with different scientific, administrative and technical skills.

As far as the management of archival material is concerned, we have analyzed the actions carried out over the years by the document management infrastructure, this has led to the identification of a variety of operations performed periodically, including the monitoring of transfers to the deposit archive, the document census operations, the description projects and the procedures of document selection and discard. Ultimately, considering the first results of the latest census made within the historical archive project, a few aspects related to the complexity of the university's archival landscape were examined, also inspecting the various structural changes that may characterize it, whether in response to national reforms or to internal changes.

Typology: 1.01 Original Scientific Research

Robert Parnica[1]

CAN ARCHIVES FEEL? EMOTIONS AND TRAUMA IN ARCHIVES; SOME PROFESSIONAL AND ETHICAL CONSIDERATIONS CONCERNING DESCRIPTION OF EMOTIONAL AND TRAUMA-RELATED ARCHIVAL SOURCES

Abstract

Purpose: *This paper aims to investigate and elaborate on the definition of ‚emotional archival sources.'. Emotional or trauma sources are the notion that some archivists and archival theoreticians have frequently used when dealing with significant violations of Human Rights, war destruction, and massive human suffering. First, the author investigates how the archives and archivists can „feel" the emotional „weight" of those sources and if they can genuinely depict the trauma behind them by using proper and unbiased descriptive terms and expressions. The second level of analysis focuses on the ethical and professional problems of content description in archival praxis and the issues archivist face during their work.*

Method: *The paper reviews available literature and analyzes the descriptions of several archival collections from the institutional archival catalog that raised professional and ethical concerns on bias and objectivity within the archival profession. By comparing diverse emotional sources encapsulating various historical and individual stories, archivists often stay on their own when deciding on ethical and other professional issues. The paper analyzes how emotional sources have multiple personal and societal meanings, as seen through some recent cultural criticism theories.*

Results: *The emotional sources embody disturbing content in text, photos, and moving image materials that temporarily reduce our rational cognition during archival processing, especially description. Emotional and cognitive empathy are explained in the broader context of ethics of care. Archivists describe and label metadata under the impact of emotional content and contextual information, but also archivists themselves are prone to emotional distress and emotional empathy, including secondary trauma.*

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Conclusions: *Emotional sources appear to be challenging to define and describe. Each trauma-related archival collection has a specific historical context requiring adequate descriptive language, terminology, and contextual information, making it difficult for archivists to make the right and long-term professional decisions.*

Keywords*: emotional sources, archival description, affect, emotional and cognitive empathy, secondary trauma, ethics of care,*

GLI ARCHIVI POSSONO SENTIRE? EMOZIONI E TRAUMA NEGLI ARCHIVI; ALCUNE CONSIDERAZIONI PROFESSIONALI ED ETICHE RIGUARDO ALLA DESCRIZIONE DELLE FONTI ARCHIVISTICHE EMOTIVE E RELATIVE AL TRAUMA

Abstract

Scopo: *Questo articolo mira a investigare ed elaborare la definizione di „fonti archivistiche emotive". Le fonti emotive o di trauma sono la nozione che alcuni archivisti e teorici dell'archivistica hanno frequentemente utilizzato quando si tratta di violazioni significative dei Diritti Umani, distruzione in guerra e massiccio dolore umano. In primo luogo, l'autore indaga su come gli archivi e gli archivisti possano „percepire" il „peso" emotivo di queste fonti e se possano realmente rappresentare il trauma che si cela dietro di esse utilizzando termini e espressioni descrittive appropriati e imparziali. Il secondo livello di analisi si concentra sui problemi etici e professionali della descrizione dei contenuti nella prassi archivistica e sulle questioni che gli archivisti affrontano durante il loro lavoro.*

Metodo: *L'articolo esamina la letteratura disponibile e analizza le descrizioni di diverse collezioni archivistiche provenienti dal catalogo archivistico istituzionale che sollevano preoccupazioni professionali ed etiche riguardo al bias e all'obiettività all'interno della professione archivistica. Confrontando diverse fonti emotive che racchiudono varie storie storiche e individuali, gli archivisti spesso si trovano da soli nel decidere su questioni etiche e di altro tipo professionale. L'articolo analizza come le fonti emotive abbiano molteplici significati personali e sociali, come visto attraverso alcune recenti teorie della critica culturale.*

Risultati: *Le fonti emotive incarnano contenuti disturbanti in testi, foto e materiali audiovisivi che riducono temporaneamente la nostra cognizione razionale durante l'elaborazione archivistica, in particolare la descrizione. L'empatia emotiva e cognitiva è spiegata nel contesto più ampio dell'etica della cura. Gli archivisti descrivono e etichettano i metadati sotto l'impatto di contenuti emotivi e informazioni contestuali, ma anche gli archivisti stessi sono soggetti a stress emotivo e empatia emotiva, incluso il trauma secondario.*

Conclusioni: *Le fonti emotive sembrano essere difficili da definire e descrivere. Ogni collezione archivistica correlata al trauma ha un contesto storico specifico che richiede un linguaggio descrittivo adeguato, una terminologia e informazioni contestuali, rendendo difficile per gli archivisti prendere decisioni professionali corrette e a lungo termine.*

Parole chiave: *fonti emotive, descrizione archivistica, affetto, empatia emotiva e cognitiva, trauma secondario, etica della cura.*

ALI ARHIVI ČUTIJO? ČUSTVA IN TRAVMA V ARHIVIH; STROKOVNI IN ETIČNI PREMISLKI V ZVEZI Z OPISOM ARHIVSKIH VIROV, POVEZANIH S ČUSTVENIMI IN TRAVMAMI

Izvleček

Namen: *Namen tega prispevka je raziskati in podrobneje opredeliti definicijo ‚čustvenih arhivskih virov'. Čustveni ali travmatični viri so pojmi, ki so jih nekateri arhivisti in arhivski teoretiki pogosto uporabljali, ko so se ukvarjali s pomembnimi kršitvami človekovih pravic, vojnim uničenjem in ogromnim človeškim trpljenjem. Avtor najprej raziskuje, kako lahko arhivi in arhivisti »začutijo« čustveno »težo« teh virov in ali lahko z ustreznimi in nepristranskimi opisnimi izrazi pristno prikažejo travmo, ki stoji za njimi. Druga raven analize se osredotoča na etične in strokovne probleme opisovanja vsebine v arhivski praksi ter vprašanja, s katerimi se arhivisti srečujejo pri svojem delu.*

Metoda: *Prispevek pregleduje razpoložljivo literaturo in analizira opise več arhivskih zbirk iz institucionalnega arhivskega kataloga, ki so vzbujali strokovne in etične pomisleke o pristranskosti in objektivnosti znotraj arhivske stroke. S*

primerjavo različnih čustvenih virov, ki zaobjemajo različne zgodovinske in individualne zgodbe, arhivisti pri odločanju o etičnih in drugih strokovnih vprašanjih pogosto ostanejo sami. Prispevek analizira, kako lahko imajo čustveni viri več osebnih in družbenih pomenov, kot je razvidno iz nekaterih nedavnih teorij kulturne kritike.

Rezultati: *Čustveni viri utelešajo moteče vsebine v besedilih, fotografijah in materialih gibljivih slik, ki med arhivsko obdelavo, zlasti z opisovanjem, začasno zmanjšajo naše razumsko spoznanje. Čustvena in kognitivna empatija sta razloženi v širšem kontekstu etike skrbi. Arhivisti opisujejo in označujejo metapodatke pod vplivom čustvene vsebine in kontekstualnih informacij, vendar so tudi arhivisti sami nagnjeni k čustvenim stiskam in čustveni empatiji, vključno s sekundarno travmo.*

Sklepi: *Opazimo, da je čustvene vire težko definirati in opisati. Vsaka arhivska zbirka, povezana s travmo, ima poseben zgodovinski kontekst, ki zahteva ustrezen opisni jezik, terminologijo in kontekstualne informacije, kar arhivistom otežuje sprejemanje pravih in dolgoročnih strokovnih odločitev.*

Ključne besede: *čustveni viri, arhivski opis, afekt, čustvena in kognitivna empatija, sekundarna travma, etika skrbi.*

INTRODUCTION

This work analyzes archival materials – textual, moving images, photos, and digital – that embody intense emotional sensations and trauma about past events. They represent an authentic and trustworthy testimony about somebody‘s life trauma that can be used either for a legal battle or writing a historical narration, but for some critical cultural concepts to reflect on the nature of emotional and trauma materials. These materials are essential testimonies and proof of social, ethnic, political, or racial injustice, human rights violations, and human suffering. Besides human rights archives, the traditional archives often hide emotional sources that remain hidden because dominating ideological and intellectual currents were unaware of marginal social groups and those oppressed. Thus, archivists nowadays become aware of hidden voices and their narrators who stay deeply covered under the piles of archival boxes of an official historical narrative of the so-called „colonial“ archives. Recently, some of these materials gradually made critical legal cases and political issues (Thomas & Fowler, 2017; Azoulay, 2019).

Materials that testify to significant human rights violations and human suffering can be perceived in several directions from the archivists‘ and users‘ points of view, as well as those of the archival institutions and critical scholarship with their cultural theories (Nathan et al. 2015). The rise of postmodernism has democratized and pluralized the concepts and views on analyzing and explaining archives and archival work, including their sensitive and trauma-related archival collections. The “affective turn” that emerged in the 1990s introduced debates on emotions and feelings in archival science, which became a legitimate object for scholarly discussion (Cifor, 2016). This led to the introduction of an “ethics of care” that appeared as a strong criticism of the liberal discourse, which found little room for emotions and affect as an object of scientific study. (Larsson, 2020).

The power of emotional sensation encapsulated in the emotional and traumatic source triggers users to imagine the event and deeply co-feel the traumatic situation (past, weather conditions, location, etc.). Such records can act as “autonomous beings living and breathing and performing user’s desires” (Tai et al., 2019, 16.). Today, archivists have adopted the concept of a trauma-informed approach to managing such collections vis-a-vis their researchers and their archivist col-

leagues because trauma is pervasive and affects everyone (Laurent & Wright, 2020). While dealing with the emotional materials, archivists started to recognize a need for support and help due to stress and "secondary trauma." Secondary trauma is a term recognized in some disciplines, and it is manifested by "compassion fatigue or vicarious traumatization (Sloan et al., 2019).

In this work, the author analyzes the emotional materials from the archivist's point of view, vis-a-vis their users, and the descriptive metadata (terminology) they use when dealing with such materials. However, recently, it has also been recognized that archivists could be exposed to secondary trauma because of their professional work when they process, analyze, describe, present, and represent emotional and trauma-related sources (Regehr et al., 2023).

The study is a self-reflexive inquiry into a complex area of emotional and trauma archival materials, chiefly elaborated on through their symbolic and functional meaning. In the first part of this paper, the author reflects on recent literature on the emotions in archives and questions if archivists can capture and justly describe the truth of emotional materials in archival descriptions. The author presupposes considerable tension between professional description and ethical decisions in being a just and neutral actor during the archival processing. However, there is a crucial part of subjective elements that consciously and non-consciously impact archival descriptions, the process during which archivist's ethics could play a significant role. The author further elaborates on the archival praxis of emotions firmly under the impact of modernism and specific cultural concepts such as social justice, radical ethics, affect trauma, imagined records, etc. In the second part of this paper, the author analyzes three archival collections from the Vera and Donald Blinken Open Society Archives in Budapest, containing a considerable quantity and intensity of the affect in selected collections, including some issues concerning their proper content descriptions.

CAN ARCHIVES FEEL? AFFECT AND TRAUMA IN ARCHIVES

Historians and other researchers encountered many emotions in archives, research institutions, museums, and libraries. Since the 1990s, „the affective turn" has been named by scientific and cultural theorists of affect, who found alternatives to the psychoanalytic approach to affect (Cifor & Gilliland, 2015). They

claimed that affect, feelings, and emotions are powerful and legitimate objects of academic research and exist in meaningful connection to each other. While the concept of affect has distinctive meanings in cultural studies, these terms are used interchangeably in different disciplines and professions. Cifor states (Cifor, 2016, 8) that the definition of affect is a force that creates a relationship between the individual or collective body and the world (Lowry, 2019). For Cifor, archives also produce and reproduce both social justice and injustice in their shaping of the past, engagement in the present, and building the future (Cifor, 2016). Thus, for Cifor, affect is the principal component of social justice work and aims. For Shouse, an affect is a non-conscious experience of intensity, a moment of unformed and unstructured potential. „Affect is the body's way of preparing itself for action in a given circumstance by adding a quantitative dimension of intensity to the quality of an experience" (Shouse, 2005). He distinguishes between three terms: *emotions* that are social, *affects* that are pre-personal, and *feelings* that are individual and biographical. It brings us to what kinds of affect and emotions are experienced in archives during archival processing. To what extent do archival sources capture or hold emotions, and what ethical dilemma do they pose for archivists? Gilliland and Cifor stated that archival ethics in this area concern activism in various human rights and community archives (Cifor & Gilliland, 2015). Because of the increased trauma and distress found today in archives and libraries, many archives follow ethical standards to inform their users of possible disturbing content of their collections or books (Russell, 2018; Laurent and Wright, 2020). Finally, it also brings us to the problem of archivists and their handling of emotions and affect.

In many societies, certain social strata, ethnic and national minorities, different races or sexual groups, women, etc., were denied from their histories. They were thus de-legitimized and de-historized by being excluded from the mainstream narrative because there are no visible traces of their existence in archives (Azoulay, 2019). It could happen unconsciously due to the lack of knowledge and social justice, but more often, it happens deliberately and consciously with a hidden agenda (Cook, 2011). As the appraisal of such materials becomes an essential professional and ethical question, the archival description is an equally complex and challenging task. It depends on the archivist's knowledge and moral and ethical

integrity. The terms and words archivists use in their descriptions and metadata attribution always lag new theoretical and philosophical currents that affect archival science. Even recent court decisions at international courts made archival descriptions – old and obsolete.

Archivists have become increasingly self-conscious and aware of their archival practice as essential to societal memory systems. With the change in archival paradigms and the advance of modernism, archivists also had to calibrate their work to a new value system. The notion that the archivist should be an objective curator, passive, and neutral was challenged by the notion of conscious mediator, activism, and subjectivism centered around values (Cook, 2011). T. Cook describes a fundamental problem of assigning values to collections during appraisal. However, he claims that legal norms and moral judgments should be seen as evidence from positivist and objectivist roots, including memory. In contrast, a value set and subjective notion derive from postmodernist philosophical and theoretical currents (Cook, 2011).

This section starts with whether archival descriptions of emotional sources can be „honest" and represent the truth and, in short, if an archivist can be an honest broker in capturing the truth. Even well-intentioned and educated archivists can make mistakes by perpetuating inherent injustice in archival descriptions and writing patronizing and erroneous descriptions (Winn, 2017). There is a complex question that archival science needs to address. Are archivists ready to face their professional practice of institutionalized dehumanizing minorities, including indigenous peoples, Black people, sexual minorities, immigrants, and other war-torn and marginalized communities? Caswell thus focuses on the process by which archivists contribute to the omission or erasure of historically marginalized groups, known as „symbolic annihilation" (Caswell, 2014). Another area that archival science faces is how individual archivists can recognize and reprogram their internal cultural biases when facing hegemonic structures in archives. Azoulay suggests decolonizing professional archival practice by stripping it from its ideological foundations of description (Azoulay, 2019; Winn, 2017).

Finally, the question persists. Should archivists still strive to remain „neutral," using unbiased vocabulary in their descriptions, or should they „feel" and sense the trauma from the emotional sources they describe and thus be more authentic

for the historical narration? There are no satisfactory answers to these questions. Still, archivists should be able to recognize colonial or ideological archival hierarchies and warn their users that some of the collections carry prejudice, ideology, and cultural biases incompatible with our present time.

DESCRIBING EMOTIONAL SOURCES

Describing emotions and emotional sources, we can explain from a professional, theoretical, and symbolic point of view. The author briefly elaborates on the historical phases during which archivists worked, reflecting on their time‘s dominating social, ideological, and philosophical currents. The Enlightenment brought archival descriptions and standards, where an archivist‘s role was to reveal the significance and meaning of the archival records without constructing meanings or narrations through his professional activity by establishing intellectual control over the materials. Under the strong impact of new theoretical thoughts in the post-World War II period up to the 1990s (marked by the latest historical current in the archival description, which focused on archival processes such as archival selection and appraisal), they often questioned notions of traditional descriptions. That saw archival intervention outside the construction of meanings and the exercise of power (Duff & Harris, 2002). Finally, the last decade of the 20th and first two of the 21st centuries brought an emergence of the current, which was the result of „postmodernist“ inquiry into the archival science that completely transformed it from the inside (Ketelaar, 2000; Cook, 2001; Nesmith, 2002; Cook, 2013; Gauld, 2017). Although partly based on the archival selection and appraisal, the new current posed many fundamental questions concerning archival descriptions. Some of them include whether archivists actively construct the meaning and importance of the historical record or question the relation between archival „context“ and „content.“ Could interventions in archival descriptions still reflect inherited power relations? To what extent do archivists have moral and ethical considerations and obligations to embrace those excluded and marginalized voices from mainstream history? Or is an archivist a storyteller, a profession exclusively reserved for historians (Duff & Harris, 2002)? Could archival description be perceived as a form of narration, and how far is it from ideology? Mark Martinezo stated in his address to the 2015 Library Information Technology Associ-

ation forum that archival descriptions and metadata are „another space in which ideology and systematic oppression are likely to be reproduced" (Winn, 2017, 2). Despite existing international, descriptive standards (ISAD(g), RIC, and others), as mentioned above, the question remains open: whether a consistent standardization of archival descriptions for professionals and mainstream history can fully describe the fundamental nature of emotional sources.

Based on historical and practical currents in the archival description, the author briefly reflects on the ‚descriptive architecture' that embraces a way of deconstructing archival descriptions. Archivists strive to preserve the original archival internal and external structure in their professional work. There are two acknowledged archival traditions. The series system derives from the recordkeeping tradition developed in Australia. The system based on record series as an independent element is not bound to the administrative context, dropping out the importance of provenance. However, the second approach is fonds-based tradition, which creates entities based on provenance and original order characteristics of European archival tradition. Thus, provenance protects the sources' evidential value by preserving the acts and deeds of the bodies that create them. Terry Cook suggests that fonds could be seen as an ‚intellectual construct' rather than a ‚physical entity' (Cook, 1992). However, both the fond-based and series system approaches have the same goal of reflecting on the context of recording and preserving the evidential value of archival documents (Duff & Harris, 2002).

Tom Nesmith emphasizes that the description of archival sources can change the record's meaning by making and remaking records through archivists' representations and by uniquely describing them at various times (Nesmith, 2002). There is a specific power to define and transform archival materials derived from different provenance views. Each story that the archivist describes the records, each description they write - significantly changes them.

Before concluding this part, it is also essential to mention the impact of emotional and trauma sources on archival professionals because dealing with evidence of human pain and suffering can cause 'unsettling emotional responses' (Sloan et al., 2019; Regehr et al., 2022). A recent study showed a wide range of reactions and emotions, including shock, sense of deep anger, intrusive thoughts, sadness, disillusion, and despair, which can cause disrupted functioning personally and

in archival work (Regehr et al., 2022). One factor causes increased vulnerability to distress in archival professions dealing with emotional sources, which could relate to emphatic engagement with its two processes: emotional and cognitive. Archivists develop different strategies to combat distress and show resilience, but all this depends on the content, the form it takes, the intensity, the length of exposure, and the degree of individual emotional responses that each person can withstand the pressure.

Further on, archivists exposed to emotional and traumatic records can develop intimate relationships during which personal experiences can be blended into one field of filing and experience (Koss-Chinoino, 2006). Caswell and Cifor introduced a deliberate approach toward emotional empathy, introducing the term "radical empathy," which has the potential to create change. However, at the same time, radical empathy could be dangerous for archivists and archives because they could appropriate the experience of trauma under the mask of empathy (Caswell & Cifor, 2016). Caswell and Cifor distinguish between emotional and cognitive empathy. Cognitive empathy is thus a process during which an emphatic person or archivist can accurately imagine the viewpoint of the oppressed and perceive their pain (Regehr et al., 2022). Both empathies, emotional and cognitive, have implications for the development of stress and trauma behavior in archivists' work with the emotional and trauma materials.

FRAGMENTING ARCHIVAL DESCRIPTIONS

The last decade of the 20th century saw the development of the record continuum (McKemmish et al., 2006) and other theories in which descriptive standards appeared to support the growing online dissemination and exchange of descriptive information (Wood et al., 2014). These are value-added and post hoc descriptions of archival records gathered around the metadata. There is a complexity and interdependence of different forms of metadata because of technological progress that introduced several layers of internal and external metadata (NISO, 2004; Riley, 2017). Metadata helps researchers locate groups of related items from the regular work of one person or corporate body, and it also helps identify and retrieve digital objects. Cultural heritage institutions heavily use descriptive metadata to describe a resource's content better, which allows for finding or understanding it

(Riley, 2017). Archival records earn their trustworthiness according to how they and their metadata adhere to accepted archival principles that ensure they are not manipulated or changed. Record trustworthiness depends on preserving the integrity of its form and content, where proper metadata attribution plays a crucial role (Sternfeld, 2011).

Many academic fields criticized how ‚archival power' has been traditionally exercised. The twenty-first century characterizes the growing need to pluralize, diversify, and activate the archives and archivists supporting social justice and human rights aims (Nathan et al., 2015; Gilliland, 2011). Archival scholars and government officials identified archival descriptions as a critical factor in the oppression, silencing, marginalization, traumatization, and alienation of individuals and entire communities, which remained excluded from mainstream narratives (Wood et al., 2014). Archival descriptions of human rights and social justice perspectives have critical issues, such as the impossibility of separating the record from the politics of its origin and human life.

Value-added archival descriptions are intrinsically connected with archival intervention in contemporary archival practice and archival theory, where ethics plays a significant role. Codes of ethics in archival institutions encourage archivists to be neutral and impartial in their activities so that the public and record creators can trust their institutions and repositories. The Codes of ethics thus established public faith in archives and their activity in society (Dingwall, 2004; Heđbeli, 2008; Semlič Rajh, 2013). The postmodernist turn saw archival neutrality as increasingly problematic and controversial because of its prominent place in building and preserving memory on one side and politics on the other (Gilliland, 2011). However, how can archival descriptions allow for the diversity of hidden voices throughout archival collections to speak out?

When describing records, archivists highlight some relationships, ignore others, remember certain things, and forget or even hide others (Duff & Harris, 2002). Terry Cook emphasized that neutrality and impartiality are no longer acceptable (Cook, 1997). Archivists find it challenging to describe records as unbiased, neutral, or objective because they consciously and unintentionally inject their values into the process. The description, thus, always creates a story, but they tell stories about the stories. However, archival storytelling has its dangers, a power of

the narrative that can privilege one and marginalize the other story to construct knowledge and exercise control. Archival descriptions reflect the values of the archivist who created them.

For this reason, we must document and make visible these biases, assumptions, and interpretations that influence and shape archival descriptions (Duff & Harris, 2002). Archivists‘ biases will always shape and distort the records during description; thus, they must discuss which attributes in documents require greater emphasis and which can be diminished. Despite some voices being silenced, the archivist has an ethical and professional duty to ‚see‘ and recognize these voices and should strive to respect the rights of all voices. Duff and Harris advocate ‚descriptive architectures‘ that archivists need to create as holes that allow in the voices of their users. For this, archivists will identify all distinct types of existing and potential archival users. They also suggest a liberatory rather than oppressive descriptive standard that would encourage archivists to be open to other telling and re-telling competing stories (Duff & Harris, 2002).

Anne Gilliland and Michelle Caswell dealt with individual and collective imaginings about the non-existing or unreachable and absent archive by introducing two relevant concepts: imagined records and impossible archival imaginaries (Gilliland & Caswell, 2016). Both authors introduced the discussion on nature and the role of affect. For archival practice to consider imagined records means taking effect as an essential part of evaluating and describing emotional archival sources. However, Halilovich (2014) described how survivors of the ethnic cleansing and genocide in Bosnia and the Bosnian refugee diaspora perceive the experience of missing personal records and material evidence of their local and communal histories. As refugees at various geographic points, the members of the fragmented community imagine distant spaces in their home places, streets, houses, and the people they used to meet. Although dispersed and separated physically, they created a parallel network of imagined communities that now function – virtually (Halilovich, 2014). The members of those communities mutually helped each other recreate their own ‚emotional‘ archives and preserve memories, reinforcing their ‚erased‘ identities in virtual and real life.

ETHICAL CONCERNS OVER THE IDENTITY OF THE RELIGIOUS COMMUNITY AND THE „PUBLIC GOOD“ - JEHOVAH‘S WITNESSES LEGAL BATTLE FOR THE KUSSEROW FAMILY ARCHIVES

Preserving marginal historical materials and hidden voices is essential for several reasons. However, there is tension when preserving the identity of one marginal group when confronting broader community interests. Social responsibility for the hidden voices in the community has been shown in the ongoing legal case in Germany (Hickley, 2022). Jehovah‘s Witnesses pursued legal action against the German Government to claim the family archive that documents the history of their religious group. The Museum of Military History in Dresden bought the archive from a family member. The archive consists of 31 files of documents, including intimate letters and family photos relating to the Kusserow family, whose members were arrested, imprisoned, and murdered by the Nazi regime, creating thus a body of „emotional archival material.“ Jehovah‘s Witnesses religious group heavily suffered during the Nazi regime when more than 4000 members were imprisoned at Nazi concentration camps where they were given uniforms marked by a purple triangle. One thousand six hundreds of them died. They were the only prisoners who could choose to leave the concentration camp if they signed a declaration and renounced their faith. The legal battle showed two just and equally valid principles and ethical issues concerning privacy, identity, social justice, and public good that the German court needs to resolve. On one side was the Jehovah‘s Witnesses claiming that the Kusserow family‘s possession is crucial for preserving their religious identity as a unique cultural heritage. They claimed the archives to be returned to the central archive of their faith. However, the representatives of the Military Museum are also on the other side of the legal battle. They consider including the objects from the family archive in their museum as ‚considerable value‘ for the museum and the public good. The selected objects testify to and are a forceful reminder that religious freedom and strong beliefs must be defended and fought repeatedly (Hickley, 2022). The legal battle between two approaches toward sensitive and emotional archival materials continues with substantial ethical and moral consequences.

Tai and al. (2019), in their research of communal archival users, found out that some records go far beyond their evidential and informational value and that they perform in “... a myriad of ways – whether in performance of personal or

community identity..." (Tai and al., 2019, 16). Such records can liberate, make visible, and act as agents for their users. For Tai and al., records exhibit agency in materializing individual and collective desire for representation within larger historical narratives (Tai et al., 2019, 16). According to authors, archivists have a responsibility to help fill the silence of archives they work in and to be personally accountable by possessing ethical imperative for inclusion, acceptance, and historical and cultural contributions of those marginalized (Tai et al., 2019, 16).

The case, as mentioned earlier with Jehovah's Witness, illustrates how trauma-related archival materials are essential not only for this marginal group to preserve its religious and cultural identity and preserve a strong bond with its perished members but also for the broader cultural community. Emotional sources thus preserve their memory of the historical trauma relating to the Holocaust. Still, they also became the symbol for protecting the unique religious identity that the community keeps together.

ARCHIVAL DESCRIPTIONS IN BLINKEN OSA – A FEW EXAMPLES

Terminology in archival descriptions is crucial to their affirmation, findability, access, and identity formation. The following part focuses on the comparative analysis of three analog archival collections with their audiovisual materials and their descriptions of emotional materials, which are available in the institutional online catalog of Blinken Open Society Archives.

The methodology applied for this analysis included comparing the most common descriptive terms/names used in the online catalog and the item-level descriptions of their metadata. The author grouped the terms into four units: a. geographical names, b. national and individual names, c. legal and value concepts, and 4. strong expressions and terms associated with war trauma and suffering. Table 1. shows the number and extent of geographical terms that appear in the catalog for two audiovisual Series: Records of the International Human Rights Law Institute Relating to the Conflict in the Former Yugoslavia, series ‚Video Recordings Relating to the conflict in the Former Yugoslavia (HU OSA 304-0-16), and the Records of the International Monitor Institute, Balkan Archives (HU OSA 350-1-1).

The titles and basic content descriptions were inherited as the donor or creator attributed them. In this initial phase, we consult the information provided on the medium (VHS tapes) and the inventory list. The first problem appears when the archivist processes and describes the series. During that phase, additional given names and terms are added within ISAD(g) container-level descriptions relating to its content. During processing and adding new descriptive metadata, numerous professional and ethical problems emerge.

The problems appeared with unknown geographic names and troponins characteristic of the micro-region that are unknown to archivists and whose limited knowledge of the locations relies exclusively on the creators‘ description. In such situations, the archivist does not judge or validate the authenticity of original VHS tapes‘ descriptions but only enters new ones and corrects spelling mistakes. The accurate description of geographical names and their mapping with geolocations could be beneficial for users who want to spot spatial and temporal events.

Table 1: The appearance of geographical names in two collections (HU OSA 304-0-16 and 350-1-1)

GEOGRAPHICAL TERMS	**HU OSA 304 - 0 - 16 237 VHS tapes**	**HU OSA 350 – 1 – 1 1326 VHS tapes**	HU OSA 386-8-3 **Textual**
Bosnia	185	2037	58
Croatia	103	1715	0
Serbia	121	1601	0
Kosovo	32	1207	0
Former Yugoslavia	52	929	0
Sarajevo	115	726	2
Beograd	0	5	0
Zagreb	15	79	0
Dubrovnik	32	49	0
Srebrenica	121	163	21
Prijedor	5	23	0
Vukovar	20	81	0
Omarska	11	62	0

The second group of terms used in archival descriptions are those relating to ethnic, personal, and national names, as shown in Table 2. Those names and geographical names represent the most reliable and acceptable part inherited from the creators‘ descriptions and are genuinely relevant for a successful online

search. Similar problems occur with the personal names of unknown individuals (politicians, military leaders, etc.), sometimes local and marginal, whose information about their role during conflict is difficult to discover and validate.

Table 2: Terms used in descriptions relating to personal, ethnic, and national names (HU OSA 304-0-16 and 350-1-1).

Personal, Religious, and National Names	HU OSA 304 - 0 - 16 237 VHS tapes	HU OSA 350 – 1 – 1 1326 VHS tapes	HU OSA 386-3-8 Textual
Milošević	15	442	0
Karadžić	12	247	0
Mladić	4	129	0
Arkan	13	117	0
Izetbegović	2	74	0
Tuđman	15	186	0
Albanians	40	854	0
Serbs	47	486	0
Muslims	93	142	0
Croats	24	93	0

The third group of terms used for archival descriptions consists of legal and complex value concepts deriving from the content of the VHS, which are prone to subjective judgment, archivists‘ knowledge and understanding of the context, and the collection‘s content. Table 3 illustrates the most used terms and frequency of these two audiovisual collections.

Table 3: Legal and value terms (HU OSA 304-0-16 and 350-1-1).

Legal and value judgment terms	HU OSA 304 - 0 - 16 237 VHS tapes	HU OSA 350 – 1 – 1 1326 VHS tapes	HU OSA 386-3-8 Textual
War	206	1102	10
Refugees	56	590	3
Women	46	236	2
Terror	6	232	0
War crime	32	168	1
Rape	62	161	0
Conflict	23	147	1
War criminals	5	139	0
Trial	8	120	0
Victims	30	117	13
Camps	37	87	2

Mass graves	6	78	2
Ethnic Cleansing	5	50	0
Evidence	12	48	0
Propaganda	6	40	0
Genocide	8	38	1

Finally, the last group of terms represents ‚strong' words associated with trauma and suffering and remains in the archivist's exclusive attribution domain. These terms could contain their own beliefs, biases, and misperceptions but also support sympathy and everything related to emotional empathy when archivists cannot distinguish between emotion and their experience while working with traumatic sources. These acts of naming and describing are frequently unintentional and could result from several factors relating to emotional and cognitive empathy, as well as a lack of relevant information, adequate historical knowledge, or contextual information. Finally, archivists, too, could be under emotional pressure and stress to make descriptions that reflect their subjective views and emotions.

Table 4: Terms - nouns and verbs relating to intense emotions and trauma associated with heavy crime and suffering often subjectively selected by the describer (HU OSA 304-0-16 and 350-1-1).

Trauma, Suffering, and Affect	HU OSA 304 - 0 - 16 237 VHS tapes	HU OSA 350 – 1 – 1 1326 VHS tapes	HU OSA 386-3-8 Textual
Destruction	4	0	1
Shelling	12	54	0
Suffering	7	23	3
Killings	5	51	0
Bombing	1	424	0
Torture	14	42	0
Burning	6	49	0
Slaughter	4	10	0
Help	22	105	2

There is a substantial difference in describing archival materials, which was a product of some new agency or television house that attributed their shootings with terms and concepts they wanted to emphasize. By doing this, they also formed the dominant mainstream paradigm of the conflict. In the most described emotional materials, the producer deliberately cut scenes of trauma and selected

those for public viewing. It meant that they were censored and sanitized by their professional and ethical norms tailored to be acceptable to their viewers. The content of the audiovisual tapes was described by inertia, using inherited terms for valid and trustworthy archival descriptions. However, emotional sources could be sent to archives without contextual and content information. In those cases, an archivist alone must master the knowledge of the content and the context of those materials to describe them adequately.

Different archival institutions own various emotional sources of varying intensity and emotional sensations. They could be systematically produced during organized and planned activities as a product of some TV shooting or appear spontaneously in ad-hoc situations. Most of those materials came from professional mass media houses, which had a final cut in presenting and launching them publicly on television.

The older materials preserved on VHS and other magnetic tapes were always well planned as a part of some broadcasting transmission with the explicit purpose of provoking the reaction of viewers/listeners and impacting their moral and political decisions. However, nowadays, many social media, such as FB, Twitter, Instagram, and others, offer enormous emotional materials: catastrophic situations, devastating urban places, and human pain beyond our imagination. We have witnessed some of these images and short films these days with news arriving from Ukraine where, equally, side-by-side, authentic individual footage is used concurrently by news agencies. Each describes the same problem but has different objectives and agendas for propaganda and disinformation purposes.

PHYSICIANS FOR HUMAN RIGHTS – VIDEO COLLECTION (HU OSA 386-3-8)

The archival funds HU OSA 386 documents three projects run by the Physicians for Human Rights (PHR) in Bosnia-Herzegovina: The Ante Mortem Database Project, the Identification Project, and the Forensic Assistance Project, collectively known as the Bosnia Projects. The records give a detailed insight into the detailed and meticulously performed work PHR carried out to identify the thousands of victims of the war conflict in the former Yugoslavia exhumed from the various mass graves scattered throughout Bosnia and Herzegovina. Materials

include reports, databases, lists, forms, memos, correspondence, handbooks and manuals, newsletters, press releases and clippings, maps, photographs, and videos.

Forensic monitoring and autopsy reports, antemortem interviews, dental and DNA records, and photographs of human remains and personal belongings represent disturbing and emotional historical sources not only for the users directly affected in the war zones but also for the archival users, including archivists. One can closely follow how the exhumations, the identification of the individuals, and the cause and manner of their deaths were meticulously conducted.

The correspondence with the International Commission on Missing Persons, the International Committee of the Red Cross, and the International Criminal Tribunal for the Former Yugoslavia, including several state ministries and their investigation commissions, reveals that evidentiary records of war crimes together with forensic science can help in the conviction of perpetrators. In addition, several files of the collection deal with the psycho-social and traumatic effects of the war on the Bosnian society (Blinken OSA website).

The focus of our study is the audiovisual part of the PHR collection. The 21 videos contain programs and footage on PHR efforts to identify the bodies of those massacred during the genocide in Srebrenica in July 1995. Some of the videos are educational programs explaining the identification project. Physicians for Human Rights hoped to identify victims by combining "postmortem" with "antemortem" data. The videos include an explanation of "postmortem" data or scientific information from the unidentified bodies analyzed by forensic anthropologists. They also highlight the importance of collecting "antemortem" data, which is information on the victims' clothes, lifestyles, etc. Collecting "antemortem" data from relatives requires a team of case managers to manage the process. Some of the videos display the training of case managers and highlight the psycho-social issues that case managers face when confronting families. Other programs include families describing their experiences during the genocide in Srebrenica. These audiovisual materials are a unique testimony of the traumatic experience explained from within the organization by the people directly involved in the exhumation and identification of retrieved bodies. Thus, the videos contain many interviews with representatives and employees of PHR who explain their individual roles in the identification project. Many videos display footage of Srebrenica and the mass graves.

While working in the field throughout Bosnia and Herzegovina, the creator used names, terms, and expressions characteristic for this activity describing legal, forensic, trauma, and empathy expressions (exhumation, identification, human remains, forensic report, DNA database, etc.). Most of these value-added metadata and expressions were inherited from the creator and edited by the persons who preserved them. However, these are professional descriptions conducted under the influence of emotions, trauma, and cognitive empathy.

Table 5: Physicians for Human Rights (PHR) in Bosnia-Herzegovina – Video Collection, four groups of descriptive terms and expressions (metadata) used in the online catalog (HU OSA 386-3-8).

Geographic terms		**No. of mentioning**
	Bosnia	35
	Srebrenica	15
	Sarajevo	2
	Tuzla	2
Personal and national names		
	Muslim	3
	Serbian	0
	Chetniks	1
Legal and value terms		
	Identification	29
	Physicians	16
	Antemortem data	11
	DNA	10
	War	10
	Postmortem data	5
	Forensic	4
	Exhumation	3
	Refugees	3
Emotional and trauma expression		
	bodies	8
	unidentified	7
	victims	7
	killed	6
	sufferings	3
	violence	2
	destruction	1

In the brief analysis of these three collections, we can immediately distinguish some similarities and differences. Fonds 304 and 350 appear to be similar in the audiovisual materials. They use remarkably similar terms for descriptive metadata. They differ in the number of tapes, which is reflected in the number of terms mentioned in the catalog. These two fonds, with their audiovisual materials, describe broader geographical, military, and political contexts, including several conflicting states with geographic terms, including those of personal and national names. Similarities are also noticed in the metadata relating to legal and value-added terms. The fourth group of terms and metadata are closely related to trauma and emotions. Persons describing these materials used vast spectra of 'hard' terms that clearly describe the terror and the trauma. As the metadata and terms were not controlled, each archivist who described them used personal terms and expressions. The danger is that many described sufferings in the collections transform into symbolic if deprived of concrete individuals and their emotions.

However, the first look at HU OSA 386, in Table 5, relating to Physicians for Human Rights and their audiovisual collection, shows that the descriptive metadata shifted the focus from more geographical terms (regions) and issues (war) to more specific (genocide in Srebrenica and mass graves in Bosnia). While in the first two series, we see apparent similarities in descriptive pattern, HU OSA 386 uses specific language and very specialized legal and professional terms, which are narrowly connected with real and bodily sufferings. This series brings us to the next level of granularity when talking about trauma, emotions, and human sufferings that go beyond our rational comprehension. Despite this, archivists and their users must develop approaches to remain immune to the intensity and quantity of human suffering and trauma in archival sources.

CONCLUSION

In many collections scattered among archival boxes and folders, emotions and effects of different intensities and extents deserve our attention, and all this from two perspectives: those of users and those of professional archivists who are daily dealing with emotional records. There are repressed and almost lost voices of others who were neglected or consciously marginalized. As we dig deeper into archival materials and our lenses are calibrated to more sensitive topics, those

of lost voices and traumatized, the unfamiliar emotions start to pop out and leak from folders and their boxes, narrating for themselves. Some emotional materials are a constant source of trauma that deeply disturbs war-torn families and their communities. Unlike many archival materials that change over time by changing interpretations, emotional sources will preserve their unique virtue and stay unchanged for posterity.

The title of this paper poses the question of what archives can ‚feel.' By their very nature, they do so because they contain and preserve human suffering and injustice that has accumulated throughout history. Because of this, historians and others are prone to subjective interpretations, as archivists, too, are prone to fall under emotional empathy and stress. However, the question is whether archivists can be subjective and emotional when dealing with archival descriptions. Moreover, what does that ‚feel' mean for users, victims, historians, and archivists who process and curate emotional sources? These are all legitimate questions that remain without sufficient answers that will constantly test our professional and ethical decisions. This paper is a small effort to raise awareness and consciousness concerning serious archival professional and ethical dilemmas when describing emotional materials.

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Summary

This paper explores the concept of „emotional archival sources," which are often invoked by archivists when addressing significant human rights violations and trauma. The author examines how archives and archivists perceive the emotional weight of these sources and their ability to convey the underlying trauma through unbiased descriptions. The analysis highlights ethical and professional challenges in archival practice, particularly regarding content description. By reviewing existing literature and institutional archival collections, the paper reveals how archivists often navigate ethical dilemmas alone when confronted with emotionally charged materials. It discusses the impact of disturbing content on rational cognition during archival processing and describes how emotional empathy and secondary trauma affect archivists. The study concludes that defining and describing emotional sources is complex, as each trauma-related collection requires careful consideration of historical context and appropriate terminology, complicating long-term professional decision-making.

Typology: 1.01 Original Scientific Article

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UTILIZING ARTIFICIAL INTELLIGENCE IN ARCHIVE MANAGEMENT

Abstract

Purpose: *This research explores the use of artificial intelligence (AI) in archive management, focusing on data analysis, classification, information retrieval, and security enhancement. The study reviews the potential benefits and challenges that institutions face when adopting AI technologies. By examining these aspects, the paper aims to present a comprehensive overview of how AI can enhance the efficiency of archive management and improve the integration between information technology and data management.*

Method: *The research is based on a case study of document and archive institutions utilizing AI applications. The study examines international projects, such as E-ARK, PREFORMA, InterPARES, and ICA-AtoM, which are aimed at preserving electronic records, ensuring authenticity, and developing open-source systems for digital archives. These examples provide a basis for understanding the current and potential uses of AI in archive management.*

Results: *The study identified several key findings. Firstly, AI applications improve operational efficiency, reduce costs, and enhance the customer experience. Secondly, institutions must build employee competencies through training programs to ensure effective and correct use of AI technologies. Thirdly, fostering a culture of innovation is essential, which can be achieved through workshops and educational seminars on AI's role in business. Finally, the study highlighted the importance of knowledge exchange and collaboration between universities and research institutions, as well as the development of international standards to improve system interoperability.*

Discussion: *The study concludes that employing AI technologies in archive management significantly enhances efficiency and reduces the time required for document and information retrieval. Adopting clear strategies for AI integration is essential for the success of these initiatives. Institutions can leverage AI to inno-*

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vate in data organization and retrieval methods, boosting competitiveness and customer satisfaction. Moreover, ongoing research can uncover new AI applications, opening up further opportunities to improve archive management and optimize internal operations.

Keywords: *Artificial Intelligence, Archives, Documents, Retrieval, Digitization*

UTILIZZO DELL'INTELLIGENZA ARTIFICIALE NELLA GESTIONE DEGLI ARCHIVI

Abstract

Scopo: *Questa ricerca esplora l'uso dell'intelligenza artificiale (IA) nella gestione degli archivi, concentrandosi sull'analisi dei dati, la classificazione, il recupero delle informazioni e il miglioramento della sicurezza. Lo studio esamina i potenziali vantaggi e le sfide che le istituzioni devono affrontare quando adottano tecnologie di IA. Esaminando questi aspetti, il documento mira a presentare una panoramica completa di come l'IA può migliorare l'efficienza della gestione degli archivi e migliorare l'integrazione tra tecnologia informatica e gestione dei dati.*

Metodo: *La ricerca si basa su uno studio di caso di istituzioni di documenti e archivi che utilizzano applicazioni di IA. Lo studio esamina progetti internazionali, come E-ARK, PREFORMA, InterPARES e ICA-AtoM, che mirano a preservare i record elettronici, garantire l'autenticità e sviluppare sistemi open source per archivi digitali. Questi esempi forniscono una base per comprendere gli usi attuali e potenziali dell'IA nella gestione degli archivi.Risultati: Lo studio ha identificato diverse scoperte chiave. In primo luogo, le applicazioni di IA migliorano l'efficienza operativa, riducono i costi e migliorano l'esperienza del cliente. In secondo luogo, le istituzioni devono sviluppare le competenze dei dipendenti attraverso programmi di formazione per garantire un uso efficace e corretto delle tecnologie AI. In terzo luogo, è essenziale promuovere una cultura dell'innovazione, che può essere raggiunta attraverso workshop e seminari educativi sul ruolo dell'AI nel business. Infine, lo studio ha evidenziato l'importanza dello scambio di conoscenze e della collaborazione tra università e istituti di ricerca, nonché lo sviluppo di standard internazionali per migliorare l'interoperabilità del sistema.*

Discussione: *lo studio conclude che l'impiego di tecnologie AI nella gestione degli archivi migliora significativamente l'efficienza e riduce il tempo necessario per il recupero di documenti e informazioni. L'adozione di strategie chiare per l'integrazione dell'AI è essenziale per il successo di queste iniziative. Le istituzioni possono sfruttare l'AI per innovare nell'organizzazione dei dati e nei metodi di recupero, aumentando la competitività e la soddisfazione del cliente. Inoltre, la ricerca in corso può scoprire nuove applicazioni AI, aprendo ulteriori opportunità per migliorare la gestione degli archivi e ottimizzare le operazioni interne.*

Parole chiave: *Intelligenza artificiale, Archivi, Documenti, Recupero, Digitalizzazione*

UPORABA UMETNE INTELIGENCE PRI UPRAVLJANJU ARHIVOV

Izvleček

Namen: *Ta raziskava raziskuje uporabo umetne inteligence (AI) pri upravljanju arhivov, pri čemer se osredotoča na analizo podatkov, klasifikacijo, iskanje informacij in izboljšanje varnosti. Študija obravnava možne koristi in izzive, s katerimi se srečujejo institucije pri sprejemanju tehnologij umetne inteligence. S preučevanjem teh vidikov želi prispevek predstaviti celovit pregled, kako lahko umetna inteligenca poveča učinkovitost upravljanja arhivov in izboljša integracijo med informacijsko tehnologijo in upravljanjem podatkov.*

Metoda: *Raziskava temelji na študiji primera zapisov in arhivskih ustanov, ki uporabljajo aplikacije AI. Študija obravnava mednarodne projekte, kot so E-ARK, PREFORMA, InterPARES in ICA-AtoM, ki so namenjeni ohranjanju elektronskih zapisov, zagotavljanju avtentičnosti in razvoju odprtokodnih sistemov za digitalne arhive. Ti primeri zagotavljajo osnovo za razumevanje trenutne in potencialne uporabe umetne inteligence pri upravljanju arhivov.*

Rezultati: *Študija je opredelila več ključnih ugotovitev. Prvič, aplikacije AI izboljšajo operativno učinkovitost, zmanjšajo stroške in izboljšajo uporabniško izkušnjo. Drugič, institucije morajo graditi kompetence zaposlenih s programi usposabljanja, da zagotovijo učinkovito in pravilno uporabo tehnologij umetne inteligence. Tretjič, bistveno je spodbujanje kulture inovacij, kar je mogoče*

doseči z delavnicami in izobraževalnimi seminarji o vlogi umetne inteligence v poslovanju. Končno je študija poudarila pomen izmenjave znanja in sodelovanja med univerzami in raziskovalnimi ustanovami ter razvoj mednarodnih standardov za izboljšanje interoperabilnosti sistemov.

Razprava: *Študija ugotavlja, da uporaba tehnologij umetne inteligence pri upravljanju arhivov bistveno poveča učinkovitost in skrajša čas, potreben za zapise in iskanje informacij. Sprejetje jasnih strategij za integracijo umetne inteligence je bistvenega pomena za uspeh teh pobud. Institucije lahko izkoristijo umetno inteligenco za inovacije pri organizaciji podatkov in metodah iskanja, s čimer povečajo konkurenčnost in zadovoljstvo strank. Poleg tega lahko tekoče raziskave odkrijejo nove aplikacije umetne inteligence, kar odpira dodatne priložnosti za izboljšanje upravljanja arhivov in optimizacijo notranjih operacij.*

Ključne besede: *umetna inteligenca, arhivi, zapisi, iskanje, digitalizacija.*

INTRODUCTION

Archive management is a fundamental element that contributes to the organization and preservation of documents in various forms within institutions. Archives represent the historical record of an institution and its operations, necessitating the development of effective strategies for their management. With the increasing volume of data generated daily, the challenges facing archive management have become more complex. In recent years, the use of artificial intelligence (AI) technologies has begun to transform many fields, significantly altering how documents are processed and managed. AI is defined as a set of systems and technologies designed to simulate human cognitive processes, enabling machines to perform tasks that previously required human intervention.

This research paper addresses the application of artificial intelligence in archive management, from data analysis and classification to information retrieval and security enhancement. It reviews the potential benefits and the challenges that institutions may face in adopting these technologies. Through this analysis, we aim to provide a comprehensive overview of how to enhance archive management efficiency using artificial intelligence, contributing to better integration between information technology and document management.

The paper aims to offer strategic recommendations for institutions looking to employ artificial intelligence technologies in their archive collections, thereby enhancing their competitive edge and facilitating access to essential information.

1. DEFINITION OF ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) is a branch of computer science aimed at creating systems capable of simulating human intelligence. AI involves the development of programs and applications that can learn, think, solve problems, and interact with users in an easy and accessible manner. (Russell & Norvig, 2020).

The types of artificial intelligence are classified as follow:

- **Narrow Artificial Intelligence (Weak AI)**

Also known as limited artificial intelligence, it refers to systems with specific capabilities dedicated to a single task or a limited set of tasks. For example,

machine translation applications and voice assistants like Siri and Google Assistant.

- **General Artificial Intelligence (Strong AI)**

Also known as strong artificial intelligence, it refers to systems that possess the ability to understand and learn any intellectual task that humans can perform. Currently, no systems possess this type of intelligence, but it remains a long-term goal in artificial intelligence research.

- **Super intelligent AI**

This type refers to systems that surpass human intelligence in all aspects, including creative thinking, problem solving, and motor skills. This type of artificial intelligence is currently a theoretical concept and is considered a future goal in AI research (Brown, 2022).

- **Reactive Artificial Intelligence (Reactive AI)**

These systems are capable of responding to current situations without retaining memories or experiences. An example of this is chess systems that determine the optimal move based solely on the current state.

- **Limited Memory Artificial Intelligence (Limited Memory AI)**

This refers to systems that can use past data to improve their decisions. Self-driving cars are an example of this type, as they benefit from data from previous trips.

- **Theory of Mind Artificial Intelligence (Theory of Mind AI)**

This type of artificial intelligence can understand human emotions and intentions. It is still in the research and development phase.

Artificial intelligence is a broad and multi-dimensional field that includes various types of systems, each designed to perform specific tasks. This field continues to evolve and it is opening new horizons for improving human performance and increasing efficiency across different industries.

2. GENERAL APPLICATIONS OF ARTIFICIAL INTELLIGENCE

The applications of artificial intelligence are diverse and span various sectors, contributing to improved performance and enhanced efficiency.

These applications are part of the ongoing technological transformation that affect our daily lives and business operations.

- **Healthcare**

Artificial intelligence is used to analyze medical images such as X-rays and MRIs to diagnose diseases with higher accuracy. It also helps accelerate the drug development process by analyzing big data and using computational modeling.

- **Self-Driving Cars**

They rely on artificial intelligence to analyze data from sensors and cameras to navigate the vehicle and sense the surrounding environment, providing a safe and efficient driving experience.

- **Virtual Assistants**

Examples like Siri and Alexa use natural language processing techniques to understand voice commands interact with users, making it easier to access information, and perform routine tasks.

- **Big Data Analysis**

It is used to analyze large volumes of data quickly, helping companies make data-driven decisions and understand market trends.

- **Personalized Marketing**

AI provides tools to analyze customer behavior and preferences, enabling companies to tailor marketing campaigns and increase advertisement efficiency.

- **Cybersecurity**

It is used in network monitoring and proactive threat detection by analyzing abnormal behavior patterns. (Johnson, 2021).

3. APPLICATIONS OF ARTIFICIAL INTELLIGENCE IN ARCHIVE MANAGEMENT

The applications of artificial intelligence in archive management serve as a vital tool for enhancing efficiency, speeding up processes, and increasing security. From data analysis to automatic classification and information retrieval, artificial intelligence contributes to improving archive management and enhances institutions‘ ability to handle data efficiently and effectively.

3.1. DATA ANALYSIS

Data analysis in archive management involves several key steps aimed at extracting valuable information from large volumes of stored data. AI relies on advanced techniques to achieve this goal.

Data analysis includes the following:

- **Data Aggregation:** Data is collected from multiple sources, including paper records, digital files, emails, and social media.
- **Data Cleaning:** This involves processing and removing any incorrect or duplicate data, as well as identifying and analyzing errors.
- **Exploratory Data Analysis:** This includes using analytical tools to answer specific questions about the data, such as understanding patterns and trends.
- **Predictive Analytics:** By using historical data, future trends can be predicted. This is used to improve archiving strategies and information management. (Brown & Williams, 2022).

3.2. MACHINE LEARNING ALGORITHMS USED IN ARCHIVING

- **Linear Regression**

Used to analyze the relationship between two variables. In archiving, it can be used to predict the number of new documents based on historical data.

- **Decision Tree**

Useful for document classification. It is used to create a model that indicates how decisions are made based on certain data attributes.

- **Incomplete Support (Support Vector Machines)**

Utilized effectively in document classification, relying on delineating boundaries between diverse sets of data.

- **Neural Networks**

Highly suitable for processing complex data. They are employed for precise document and text classification and analysis, ensuring document content retrieval.

- **Cluster-Based Algorithms (Clustering Algorithms)**

Like K-Means, they are used to group similar data together. In archives, they can be utilized to cluster documents based on their content or properties. (Garcia & Lee, 2024).

3.3. PRACTICAL APPLICATIONS

- **Intelligent Classification**

Algorithms such as decision trees and neural networks are used for automatic document classification, facilitating information retrieval through:

- Model Training: A pre-classified dataset is utilized to train machine-learning models to recognize studied patterns and features.
- Algorithm Application: Algorithms like decision trees and neural networks are employed to streamline the classification process based on established features.

Examples of intelligent classification systems include IBM Watson: employing machine learning to analyze archives and classify information accurately, aiding organizations in swift data retrieval. Google Cloud AutoML: enabling users to create custom models for document classification, with machine learning techniques tailored to individual needs. (Johnson, 2021).

- **Enhancing Search and Information Retrieval:**

Integral to archive management, documents must be easily accessible through natural language processing (NLP) techniques utilized to enhance information retrieval accuracy based on user queries. For instance:

- Text Analysis: Natural language processing techniques are utilized to analyze and comprehend texts better, aiding in guiding user queries. (Manning & Schütze, 1999).
- Advanced Text Retrieval: Machine-learning algorithms can be used to enhance the quality of search results by improving the match between user queries and available information.

- **Optical Character Recognition (OCR)**

Artificial intelligence is used to convert paper documents into digital texts that can be analyzed and classified.

- **Big Data Analysis**

Artificial intelligence aids in efficiently, and rapidly analyzing large amounts of data, enhancing archive management effectiveness.

- **Handling Complex Queries**

Question-Answer Systems (Q&A Systems): Used to provide instant answers to complex queries by analyzing the context of the question.

Interpretation and Classification: NLP techniques can be used to interpret complex queries and analyze their components, aiding in guiding users to the correct information (AI Alignment Forum, 2019).

3.4. THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING ARCHIVE SECURITY

Artificial intelligence plays an increasingly important role in enhancing archive security. By utilizing techniques such as machine learning and big data analysis, artificial intelligence can rapidly and effectively detect cybersecurity threats, identify malware, and manage security vulnerabilities. Additionally, artificial intelligence helps in improving and continuously updating security policies, ensuring better protection for vital and confidential documents in archives. These technologies make archiving more secure and prepared to face growing threats in the digital world through various means, including:

- **Threat Detection**

Where artificial intelligence can analyze unusual behaviors in systems and networks, aiding in proactively, quickly, and effectively detecting cybersecurity threats (Ahmed, 2023).

- **Malware Detection**

Artificial intelligence utilizes machine-learning techniques to analyze program behaviors and identify malware, aiding in preventing cyber-attacks before they occur. (Mohammed, 2021).

- **Vulnerability Management**

Artificial intelligence can quickly assess systems and pinpoint weaknesses, assisting in designing proactive systems to manage security vulnerabilities in archival institutions (Ali, 2022).

- **Big Data Analysis**

Artificial intelligence analyzes massive amounts of data to identify the timing and location of potential attacks, providing a rapid and effective response.

Risk analysis is achieved with machine learning algorithms to identify abnormal behavioral patterns that may indicate cyber-attacks (Brown, 2022).

- **Intelligent Encryption:**

Artificial intelligence techniques are used to enhance smart data encryption algorithms for protecting archives in various ways, including:

- Automatic Encryption: Artificial intelligence can analyze data and determine the best encryption methods based on data sensitivity and type, ensuring effective and rapid protection. (Johnson, 2021).
- Advanced Encryption: Artificial intelligence employs advanced encryption techniques such as quantum encryption and neural network-based encryption, increasing the difficulty of decryption by unauthorized parties. (Smith, 2020).
- **Threat Detection and Risk Mitigation Techniques**
- Risk Analysis: This is achieved through the use of machine learning algorithms to identify abnormal behavioral patterns that may indicate cyber attacks.
- Rapid Response System: Artificial intelligence is used to monitor and analyze events instantly, helping organizations take swift action to minimize damages (Davis, 2019).

4. BENEFITS OF EMPLOYING ARTIFICIAL INTELLIGENCE IN DOCUMENT AND ARCHIVE MANAGEMENT

In an era of increasing data volume and complexity of systems and administrative processes, document and archive management has become a significant challenge in organizing, preserving, and retrieving documents effectively. This necessitates innovative and effective solutions to ensure smooth and accurate workflow. Here, the role of artificial intelligence technology emerges as a modern and efficient means to improve document and archive management processes. There are benefits that can be provided by employing artificial intelligence techniques in document and archive management, ranging from document classification to strategic data analysis and ensuring security and privacy, which play a crucial role in enhancing organizational performance. Some of the key benefits include:

4.1. ENHANCING EFFICIENCY AND REDUCING TIME REQUIRED FOR DOCUMENT AND ARCHIVE MANAGEMENT

- **Process Automation**

Artificial intelligence contributes to automating routine tasks such as data entry, error checking, and document organization. This reduces the administrative burden on employees, saving their time to focus on more complex and creative tasks.

- **Speed in Processing**

Smart systems work to process and analyze massive amounts of data faster than humans analyze. This leads to quicker retrieval of documents and information, enhancing decision-making speed (Sorbonne University Abu Dhabi, 2023).

- **Rapid Access to Documents and Archives**

By improving search and classification strategies, artificial intelligence facilitates quick access to required information, enhancing operational efficiency within organizations.

4.2. INCREASING ACCURACY IN RETRIEVAL AND CLASSIFICATION

- **Advanced Data Analysis**

Machine learning algorithms contribute to improving the accuracy of document retrieval by analyzing data deeply; reducing errors associated with manual classification processes.

- **Self-Learning**

Artificial intelligence systems continually evolve through learning from new data. This means that their accuracy in classification and document retrieval improves over time, reducing random chaos and disorganization in archives. (Garcia & Lee, 2024).

- **Natural Language Processing (NLP)**

NLP techniques help in better understanding human queries. This enhances response accuracy and avoids any confusion or misunderstanding in the retrieved documents.

4.3. COST SAVINGS AND WORKFORCE RESOURCES

- **Operational Cost Savings:**

By automating many document management tasks, artificial intelligence reduces the need for human hands in certain administrative functions. This leads to a re-

duction in costs associated with human resources, allowing institutions to invest their resources in other areas. (Vogelsang, 2021).

- **Increased Productivity:**

Improving efficiency and reducing the time needed to complete tasks means that institutions can accomplish more work in the same amount of time, leading to increased productivity and reduced overall costs.

In conclusion, employing artificial intelligence in information management represents a qualitative shift in how data is processed and organized. From improving efficiency and reducing time spent, to increasing accuracy in retrieval and classification, and saving costs and workforce resources, the benefits of artificial intelligence significantly contribute to enhancing organizational performance and work effectiveness.

5. CHALLENGES ASSOCIATED WITH EMPLOYING ARTIFICIAL INTELLIGENCE

The process of employing artificial intelligence in organizations is a strategic step, but it comes with a number of challenges that must be overcome to ensure the success of this technology. Here are the key challenges associated with employing artificial intelligence:

5.1. INITIAL COST OF INVESTING IN AI TECHNOLOGIES

- **Development and Implementation Costs**

AI technologies require investment in advanced software and high-capacity hardware, which can be costly in the initial stages. Companies also need to enlist specialized consultants to plan and develop AI deployment strategies, increasing costs.

- **Maintenance Costs**

Smart systems require regular updates to keep up with technological advancements and evolving needs, necessitating additional investment.

5.2.DATA PREPARATION AND QUALITY ASSURANCE

- **Data Collection and Source Diversity:**

Data comes from various sources such as paper records, databases, and social media, requiring it to be transformed into a unified format, which can be a complex process.

- **Data Cleaning and Noise Removal:**

AI data needs cleaning to help improve model accuracy. This process requires significant time, effort, and the use of specialized tools.

- **Data Protection, Compliance, and Standards**:

Organizations must ensure data compliance with privacy standards, data protection, as well as avoiding bias and racism, complicating the process and increasing legal burdens.

5.3. NEED FOR EMPLOYEE AND USER TRAINING

- **Skill Development and Technical Training:**

Employees need training programs to learn how to interact effectively with AI technologies. This requires time and resources, posing a challenge for organizations.

- **Organizational Culture Change:**

Employing AI requires a change in the work culture within the organization, necessitating everyone‘s involvement, from senior management to employees, in these changes.

- **Change Management:**

There might be resistance from employees towards adopting new systems, requiring effective communication strategies for change management and collaboration.

In conclusion, despite the potential benefits of employing artificial intelligence, organizations face challenges related to initial costs, data quality assurance, and employee training. Overcoming these challenges is necessary to maximize the benefits of artificial intelligence and increase efficiency in the work environment. Through thoughtful strategies and investment in training and preparation, organizations can overcome these difficulties and embrace a future marked by artificial intelligence.

6. MODELS FOR EMPLOYING ARTIFICIAL INTELLIGENCE IN INTERNATIONAL DOCUMENT AND ARCHIVE MANAGEMENT

In light of the rapid development of digital technology, document and archive management has become one of the vital fields that greatly benefit from international experiences. International collaboration in this field enables the exchange of knowledge and expertise among countries and institutions, contributing to the

enhancement of efficiency and quality in document management. By adopting international standards and participating in joint research projects, significant progress in this field can be achieved (Al-Azhar University, 2023).

International experiences encompass numerous projects and initiatives aimed at developing new technologies and improving current applications. For example, European Union projects like E-ARK and PREFORMA focus on developing integrated digital archiving solutions and tools for verifying the authenticity of digital files. These projects contribute to improving efficiency and accuracy in document management, ensuring the quality and long-term protection of digital files (National Center for Documents and Archives, 2023).

Additionally, there are other international projects such as InterPARES, and ICA-AtoM that aim to study how to preserve electronic records, ensure their authenticity, and develop open-source systems for managing digital archives. These projects enhance international cooperation and contribute to the exchange of ideas and solutions among experts and practitioners in this field.

By leveraging these international experiences and projects, significant improvements can be made in document and archive management, leading to greater benefits and reducing the challenges associated with this technology.

Leveraging these projects can significantly enhance document and archive management using artificial intelligence through knowledge exchange, common standards development, and participation in joint projects, leading to substantial benefits and reducing challenges associated with this technology.

6.1. E-ARK PROJECT (EUROPEAN ARCHIVAL RECORDS AND KNOWLEDGE PRESERVATION)

Objective: Develop integrated digital archiving solutions for use by governmental and private institutions to enhance document and archive management.

Technologies Used: The project involves the use of artificial intelligence techniques for big data analysis, process automation, and improving document accessibility.

Benefits: Improve efficiency and accuracy in document management, reduce time and effort required, and facilitate quick and accurate access to required information.

6.2. PREFORMA PROJECT (PRESERVATION FORMATS FOR CULTURE INFORMATION/E-ARCHIVES)

Objective: Develop tools for validating the authenticity of digital files and ensuring their compliance with international standards.

Technologies Used: The project includes the use of artificial intelligence techniques for analyzing and verifying the quality of digital files.

Benefits: Ensure the quality and long-term preservation of digital files, and improve compatibility between different system.

6.3. INTERPARES PROJECT (INTERNATIONAL RESEARCH ON PERMANENT AUTHENTIC RECORDS IN ELECTRONIC SYSTEMS)

Objective: Study how to preserve electronic records permanently and ensure their authenticity.

Technologies Used: The project involves the use of artificial intelligence techniques to analyze electronic records and guarantee their authenticity.

Benefits: Improve the preservation of electronic records and ensure their authenticity in the long term.

6.4. ICA-ATOM PROJECT (INTERNATIONAL COUNCIL ON ARCHIVES - ACCESS TO MEMORY)

Objective: Develop an open-source system for managing digital archives.

Technologies Used: The project includes using artificial intelligence techniques to enhance access to and management of digital archives.

Benefits: Improve access to and efficient management of digital archives, and provide an open-source system usable by various institutions.

7. FUTURE DIRECTIONS

The future directions for using artificial intelligence in archives reflect technological advancements and the challenges that institutions may face in information management. Here are some prominent trends that may impact this field in the future:

Developing NLP Techniques: Enhancing Natural Language Processing (NLP) techniques to better understand and analyze texts in multiple languages and more complex ways. This will improve search quality, information retrieval, and the ability to deal with diverse texts and languages in archives (Gartner, 2022).

- Improving Deep Learning Algorithms: Enhancing deep learning algorithms to increase the accuracy of pattern recognition in texts, images, and videos. This will contribute to improving document classification, visual content analysis, and recognizing unfamiliar patterns in archives.
- Utilizing AR and VR Technologies: Using Augmented Reality (AR) and Virtual Reality (VR) technologies to create interactive experiences with archives, such as displaying documents in three-dimensional environments. This will enable users to explore archives in new and interactive ways, enhancing the information access experience (Smith & Johnson, 2023).
- Expanding Software Robotics: Expanding the use of software robots to automate more routine processes in archive management. This will reduce administrative burdens, increase efficiency, and minimize human errors in operations.
- Advancing AI Solutions for Security: Developing advanced artificial intelligence solutions to detect security threats and enhance data protection. These solutions will help secure archives against electronic threats and protect sensitive data.
- Predictive Analysis for Future Needs: Using predictive analysis to anticipate future archive needs and improve future data management. This enables data-driven strategic decision-making for resource planning and effectively updating archives.
- Enhancing User Interfaces with AI: Improving user interfaces using artificial intelligence to provide a more intelligent and interactive experience. These interfaces will facilitate user interaction with archives, making information access easier and more efficient.
- Integrating AI with Cloud Computing: Integrating artificial intelligence techniques with cloud computing to improve scalability and flexibility in archive management. This allows data access from anywhere at any time, with the potential to enhance performance and dynamically manage storage.
- Developing AI Tools for Data Quality: Developing artificial intelligence tools to enhance data quality and remove duplicate or inaccurate data. These tools will help ensure the accuracy and efficiency of digital archives, making them more reliable.

- Expanding AI Use in International Archives: Broadening the scope of artificial intelligence use in international archives to enhance cross-border collaboration and information exchange. This will strengthen global information exchange and contribute to preserving cultural and historical documents across countries.

8. RECOMMENDATIONS

Artificial intelligence technologies are modern tools that can bring about significant transformations in organizational performance. However, to ensure the effective implementation of these technologies, specific strategies are recommended as follow:

A- Implementing Artificial Intelligence Effectively by:

- Defining goals to be achieved through AI applications, such as improving operational efficiency, cost reduction, or enhancing customer experience.
- Evaluating available data and identifying weaknesses. Ensuring high-quality and sufficient data for training AI models.
- Choosing the most suitable technical solutions for specific needs, whether machine learning systems, natural language processing, or advanced data analytics.
- Testing models and initiating small pilot projects before implementing larger applications. This helps in understanding how systems work and tuning them for performance improvement.
- Monitoring results, tracking system performance, and regularly evaluating outcomes to ensure the achievement of set goals and making necessary adjustments.

B-Adopting Training and Support Strategies for Users:

- Building employees‘ competencies in organizations by providing comprehensive training programs for users to ensure their understanding of how to use AI technologies correctly and effectively.
- Providing continuous support by establishing technical support units to help employees overcome challenges and issues they may face while using these technologies.
- Promoting a culture of innovation and encouraging employees to explore and use AI technologies in their daily tasks, interacting with them to enhance creativity and productivity.

- Effective communication with employees transparently about the benefits of AI and its impact on their roles, helping to reduce resistance.

C-Enhancing Cultural Transformation:

- Creating a stimulating environment and fostering a culture of innovation by organizing workshops and educational seminars on AI technologies and their role in business operations.
- Evaluating the leadership role in organizations to support digital transformation and change management, guiding teams towards adopting AI technologies and stimulating innovation.

D-International Collaboration:

- Knowledge and experience exchange through attending international conferences and seminars can provide opportunities for knowledge sharing among different countries and institutions. Collaboration between universities and research institutions can contribute to developing new technologies and improving current applications.
- Developing and adopting international standards for document and archive management can improve compatibility between different systems. Establishing unified security and privacy procedures ensures the protection of sensitive data.
- Implementing joint research projects can contribute to developing innovative solutions for document and archive management problems. Conducting joint field experiments can help test and evaluate the effectiveness of new technologies in different environments.
- Organizing international training programs can help build employees‘ capabilities and improve their skills in using AI technologies. Holding joint workshops can facilitate the exchange of ideas and solutions among experts and practitioners.

9. CONCLUSION

The key findings of this research demonstrate the importance of employing artificial intelligence technologies in archive management, contributing to enhancing efficiency and reducing the time required for information retrieval and document access. Adopting clear strategies for leveraging artificial intelligence, including employee training and ensuring data quality, is a crucial step for the success of these initiatives.

The significance of innovation in archive management reflects the necessity of responding to the growing challenges in the information world characterized by rapid change. Innovation enables organizations to improve data organization and retrieval methods, enhancing their competitiveness and increasing customer satisfaction.

Regarding the future vision of research related to artificial intelligence in this field, studies are expected to focus on developing more advanced techniques for big data analysis and providing customized solutions to better meet archive needs. Research can also explore new applications of artificial intelligence, such as self-learning and sentiment analysis, opening new horizons for improving archive management and enhancing the effectiveness of internal processes. With these innovations, organizations will be able to achieve greater success in the era of digital information, And finally, from this research paper, we can conclude the following

- The deployment of artificial intelligence enhances information management efficiency by automating many routine tasks, reducing the time spent on data retrieval and classification.
- Using artificial intelligence algorithms increases data retrieval accuracy by improving analysis and classification processes, leading to error reduction and increased reliability of retrieved documents and information.
- Artificial intelligence techniques provide sustainable solutions by reducing operational costs and human resources, contributing to enhancing the competitive capacity of institutions.
- Training and support strategies for users are crucial factors for the success of artificial intelligence applications, requiring employee training in effectively using these technologies.
- Identifying application challenges such as initial investment costs, data quality assurance, change resistance, and effective management is essential.
- Innovation is a fundamental element in improving archives management, helping meet the growing needs of the information field.
- Further research is needed to explore new applications of artificial intelligence in archives management, providing opportunities for performance improvement and increased efficiency.

- International collaboration significantly contributes to enhancing the use of artificial intelligence in document and archives management, leading to greater benefits and reducing associated challenges with this technology.

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Summary

Archival management is a fundamental element that contributes to the organization and preservation of documents in various forms within institutions. Archives represent the historical record of an institution and its operations, necessitating the development of effective management strategies. With the increasing volume of data generated daily, the challenges facing archival management have become more complex. In recent years, the use of artificial intelligence (AI) technologies has begun to transform many fields, significantly altering how documents are processed and managed. AI is defined as a set of systems and technologies aimed at simulating human cognitive processes, enabling machines to perform tasks that previously required human intervention. The topic holds theoretical significance in identifying the strategies available to decision-makers to address the challenges in the use of artificial intelligence (AI) in document and archive management. It also involves understanding the principles and regulations that underpin these strategies, as well as evaluating the tools and scientific experiments and their effectiveness in archival institutions. The added value achieved in facilitating tasks and completing them more efficiently is also considered. The practical importance of this study lies in enabling practitioners and decision-makers to test the capability of AI technologies to transform and develop administrative practices in document and archive management, and to understand the real potential of this field.

The study aims to elucidate the importance of employing artificial intelligence (AI) technologies in enhancing the efficiency and development of document and archive management. It seeks to determine the success of AI technologies in improving the accuracy, efficiency, and speed of document and archive management, and to what extent AI policies have supported functional performance. Additionally, the researcher aims to uncover the scientific, technical, and procedural aspects necessary for achieving administrative development that aligns with the institutions' vision and aspirations. The study's objectives include: Highlighting the elements and components of artificial intelligence; Identifying methods for employing processes, tools, and technical procedures related to document and archive management through AI technologies; Exploring future trends in document and archive management using AI technologies. The research paper relies

on a case study approach to examine the status of document and archive institutions when using artificial intelligence (AI) applications. It highlights various international projects and experiments aimed at developing new technologies and improving current applications. The study seeks to gain a comprehensive understanding of the reality of document management and the extent to which AI employment contributes to enhancing archival work. The qualitative data analysis method included thematic analysis.

Artificial intelligence (AI) is a broad and multi-dimensional field that encompasses various types of systems, each designed to perform specific tasks. This field continues to evolve, opening new horizons for improving human performance and increasing efficiency across different industries. AI applications are diverse and span various sectors, contributing to enhanced performance and efficiency. These applications are part of the ongoing technological transformation that impacts our daily lives and business operations. AI applications in archive management serve as a vital tool for enhancing efficiency, accelerating processes, and increasing security. From data analysis to automatic classification and information retrieval, AI contributes to improving archive management and enhances institutions' ability to handle data efficiently and effectively. Employing AI in document and archive management represents a qualitative shift in how data is processed and organized. From improving efficiency and reducing time consumption to increasing retrieval and classification accuracy, and saving costs and resources, AI benefits significantly enhance institutional performance and work effectiveness. Despite the potential benefits of employing AI, institutions face several challenges related to initial costs, ensuring data quality, and employee training. Overcoming these challenges is essential to maximize the benefits of AI and increase efficiency in the work environment. Through well-thought-out strategies and investment in training and preparation, institutions can overcome these difficulties and embrace a future driven by AI. Leveraging these projects can significantly improve document and archive management using AI by sharing knowledge, developing common standards, and participating in joint projects; substantial benefits can be achieved, and challenges associated with this technology can be reduced. Future trends in using AI in archives reflect technological developments and the challenges that institutions may face in information management.

Artificial intelligence (AI) technologies are modern tools that can significantly transform institutional performance. However, to ensure their effective implementation, specific strategic recommendations must be followed:

- *Selecting the most suitable technical solutions for specific needs, whether they are machine learning systems, natural language processing, or advanced data analytics.*
- *Monitoring results and tracking system performance, and periodically evaluating outcomes to ensure the achievement of set goals and making necessary adjustments.*
- *Building employee competencies within institutions by providing comprehensive training programs to users, ensuring they understand how to use AI technologies correctly and effectively.*
- *Creating a stimulating environment and fostering a culture of innovation by organizing workshops and educational seminars on AI technologies and their role in business.*
- *Assessing the role of leadership in institutions to support digital transformation and change management, guiding teams towards adopting AI technologies and encouraging innovation.*
- *Sharing knowledge and experiences by attending international conferences and seminars, which provide opportunities for knowledge exchange and experience sharing between different countries and institutions. Collaboration between universities and research institutions can contribute to developing new technologies and improving current applications.*

Typology: 1.04 Professional Article

VARIE /MISCELLANEOUS/ RAZNO

Mikuláš Čtvrtník[1]

JANUS, THE PATRON OF ARCHIVES AND ARCHIVISTS?

Abstract

Purpose: *In recent decades, the ancient Roman god Janus has been adopted as the patron of archival science worldwide. Despite this, there has been little exploration into why this specific deity was chosen. This study aims to address this gap by analyzing the connection between Janus and the archival field, including records management.*

Methods*: The study begins by examining the characteristics and epithets of the Roman god Janus. It then explores how these traits relate to archival principles, archiving processes, and records management. A detailed comparative analysis is conducted to establish a coherent framework for linking Janus to the archival profession.*

Results*: The analysis reveals that Janus' symbolic representation—looking both to the past and the future—mirrors the fundamental role of archives and records management. This duality supports his suitability as the patron of the archival field, encompassing both historical preservation and future-oriented records management.*

Conclusions/findings*: The study introduces the concept of the "archival hermeneutic circle" to illustrate the continuing relevance of Janus within archival science. It also emphasizes the evolving significance of Janus as the patron of archives and records management, extending from historical contexts to modern-day practices and future developments in the 21st century.*

Keywords: *god Janus; patron of archives; archival hermeneutic circle; archival science; archival theory*

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GIANO, IL PATRONO DEGLI ARCHIVI E DEGLI ARCHIVISTI?

Abstract

Scopo: *Negli ultimi decenni, l'antico dio romano Giano è stato adottato come patrono della scienza archivistica in tutto il mondo. Nonostante ciò, si è indagato poco sul perché questa divinità specifica sia stata scelta. Questo studio mira a colmare questa lacuna analizzando la connessione tra Giano e il campo archivistico, inclusa la gestione dei documenti.*

Metodi*: Lo studio inizia esaminando le caratteristiche e gli epiteti del dio romano Giano. Quindi esplora come questi tratti si relazionano ai principi archivistici, ai processi di archiviazione e alla gestione dei documenti. Viene condotta un'analisi comparativa dettagliata per stabilire un quadro coerente per collegare Giano alla professione archivistica.*

Risultati: L'analisi rivela che la rappresentazione simbolica di Giano, rivolta sia al passato che al futuro, rispecchia il ruolo fondamentale degli archivi e della gestione dei documenti. Questa dualità supporta la sua idoneità come patrono del campo archivistico, che comprende sia la conservazione storica che la gestione dei documenti orientata al futuro.

Conclusioni/risultati: *lo studio introduce il concetto di „circolo ermeneutico archivistico" per illustrare la continua rilevanza di Giano all'interno della scienza archivistica. Sottolinea inoltre l'importanza in evoluzione di Giano come patrono degli archivi e della gestione dei documenti, che si estende dai contesti storici alle pratiche moderne e agli sviluppi futuri nel 21° secolo.*

Parole chiave: *dio Giano; patrono degli archivi; circolo ermeneutico archivistico; scienza archivistica; teoria archivistica*

JANUS, ZAŠČITNIK ARHIVOV IN ARHIVISTOV?

Izvleček

Namen: *V zadnjih desetletjih se starorimskega boga Janusa časti kot zaščitnika arhivistike po vsem svetu. Kljub temu je zelo slabo raziskano, zakaj je bilo izbrano to specifično božanstvo. Namen te študije je odpraviti to vrzel z analizo povezave med Janusom in arhivskim področjem, vključno z upravljanjem dokumentov.*

Metode: *Raziskava se začne s preučevanjem značilnosti in epitetov rimskega boga Janusa. Nato raziskuje, kako so te lastnosti povezane z arhivskimi načeli, procesi arhiviranja in upravljanjem dokumentov. Izvedena je podrobna primerjalna analiza za vzpostavitev skladnega okvira za povezovanje Janusa z arhivsko stroko.*

Rezultati: *Analiza razkriva, da Janusova simbolična predstavitev – če pogledamo tako v preteklost kot prihodnost – odraža temeljno vlogo upravljanja arhivov in dokumentov. Ta dvojnost podpira njegovo primernost za zaščitnika arhivskega področja, ki zajema tako ohranjanje zgodovine kot v prihodnost usmerjeno upravljanje dokumentov.*

Sklepi/ugotovitve: *Študija uvaja koncept "arhivskega hermenevtičnega kroga", da bi ponazorila pomembnost Janusa v arhivski znanosti. Poudarja tudi razvijajoči se pomen Janusa kot zaščitnika arhivov in upravljanja z dokumenti, ki sega od zgodovinskih kontekstov do sodobnih praks in se nadaljuje tudi v 21. stoletju.*

Ključne besede: *bog Janus; mecen arhivov; arhivski hermenevtični krožek; arhivistika; arhivska teorija*

1. INTRODUCTION

Archiving, like most other fields of human activity, needs a patron to protect and guide 'their ward' and guarantee successful development and hopeful future of the particular field. As archivists had for a long time been "patronless", in the 20th century they set out on not a very intensive search, but a search nevertheless for a patron to claim their own. It is advisable that when it comes to patrons, their origin, status, and moral authority place them among the most respectable. That is why various social groups, as well as guilds, artisans and other craftsmen looked for their patrons among the Christian saints or, in hand with older traditions, ancient gods. This is also the case of the archival field; in rather sporadic discussions during the last century, the ancient Roman god Janus crystallized as the main candidate for the patron of the field. The lengthy controversial debate was brought to a close when the International Council on Archives (ICA), the main international body representing the archival profession, finally chose Janus' image as the basis for its official logo some time ago.

Janus had been used before, namely in the 1980s, when first the name was used as the title of some of the International Council on Archives publication platforms, and then as the title of its comprehensive journal representing this major institution of international archiving with a global reach (a brief reflection on the journal was given, for example, by Weber, 1989. At the turn of the millennium, "Janus" journal reincarnated into its successor "Comma"). But the god has also found supporters in some other countries. In the Czech Republic, for example, his was chosen as the name of a special program used until recently for archival organization and description.

True, Janus has not been keeping an eye on archives and archivists for centuries; however, every tradition needs a beginning, let this be ours. Perhaps in the case of the appropriation of the god Janus by the archival field, it will be possible to establish a tradition that is sustainable, meaningful and enriching for this field. But why has Janus been chosen? The International Council on Archives explained the design of its logo, based on the character of the god Janus, as representing "the double perspective of the archivist, towards the past and towards the future. It also depicts the circulation of different types of information, with which archives are concerned, from the earliest forms of documents through the electronic byte"

(cf. Glossary of terms often used in ICA). Does Janus really conform to these archival specifics? Is the god Janus the best possible archival patron, as Richard Pearce-Moses (Pearce-Moses, 2007, 13), author of what is currently, in my opinion, the best terminological explanatory dictionary for the field of archives and records management (Pearce-Moses, 2005), believes? German archivists also refer to the god Janus in connection with the archival field (see the proceedings of the German Federal Commissioner for the Stasi Records published as Unverhau (ed.), 2003).

Let us now take a closer look at this ancient god, a god of many layers and one of the most complex deities of the Roman pantheon; the following text will try and show how he is a suitable candidate for the patron of the archival field.

2. JANUS AS AN ANCIENT ROMAN GOD

Janus was one of the most prominent Roman gods and at the same time, he is one of the primordial Roman deities without a Greek equivalent. He is usually depicted as having two faces, one looking forward, one backward (occasionally he is shown with four faces, each looking towards a different cardinal direction) a characteristic sign by which we can always recognize him. The ancient Romans often called him Janus pater since he was a friendly and kind god (Saska & Groh, 1949, 220). For the biggest celebration of Janus, on New Year (Kalendae Ianuariae), people dressed festively and were even forbidden to speak evil words, their speech was supposed to be kind and noble.

According to one of his oldest epithets, Janus was the god of entrances, doors and gates, which is why he was often depicted with a key (Roscher, 1894–1897, 29; Macrobius, 2011, Book I.). After all, "janua" means the entrance door or doorway. Such patronage does not strike us as unusual today. In ancient Italy, however, the entrance, threshold, and the hearth or fireplace were considered the most important and sacred parts of a house (the goddess Vesta ruled over the hearth and fireplace); the beginnings and endings of things were just as important, and were yet another of Janus' domains, as we shall see shortly. Janus' two faces, as Roscher points out, is an analogy of human guardians of doors and doorways, who need to pay attention to both, those, who arrive and enter as well as those who leave (Roscher, 1894–1897, 33). At the end of the day, entrances are also places of exits and departures.

Only later did other epithets of the god Janus evolve from this original designation, and he came to be seen as the ideal opener and closer, as well as the protector of Heaven and the Universe in general (Roscher, 1894–1897, 35). This is also the origin of the philosophical idea of Janus as a divine demiurge and organizer of the world, or even as a god of Heaven (as the Etruscans saw him, for example), a sun god and creator of the world. Some ancient Romans derived the depiction of the two-faced Janus from this very notion, along with the analogy of the rising sun opening the day and the setting sun closing the day (Macrobius, 2011, Book I, Sec. 9).

Janus' role as an opener and closer was also manifested in the crystallization of yet another epithet connected with human nature, namely the closed virgin body and its opening during the first pregnancy and childbirth. The hymen represents a cap and a woman's fertility depends on its opening. In this respect, Janus represented the god, who created, i.e., gave birth to man (Roscher, 1894–1897, 36).

Another epithet is not far from this image, Janus being the god of beginnings. The interconnection showed also on a linguistic level; the terms entrance, door, gate and beginning were conceptually related. The Latin term "initium" originally meant to enter, an entrance, and thus also to begin, a beginning, and similarly the verb "inire" meant to enter and to begin (Roscher, 1894–1897, 37). In contrast, the term "exitum", "exitus", meant an exit in the sense of the exit door, but equally in the sense of an end, goal, death, and extinction. Also the word "janua" had a figurative meaning of a beginning, introduction.

The beginnings of natural periods of time were dedicated to Janus: the beginning of the day, month, and year with Januarius being the first month. Janus was also dedicated the beginning of every work endeavour and important undertaking in public and private life (Saska & Groh, 1949, 220). Again, to modern eye, the patrocinium of beginnings may seem a not particularly unusual domain. But for the ancient Roman, the beginning and the end were the most important parts of any one thing, or rather the most important phase in their development and entire existence, as Cicero also pointed out in characterizing the nature of the god Janus. "Also, as the beginning and the end are the most important parts of all affairs, they held that Janus is the leader in a sacrifice, the name being derived from ire ('to go'), hence the names jani for archways and januae for the front doors of secular buildings." (Cicero, 1967, Book II, Sec. 27, 67). Here, too, the very strong

position of Janus among the Roman gods and in the consciousness of Roman society was expressed.

Janus also used to be etymologically and semantically associated with the Greek term "chaos", respectively with the verb "chaskein" and its Latin analogue "hiare"[2], as, e.g., Ovid wrote in his work *Fasti,* and as was for the first time suggested by Paul the Deacon (Ovidius, 1959, Book I, Sec. 103).[3]

Janus also watched over war and peace, especially their beginnings and endings. After all, the Temple of Janus in the Forum Romanum closed its gates in times of peace in the empire, and opened its gates in times of war.

Another specific and for the archival field a very remarkable epithet is Janus' designation as the god of springs. Although his position as the god of springs is not fully confirmed, it is very likely that the ancient Romans attributed Janus the function of opening and closing springs of water (Roscher, 1894–1897, 41, 44–45). Such a determination was perhaps born from the fact that earthly water comes from Heaven, it originates there and is nourished by it (Deecke, 1876, 125). And it was Janus, who was the god of Heaven and beginnings. Janus' connection to springs is also confirmed by the identification of the god of springs, Fontus (Fons, Fontus or Fontanus), as Janus' son, although this is a younger Roman interpretation.[4]

Janus was sometimes portrayed holding the number three hundred in his right hand and the number sixty-five in his left hand (Macrobius, 2011, Book I, Sec. 9), sometimes also, especially in the Hermetic tradition, together with the depiction of Ouroboros, the serpent devouring its own tail, a symbol of time and infinity. It did express that there existed an equally important phenomenon over which Janus extended his divine power, the phenomenon of time itself: *"I sit at heaven's gate with the gentle Hours; my office regulates the goings and the comings of Jupiter himself."* (Ovidius, 1959, Book I, Sec. 125–127, 11).

Not only does Janus preside over time, to some extent he also controls the movement of Jupiter as the ruler of the gods. Ultimately, it is Janus who sits at the gate

2 in the original meaning of "to gape", "to be open".

3 On this topic: Roscher, 1894–1897, 43; see also Green, 2004, 75; as well as others, such as Frazer (1929, 100): *"Ovid seems to accept the absurd derivation of the name Janus which is recorded by Festus, or rather his abbreviator Paulus Diaconus, who in his turn probably took it over from the learned grammarian Verrius Flaccus."*; also Capdeville, 1973, 399.

4 Fritz Böhm's interpretation in Paulys Realencyclopädie der classischen Altertumswissenschaft 1909, 2839 (Roscher, 1884–1890, 1496).

of Heaven and decides who gets access to Heaven and the gods. If a Roman wanted his prayers to any deity answered, it was appropriate to first call upon Janus to open the way of prayer to him: *"Next I asked, 'Why, Janus, while I propitiate other divinities, do I bring incense and wine first of all to thee?' Quoth he, 'It is that through me, who guard the thresholds, you may have access to whatever gods you please.'"* (Ovidius, 1959, Book I, Sec. 171–174, 15).

Many features of Janus' nature show that he is in transition, there is a certain movement and change associated with him. He was also considered the ruler of journeys, which is why he was depicted not only with a key, but also with a staff (Macrobius, 2011, Book I, Sec. 9). But above all, one distinctive sign stands out, the fact that he stands on the transition line, on the edge. Whether it be the dividing line between day and night, entry and exit, beginning and end, the transition from old to new, from non-being to being, the change of the ending year into the new one, etc., it is always some kind of a dividing line or edge separating different things that at the same time often constitute polar opposites. All of this is expressed in the extremely peculiar depiction of this powerful two-faced god, whose faces not only look in opposite directions but sometimes also look very different; it is this difference, this otherness that can once again express the polarity, the opposite phenomena, sections or spheres whose transition line the god Janus guards. He does not only guard the line, he sanctifies it, or rather: The supreme importance, even sacredness, of such lines, changes or turning points was reflected in the very fact that they were endowed with their own divine guardian.

The peculiarity of Janus' essence, consisting in his being on the transition line, in expressing and sanctifying these lines, edges, transformations, especially of limit positions (creation/extinction, beginning/end, day/night, entry/exit, etc.), is shown in another of his specific abilities: *"But what god am I to say thou art, Janus of double shape? for Greece hath no divinity like thee. The reason, too, unfold why alone of all the heavenly ones thou dost see both back and front."* (Ovidius, 1959, Book I, Sec. 89–92, 9).

Janus was knowledgeable of things past and at the same time could foresee things future, which is related to his power over time itself, as demonstrated above. Indeed, Macrobius, a Neoplatonic philosopher at the turn of the 4th and 5th centuries, sees this as one of the possible reasons why Janus is depicted with

two faces looking in opposite directions (Macrobius, 2011, Book I, Sec. 9, 4, 93). In any case, however, this is a transition that occupies a special position in the domain of archives, historians, creators and managers of sources. It is the divide between the past and the future, the line between what happened and what is coming. It is the question of why and in what sense Janus should also take on the position of the patron of archives and archivists.

3. JANUS AS THE GOD OF ARCHIVES, ARCHIVISTS AND RECORDS MANAGERS

So why can the god Janus be a suitable candidate for the god and patron of archives, archivists and the whole archival industry?

Janus is the god of beginnings, and in a specific sense as shown above, he probably watched over water springs, being the father of Fontus, the god of springs. Similarly, the work of archivists and historians should begin with the springs, i.e., the primary beginnings of the past in the sense of the first source traces, the original imprints of events and deeds in material and not solely written documents. Archives are the primordial waters of these primary sources of history. Archival records, as the leading representatives of historical sources, stand in a way at the beginning of history in the sense of creating our ideas about the past, of making history and its construction.

A source in general marks the beginning of something, it marks something from which something else follows, from which it "springs", on which it is built and without which it would not be possible at all. History would not be possible without source traces, nor, of course, without their interpreters.

However, it is not only historical work, which is supposed to be based on sources. Any quality intellectual performance must have a strong foundation and thus also be built on quality sources of information, this time not specifically on historical sources, but sources of information in various respects. Archives then play a key role as a repository of a large and diverse range of information sources that can be used in an unexpectedly wide range of contexts.

The god Janus presides over time itself. And time is the base nutrient of history. From the perspective of historical sciences, time is not something tangible, on the contrary, it is something very difficult to grasp, as St. Augustine laconically put it:

"What, then, is time? If no one ask of me, I know; if I wish to explain to him who asks, I know not." (Augustinus, 1943, Book XI, Sec. 14, 285). History, however, could not happen in timelessness. The phenomenon of time, analysed countless times from various perspectives, has naturally become an attractive phenomenon in historical science. Fernand Braudel used the assumption of time passing at different speeds or rates to develop the famous concept of "longue durée" – "long duration".[5] In addition to the "surface history of events" most often studied by historical science, Braudel pointed to the duration of collective destinies, movements of the whole, particularly reflected in the history of structures, economic systems, states, societies, cultures, techniques of warfare, etc. But for him the imaginary highest plane was the virtually immobile history of man in his relationship to the environment, whose movement can hardly be captured. Yet Braudel's time is primarily "objective" time, understood from the position of its "external" existence. Later in the 20th century, however, historians also began to examine time as a "subjective" phenomenon, that is, time as experienced by people, historical actors. How does time pass for a prisoner in a long-term sentence? How does it unfold for a 15th century peasant in his ever-recurring agricultural cycle?

Time is therefore not only the medium in which history unfolds and moves; it is also the proper subject of reflection for historians, archival thinkers and other scholarly movements. It became an important phenomenon for the development of the methodology of historical and archival science. The god Janus also watches over this time in its various facets and functions.

The most characteristic of Janus' signs, by which he can be instantly recognized, i.e., his gaze looking in opposite directions, expresses several levels relevant to the archival field. This is where Herbert E. Angel sought the roots of why Janus could be considered the patron not only of archives, but also of intermediate records depositories and records centers (Angel, 1968, 5). Fifty years ago, he pointed out that this expresses the characteristic feature of intermediate records depositories and records centers, which also turn the gaze in two different directions: on the one hand, they look towards offices, from which "living" records come, and on the other hand, they turn towards archives, where some of these records eventually end up for permanent preservation.

5 The concept of the longue durée has its roots in Braudel, 1949. The seminal essay is Braudel, 1958.

After all, Janus' probably most significant epithet, namely his patronage of borderline things, of the transitions and transformations (day and night, east and west, entry and exit, coming and going, things past and future) resonates very well in contemporary archival sector. It is currently in a situation of a fundamental transition between the paper and digital worlds, which is gradually and in an increasingly more dynamic way reflected in the whole sector[6].

In the end, Janus, who "sees all that is behind, all that is in front", Janus, who has knowledge of things past and the ability to foresee things future, appears before us. Although it may not be obvious at first glance, one of the most distinctive attributes of the archivist's profession is the simultaneous straddling of the past and the future, a feature that appears in multiple archival activities. This is most evident in the archival appraisal of records, in which the archivist selects a part of the emerging documentation, and thus potential source traces, for permanent preservation in the archives, and at the same time designates another part for irreversible destruction. A phenomenon, it might seem, obvious and even vague to some. But that would be a big mistake!

Our access to the past is not without restrictions. The historian or anyone else is always somehow limited in their approach. One such limitation beyond which they cannot go is the range of sources available to them. They can expand them to a certain extent, especially with the help of diverse and changing interpretative keys, but they will always have to move in a field defined by what has survived from the traces of the past. Archives and archivists who carry out archival appraisal of records are those key actors defining the milestones in this field. On its way to understanding the past, the future is always forced to view it through the filter that archives have applied to the body of emerging records and information in the process of radical destruction of documentary wealth in the course of archival appraisal of records.

It is at this point that we begin to find the justification as to why the archive and the archivist stand at the boundary between the past and the future, and why Janus can be an extremely suitable and useful patron. In the course of archival appraisal of records, the archivist becomes, figuratively speaking, a kind of oracle

6 The reflection of the consecration of the god Janus in the phenomenon of the transition from the world of paper to the world of the digital has been highlighted by Pearce-Moses (2007, 13, 20).

turned to the future and looking back not only to their present, but even further into the past, to the time of the creation of the source traces they are facing and with which they must deal in a certain and irreversible manner. They try to anticipate what of the past will be of interest to the future. It is actually the present looking into the future, returning from there to the present and even further into the past. How are we to understand this?

The archivist, when considering what part of the immeasurable whole of records production to preserve permanently and what part to destroy, always – consciously or unconsciously – moves into the future and asks what materials the future time will probably be interested in (being fully aware of the tricky and deceptive nature of such an intention). Such records will then be prioritised for permanent preservation. The concept of the archivist as a backward-looking oracle, the fact that they appraise and select records, that they designate many of them for irreversible destruction, and that in doing so they also take into account the search for and presumed interest of future generations in the selected part of the archival material – all of this entitles us to the following statement: The future age will be forced to learn about the past based, among other things, on what the past age thought about "its" future. We are actually standing in front of an imaginary *archival hermeneutic circle*. On the one hand, the future will always be dependent on the past, as it will only have at its disposal those archival records that were chosen by a past time, by past archivists. On the other hand, however, these "past" archivists are essentially tied to the future in the constitution of the source heritage and the archival appraisal of records, in that they are always transported into the future at the moment of deciding what they will permanently preserve for the needs of future generations, what part of the immeasurable whole of records production they will permanently preserve and what part they will designate for destruction. Their decision-making is very often, perhaps usually, based on the answer – naturally always only hypothetical – to the question: What will the future era be interested in from the archival heritage of the past?

Both members of this circle are intertwined and bound together. The future, in that its own relating to the past, and therefore the constitution of its own history and thus of itself, is dependent on the past, not only in the otherwise quite vague position of claiming that it always builds on and from the past, but equally in the

fact that the past will preserve for the future only a fraction of the source material through which the future will access the past. But especially in the sense that the future, in its understanding of the past, of history and thus of itself, is dependent on the form and character of the link and understanding by which the past related to this future in the specific case of archival appraisal of records. However, relation and dependence also apply in the opposite direction. The archivist, i.e., the past (looking at it now from the perspective of a future relationship to archival materials), is dependent on the future in their act of selecting records, precisely because they will always inquire about what materials the future will want to have available and will base their decision on the result of this inquiry. Moreover, it will always be the case that at the same time the assumption of future interest can never, in principle, be verified and confirmed in advance by the archivist. It will always be a mere hypothesis on the part of them selecting and appraising records, which can certainly be based on various more or less plausible assumptions about the future development of the world and history.

Thus, in the archival domain a specific form of an *open historicity* is constituted, essentially unfolding and growing out of the presented archival hermeneutic circle rooted in mutual conditioning and dependence on the one hand of the person constituting a key part of the source testimony about the past on the assumption of a certain form of future interest in a certain part of this source material, on the other hand, the dependence of the future on the idea of its own past. This was reflected in the special case in the phenomenon of archival appraisal and selection of records, i.e., in what the past preserved for the future as the source material. Although the archival hermeneutic circle is in some respects closed, namely in its inability to go beyond the mutual dependence and conditionality of its two key factors and in the impossibility of renouncing each other and detaching from each other, it is nevertheless in their dialectical relationship that the specific form of historicity in the formation of source wealth, archival thinking and actual practice, which is essentially open, originates. We understand this historicity as a certain form of an existential link not only between the thinking of the present, or rather future time moving towards the past, but also vice versa between the thinking of the present time (past time) moving towards the future. This historicity is open precisely because the present, in the specific situation of the constitution of

the source material essentially bound to the past, can and should ask questions of the future time, even if with only hypothetical answers, also because the present should open not only to the past, from which it selects a certain minimal part for permanent preservation, but should also maintain a living relationship of questioning and dialogue with the future.

Finally, this historical and future openness also refers to one of the significant moments tied to the god Janus. The two gates of the Temple of Janus in Rome remained open when Rome was at war, and were closed in times of peace, indeed rare moments in Roman history. According to Macrobius (2011), this custom was probably the result of a mythical war between the Sabines and the Romans over the abduction of Sabine virgins by the Romans. Macrobius (2011) tells of the custom of closing the Gates of Janus as follows: *"In the war with the Sabines over their kidnapped maidens, the enemy were attacking the city-gate at the base of the Viminal – later called 'Ianus Gate', from the outcome of this story – and the Romans were hurrying to close it. No sooner was it closed than it opened again of its own accord. After this happened two more times and they were unable to close the gate, a mass of armed men stood guard at its threshold, and while fierce fighting was going on in another part of the city, a rumor suddenly circulated that our men had been routed by Tatius. At that, the Romans who were guarding the entry fled in terror, and it is said that just as the Sabines were about to burst through the open gate, a great torrent of boiling water erupted from Janus' temple and poured through the gate, killing many companies of combatants who were either scalded by the burning water or swallowed up by the swift whirlpool. It was therefore decided that since the god had sallied forth to help the city, the doors of his temple would be left unbarred in time of war."* (Macrobius, 2011, Book I, Sec. 9, 17, 99–101).

The open Gates of Janus for archives, archivists and records managers are not naturally meant to symbolize war. The Janus of the archives, Janus as the guardian of time and the one of the old gods who "sees all that is behind, all that is in front", brings a different openness. It is the openness of the ability to see backwards along the time line to times past and forwards to times yet to come. It expresses the art of dialogue with the past epochs and their people, as well as with the future time, on which the essential openness of the man of the present

moment and his open relationship to an authentic and true understanding of the past and to his own attitude of trying to preserve the best for the future, that is, to be a good and responsible testator, can be built. Leaving the war aside, will the gates of the Temple of Janus remain open...?

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Summary

In recent decades, archival science all over the world has adopted the ancient Roman god Janus as its patron. So far, there have been very sporadic and brief reflections on why this particular god was chosen. This study aims to provide the very first more detailed comprehensive analysis of the specific significance of the ancient god Janus as the patron of the archival field in the past, its present form and future development in the 21st century and his taking on the position of the patron of records management.

In the first step, the study presents the characteristics and epithets of the ancient Roman god Janus. Janus was one of the most prominent Roman gods and at the same time, he is one of the primordial Roman deities without a Greek equivalent. His characteristic visual sign is his double face looking in the opposite direc-

tions. Janus was, among other things, the god of entrances, doors and gates. He was seen as the ideal opener and closer, also as the protector of heaven and the universe in general. Janus was the patron saint of all beginnings and very probably also of water springs. The peculiarity of Janus' essence also lies in his being on the transition line, in expressing and sanctifying these lines, edges, transformations, especially of limit positions (creation/extinction, beginning/end, day/night, entrance/exit). The god Janus was knowledgeable of things past and at the same time he could foresee things future. This was also related to Janus' power over time itself.

In the second step, the study looks at the epithets of the god Janus and their relating characteristics and specifics in the field of archives and archiving, and also partly records management. Janus was the god of beginnings, and in a specific sense, he probably watched over water springs, being the father of Fontus, the god of springs. The work of archivists and historians alike builds on such springs, i.e. sources as the primary beginnings of the past in the sense of the first source traces. Archives are the primordial waters of these primary sources of history. Furthermore, Janus is in control of time itself, the very medium in which history itself unfolds and moves. The patronage of the god Janus over borderline things, over divides and edges also resonates in contemporary archiving in a principled divide between the paper-based and the digital worlds.

The most significant visual sign of the god Janus, his gaze looking in two opposite directions, points to several fundamental levels for the archival field. Archival science is also oriented towards the past in its care of archival and historical sources on the one hand, on the other however, it also looks to the future, as it is the archives that decide which of today's "living" records will become archives.

Crucial, in a slightly differently modelled context, is the characteristic ability of the god Janus, who has knowledge of things past and the ability to foresee things future. One of the most distinctive attributes of the archivist's profession is the simultaneous straddling of the past and the future, a feature that is present in multiple archival activities. This is most evident in the archival appraisal of records, in which the archivist selects a part of the emerging documentation, and thus potential source traces, for permanent preservation in the archives, and at the same time designates another part for irreversible destruction. An archivist,

when considering what part of the immeasurable body of records production to preserve permanently and what part to destroy, looks into the future and asks what materials the future time will probably be interested in. Such records will then be prioritised for permanent preservation. Allegorically speaking, we are faced with the concept of an archivist as a kind of backward-looking oracle. At the same time, this key role of archivists has the consequence that future times will be forced to learn about the past based, among other things, on what the past age thought about "its" future. The author calls this motif the "archival hermeneutic circle", which he elaborates further in the study.

Based on its analyses and arguments, the study concludes that the god Janus can be accepted as the patron of archives, archiving, and partly also of records management.

Typology: 1.01 Original Scientific Article

Dimitrij Reja[1]

CONTENT CHALLENGES IN THE OPTIMIZATION OF DOCUMENTARY AND ARCHIVAL MATERIAL

Abstract

Purpose*: Overview of the solution for easier and more transparent management of documentary and archival material from the point of view of processes.*

Methode/approach*: Review and practical application of the solution in the field of archival sciences.*

Results*: General overview and simple explanation of the use of the solution in the field of archives.*

Conclusions/findings*: In the multitude of various solutions for the management of documentary and archival material, quick and easy use is essential. Special emphasis must also be given to the various requirements of the customers that they have in their processes.*

Key words*: processes, optimization, algorithm, archival sciences*

SFIDE CONTENUTISTICHE NELL'OTTIMIZZAZIONE DEL MATERIALE DOCUMENTARIO E ARCHIVIO

Abstract

Scopo: *Panoramica della soluzione per una gestione più semplice e trasparente del materiale documentario e archivistico dal punto di vista dei processi.*

Metodo/approccio: *Revisione e applicazione pratica della soluzione nel campo delle scienze archivistiche.*

Risultati: *Panoramica generale e semplice spiegazione dell'uso della soluzione nel campo degli archivi.*

Conclusioni/risultati*: Nella moltitudine di diverse soluzioni per la gestione del materiale documentario e archivistico, un uso rapido e semplice è essenziale. Particolare enfasi deve essere data anche alle diverse esigenze dei fruitori.*

Parole chiave: *processi, ottimizzazione, algoritmo, scienze archivistiche*

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VSEBINSKI IZZIVI PRI OPTIMIZIRANJU DOKUMENTARNEGA IN ARHIVSKEGA GRADIVA

Izvleček

Namen*: Pregled rešitve za lažje in bolj pregledno upravljanje z dokumentarnim in arhivskim gradivom z vidika procesov.*

Metoda/pristop*: Pregled in praktična uporaba rešitve na področju arhivskih znanosti.*

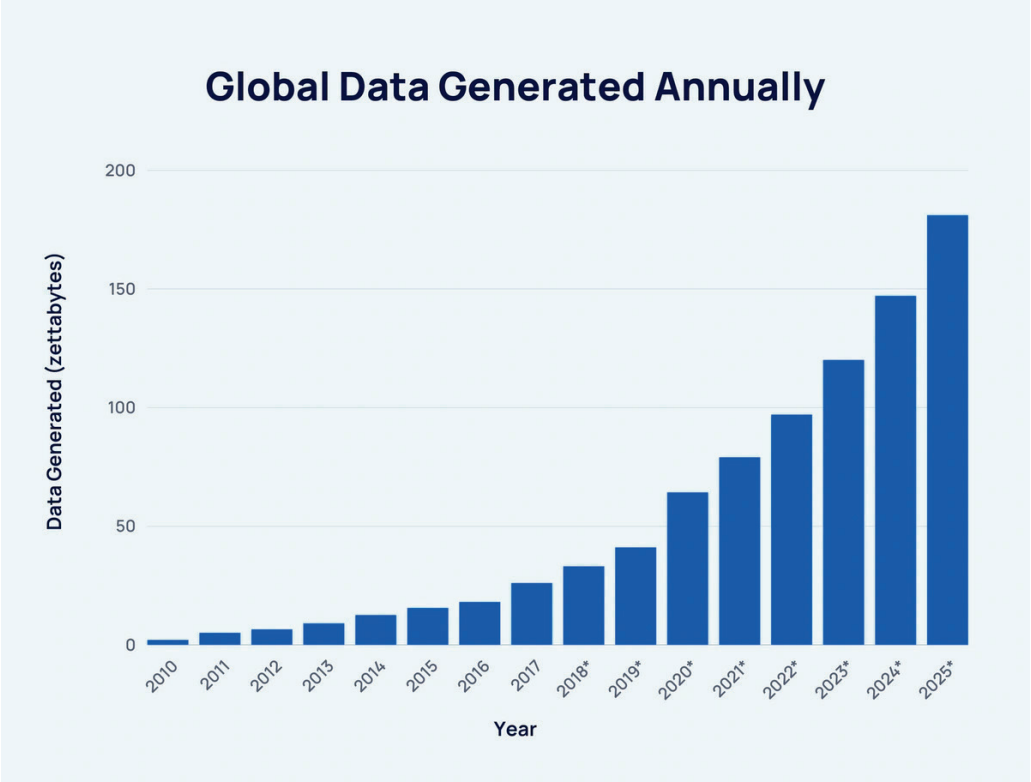
Rezultati*: Splošni pregled in enostavna razlaga uporabe rešitve na področju arhivistike.*

Sklepi/ugotovitve*: V množiti najrazličnejših rešitev za upravljanje z dokumentarnim in arhivskim gradivom je bistvenega pomena, hitra in enostavna uporaba. Poseben poudarek je potrebno posvetiti tudi najrazličnejšim zahtevam strank, ki jih imajo v svojih procesih.*

Ključne besede*: procesi, optimizacija, algoritem, arhivske znanosti.*

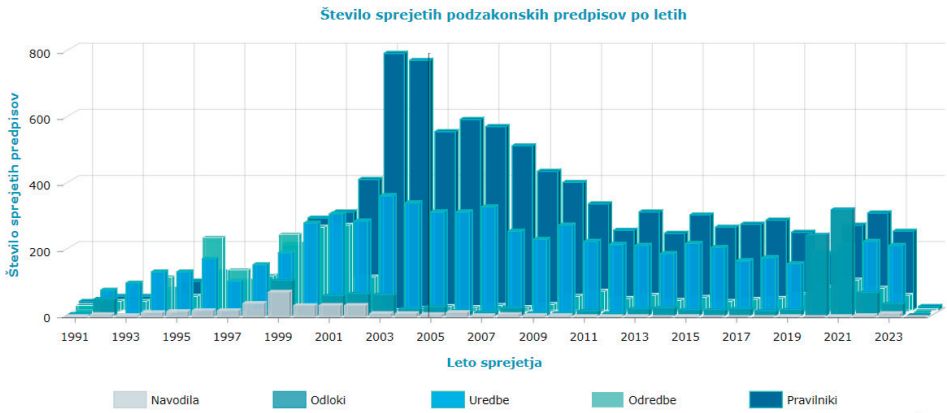
1. UVOD

Količina podatkov v zadnjih letih eksponentno raste. Z večjo digitalizacijo, uporabo pametnih naprav, internetom stvari (IoT), socialnimi omrežji in drugimi tehnologijami se vsak dan generirajo ogromne količine podatkov. Podatki iz različnih virov kažejo, da se je količina podatkov na svetu podvojila vsakih nekaj let. Povečanje podatkov je posledica različnih dejavnikov, vključno z večjo digitalno aktivnostjo ljudi, razvojem poslovnih tehnologij, znanstvenimi raziskavami in drugimi dejavniki.



Slika 1: Količina ustvarjenih, zajetih, kopiranih in podatkov v letih 2010 – 2020 z napovedmi od 2021–2025 (Durante, 2024).

Povečevanje podatkov ni posledica le večjega števila novih tehnologij. Zavedati se moramo, da je povečanje količine podatkov tudi posledica povečevanja najrazličnejših uredb, pravilnikov in ostalih podzakonskih aktov. Število sprejetih zakonov in uredb se nenehno spreminja, odvisno od političnih in zakonodajnih potreb ter aktualnih dogodkov v Evropski uniji.



Slika 2: Število sprejetih podzakonskih predpisov po letih v Republiki Sloveniji (PIRS, 2024).

Ne smemo pozabiti na zelo pomemben aspekt, ki se dogaja na tleh evropske unije. Demografsko se prebivalstvo stara. Staranje evropskega prebivalstva je pomembna družbena in demografska težava, s katero se soočajo številne države v Evropski uniji. Ključni dejavniki, ki prispevajo k temu trendu, vključujejo podaljšanje pričakovane življenjske dobe, nizko stopnjo rodnosti ter demografske in socialne spremembe (Szydło, 2021).

Vse zgoraj navedeno nas logično povede v naslednje razmišljanje. Na kakšen način lahko zagotovimo obvladovanje vedno večjih in predvsem različnih podatkov. Ob tem moramo v prvi vrsti zagotavljati vse zakonske regulative in zahteve evropskih ter nacionalnih zakonodajalcev. Vse to pa morajo obvladovati zaposleni v delovnih kolektivih, ki se v povprečju starajo.

Bistveno vprašanje je, na kašen način naj takšno tveganje obvladuje v prvi meri delovna organizacija in prav tako zaposleni?

2. ORIS STANJA IN PROBLEMATIKA

Večji del Inšpektoratov v Republiki Sloveniji uporablja enak produkt za delo z dokumentarnim in arhivskim gradivom. Vsak inšpektorat ima sicer svojo programsko rešitev, ki se bistveno ne razlikuje od ostalih. V grobem lahko ocenimo, da je med 10 % in 20 % vsebine, različne vsebine. Za zagotavljanje osnovnega delovanja vsakega inšpektorata, torej pokrivanje osnovnih zakonskih regulativ je poskrbljeno.

Na Inšpektoratu za Infrastrukturo Republike Slovenije je po zadnji reorganizaciji zaposlenih 50 oseb. Delitev organov je ponovno prinesla delitev tudi na področju dokumentarnega in arhivskega gradiva. Pri fizični delitvi ni bilo težav, saj celotno dokumentarno gradivo ostaja pri ustvarjalcu le tega. Morda velja omeniti, da je težava v ljudeh samih oziroma težava nastopi pri razumevanju, kam sodi katera vrsta gradiva. Prav tako ne smemo zanemariti vidika lastništva, pojavljala se je bojazen, kako bo posamezni zaposleni prišel do gradiva po delitvi organov.

Večja težava je nastopila pri delitvi programske opreme. Okvir, v katerem je bila izdelana programska oprema, je star več kot 10 let in ne zagotavlja vseh funkcionalnosti, ki bi jih moral vsebovati sodobni dokumentarni sistem za vodenje in upravljanje dokumentarnega in arhivskega gradiva. Težava je nastopila, ker je potrebno za vsak nov organ postaviti novo instanco programske opreme. Prav tako je treba prenašati točno določeno vsebino iz organa na organ, posledično iz ene podatkovne baze v drugo podatkovno bazo.

Prenos podatkov med podatkovnimi bazami je lahko kompleksen proces, ki se lahko sreča z različnimi težavami. Težave, ki pri prenosu lahko nastanejo, so: različni formati podatkov, različne sheme podatkov[2], težave s primarnimi ključi[3], neskladje med verzijami, težave z avtentikacijo in dovoljenji, omejitve zmogljivosti in ne na zadnje stroški in čas.

Za zagotavljanje odlične kakovosti storitev tako za zaposlene kot za stranke je treba razmišljati o podatkovnih bazah in pametnem upravljanju podatkov. Oba pojma igrata ključno vlogo v sodobnem informacijskem okolju.

Pametno upravljanje podatkov se nanaša na strategije, tehnologije in postopke, ki omogočajo učinkovito upravljanje in izkoriščanje podatkov za doseganje poslovnih ciljev. V okvir podatkovnih baz in pametnega upravljanja sodijo centralizirano shranjevanje in organizacija podatkov, hitra dostopnost do podatkov, varovanje podatkov in skladnost, podpora poslovnim procesom, analitika in poslovna inteligenc, razvoj in prilagajanje aplikacij, usklajevanje podatkov med različnimi sistemi in kakovost podatkov.

2 Podatkovne baze lahko imajo različne sheme, kar pomeni, da so lahko isti podatki organizirani drugače. Pri prenosu morate morda prilagoditi shemo podatkov med izvorno in ciljno podatkovno bazo, da se zagotovi ustrezno ujemanje.

3 Identifikatorji vrstic (primarni ključi) se lahko razlikujejo med podatkovnimi bazami. Med prenosom je treba paziti, da so ohranjeni enolični identifikatorji, da se preprečijo konflikti in izguba podatkovne integritete.

2.1 DELNA REŠITEV

Republika Slovenija se je s projektom prenove informacijskega sistema zavezala, da bo v javno upravo uvedla enotno, tehnološko prenovljeno, potrebam javnih uslužbencev prilagodljivo, enostavno nadgradljivo in napredno informacijsko rešitev za podporo upravljanju z dokumentarnim gradivom, nameščeno na centralno informacijsko infrastrukturo Ministrstva za digitalno preobrazbo kot centralno spletno informacijsko rešitev (Direktorat za razvoj digitalnih rešitev in podatkovno ekonomijo, 2024).

Na Inšpektoratih je zgodba malce bolj kompleksna. Na nivoju uporabe dokumentarnega gradiva ni večjih razhajanj in bi lahko nemoteno uporabili nov sistem za upravljanje z dokumentarnim gradivom KRPAN. Če se v razpravi omejimo le na delo inšpektoratov, se problem pojavi na postopkovnem oziroma procesnem področju posameznih inšpektorjev. Vendar je slika na nivoju države povsem enaka. Žal ima država težave na področju podpore procesnemu delu pri vodenju različnih postopkov.

2.1.1 Procesno podprt postopek?

Procesno podprt postopek dela se nanaša na uporabo informacijskih tehnologij in sistemov za olajšanje in optimizacijo dela. Uporabniki so običajno odgovorni za preverjanje skladnosti z zakoni, predpisi ali standardi na določenem področju, kot so varnost pri delu, okolje, zdravstvo, hrana itd. Procesno podprt postopek lahko vključuje naslednje elemente:

- **Avtomatizacija:** Uporaba avtomatiziranih orodij za preverjanje dokumentacije, sledenje pregledanim podjetjem ali lokacijam ter identifikacijo morebitnih nepravilnosti.
- **Sistem sledenja:** Uvedba sistema za sledenje in dokumentiranje rezultatov inšpekcij, kar omogoča lažje spremljanje in analiziranje podatkov.
- **Digitalizacija dokumentacije:** Prehod iz papirnatega sistema v digitalni, kar omogoča hitrejše iskanje informacij in zmanjšanje tveganja za izgubo dokumentov.
- **Podatkovna analitika:** Uporaba orodij za analizo podatkov, ki lahko pomagajo identificirati vzorce, tveganja ali trende na podlagi zbranih in analiziranih informacij.

- **E-nadzor:** Uporaba tehnologij za nadzor na daljavo, kamor spadajo kamere, senzorji, oddaljeni dostop do podatkov in drugi elementi, ki omogočajo spremljanje dogajanja brez fizične prisotnosti inšpektorja.
- **Usmerjanje nalog:** Sistem za usmerjanje inšpekcijskih nalog glede na prioritete, zakonodajo ali pretečene roke.

Uvedba takšnih procesov in tehnologij lahko poveča učinkovitost, natančnost in preglednost dela inšpektorjev ter omogoča boljše upravljanje s sredstvi in višjo stopnjo skladnosti na pregledanih področjih.

2.1.2 Rešitve za podporo najrazličnejšim procesom

Obstaja veliko programskih rešitev, ki podpirajo različne procese v različnih panogah. Tu je nekaj splošnih kategorij programskih rešitev, ki se pogosto uporabljajo za podporo različnim poslovnim procesom:

- Sistemi za upravljanje odnosov s strankami (CRM)[4]: Salesforce, HubSpot CRM, Microsoft Dynamics 365
- Sistemi za upravljanje projektov[5]: Asana, Trello, Microsoft Project
- Rešitve za upravljanje človeških virov (HRM): Workday, SAP SuccessFactors, BambooHR
- Rešitve za upravljanje zalogo: Odoo, Zoho Inventory, inFlow Inventory
- Sistemi za upravljanje dokumentov: SharePoint, Google Workspace (prej G Suite), Dropbox Business
- Sistemi za upravljanje podatkov in analitiko[6]: Tableau, Microsoft Power BI, Google Analytics

Kot je razvidno iz seznama programskih rešitev za specifična področja je rešitev veliko. Vendar ne smemo pozabiti, da je treba pri implementaciji posamičnih rešitev upoštevati tudi tehnične omejitve. Vsaka rešitev potrebuje svoj strežnik.

4 CRM je angleška kratica za »Customer Relationship Management« in v osnovi gre tu za programski sistem, ki lastnikom podjetij pomaga enostavno slediti vsem komunikacijam in negovati odnose s svojimi potencialnimi strankami in strankami.

5 Programska oprema za upravljanje projektov je programska oprema, ki se uporablja za načrtovanje projektov, načrtovanje, razporejanje virov in upravljanje sprememb.

6 Varno upravljanje podatkov omogoča, da so podatki urejeni in dosledni, določa, kdo lahko dostopa do podatkov in kdo ne, ter pomaga organizacijam ravnati s podatki – zlasti s podatki o strankah – v skladu z ustreznimi standardi in predpisi.

V nadaljevanju je potrebno izvesti morebitne integracije med sistemi za večjo interoperabilnost programske opreme[7].

3. REŠITEV ZA INŠPEKTORAT

Zaradi vseh navedenih dejstev, smo se na inšpektoratu za infrastrukturo odločili za implementacijo platforme M-files. M-Files se osredotoča na avtomatizacijo administrativnih procesov in poslovanja. Ponuja široko paleto storitev za upravljanje z vsebino, vključno s povezovanjem in inteligentno obdelavo vsebine. (Konica Minolta, 2024)

Platforma za upravljanje dokumentov, ki temelji na metapodatkih M-Files, omogoča strokovnim delavcem, da takoj najdejo prave informacije v katerem koli kontekstu, avtomatizirajo poslovne procese in uveljavijo nadzor nad informacijami. (360 ECM, 2024)

V predmetnem primeru združujemo na eni platformi več posamičnih rešitev iz različnih področij. Področja dela, ki jih trenutno uporabljamo na platformi so vodenje osnovnih sredstev, indeksna zbirka arhivskega gradiva treh različnih fondov, podpora obveščanju javnih naročil, zbiranju obvestil iz različnih poštnih sistemov na enem mestu ter podporo vodenju specifičnim inšpektorskim postopkom.

Največje vprašanje se poraja, kako vse procese, ki se odvijajo pri delu inšpektorja ukrojiti v en okvir. Namreč iz strateškega vidika gledano mora proces izhajati iz zakona. Zakon predstavlja predpise ali pravila, ki jih sprejmejo državne ali vlade na različnih ravneh, in s tem urejajo vedenje posameznikov in skupnosti. Zahteve države so enoznačne, tj. kaj in kako mora potekati posamičen proces.

V primeru dela inšpektorjev potrebujemo tri pomembna znanja, in sicer; upravni postopek in upravni spor, postopek vodenja in odločanja o prekrških in postopek inšpekcijskega nadzora. Inšpektor preden pridobi polnopravni status inšpektorja mora opraviti izpit iz vseh treh področij (Glasilo Uradni list RS, 2024).

Kot vedno se teorija in praksa bistveno razlikujeta. Razlika med teorijo in prakso pri delu izvira iz več dejavnikov, ki vključujejo kompleksnost realnega sveta, vpliv človeških dejavnikov, raznolikost organizacij ter včasih tudi neenakosti med izvedbo načrtov in življenjem v praksi.

7 Interoperabilnost je temeljni koncept na področju elektronike in telekomunikacij, saj omogoča tekočo komunikacijo med napravami različnih proizvajalcev. V vse bolj povezanem svetu, kjer je raznolikost naprav vse večja, je ključnega pomena, da lahko izmenjujejo informacije in sodelujejo, da bi ponudili popolnejše in učinkovitejše rešitve. V tem članku bomo raziskali pomen interoperabilnosti in kako vpliva na naše vsakdanje življenje.

Zaposleni se praktičnega dela učijo kot obrtniškega dela. Vsaka organizacija ima zapisana pravila, kako naj poteka posamičen inšpekcijski nadzor, vendar papir prenese veliko. Ob tem je treba razumeti, kar smo zapisali uvodoma, da je povprečna starost uslužbencev višja, in da je proces obrtniškega učenja dolgotrajen postopek.

Pri uveljavitvi enakih postopkov za vse uslužbence, v našem primeru inšpektorje, je treba torej uvesti enak proces. Proces, ki onemogoča kakršne koli malverzacije oziroma jih zmanjšuje do te mere, da je za njihovo udejanjanje potrebno znatno več časa in znanja. Proces mora biti v skladu z zakonodajo in mora voditi uslužbenca na vsakem koraku. Na ta način pridobimo enak način dela za vse uslužbence, delo ne more potekati mimo predpisanih pravil igre.

3.1 PRIMER DOBRE PRAKSE

Kot primer dobre prakse navajam uspešno implementiran projekt ISIP2[8]. Končni rezultat, ki smo si ga zadali, so poslovna poročila, ki jih generiramo v realnem času. Za končnega uporabnika je to skorajda nepomembnem podatek, za odločevalca je ravno obratno. Vodstvo je obvezano k poročanju o stanju na cestah in prometu.

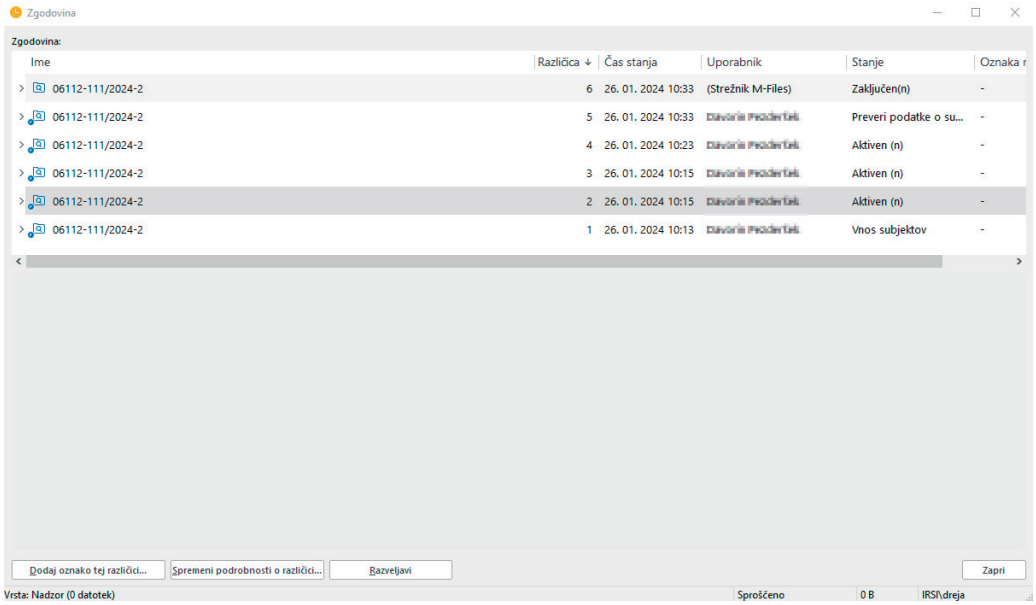
V nadaljevanju smo zagotovili, da so vsi postopki v skladu z zakonodajo ter unificirani. V sami rešitvi imamo več postopkov nadzora in vsem inšpektorjem omogoča enak način dela. V praksi to pomeni, da je onemogočeno odstopanje od postopka, vsi postopki se vodijo na enak način. S tem smo seveda naredili Salomonsko rešitev; vsem novo zaposlenim omogoča skrajšanje časa uvajanja in unificiran način dela. Količina pregledov se je povečala na račun zmanjšanja birokratskih ovir.

Rešitev ISIP 2 je nameščena na platformi M-files, kar posledično omogoča vse tisto, kar omogočajo sodobni sistemi za podporo procesom. Namesto nameščanja različnih sistemov so vse rešitve nameščene na eni platformi. Za plastičen prikaz odličnih rešitev vam prikažemo dve pomembni rešitvi.

3.1.1 Revizijska sled

Za arhivsko skladno programsko opremo je pomembna revizijska sled. Platforma M-Files že v sami osnovi omogoča revizijsko sled do vključno nivoja metapodatkov. To pomeni, da se vse spremembe beležijo, in z izbiro želene verzije lahko restavriramo podatke na želeno verzijo. Vse skupaj je kontrolirano preko nastavitev uporabniških pravic.

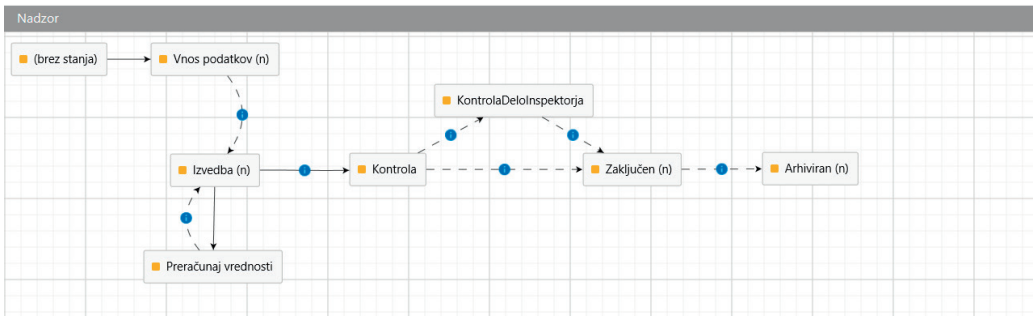
8 ISIP 2 – Informacijski sistem inšpekcije za promet



Slika 3: Revizijska sled dokumenta

3.1.2 Procesni potek dela

Kot smo v članku razpravljali, se na nivoju države pojavljajo težave, ker postopki niso procesno podprti. Na spodnji sliki je plastičen prikaz, kako lahko procese generiramo samostojno in jih vežemo na različne objekte. Na voljo je možnost sprožanja različnih akcij v posamičnem stanju. Vse to lahko opravimo sami preko administrativnega vmesnika.



Slika 4: Postopkovni proces osnovnega nadzora inšpektorja

4. ZAKLJUČEK

Informacijska tehnologija nam ponuja vedno boljše rešitve. Vendar se za arhivsko znanost poraja vprašanje, kako je s shranjevanjem različnih rešitev za naslednike.

V razpravi se osredotočamo na procese in procesno podprte postopke. Procesi se namreč spreminjajo, bodisi zaradi tehničnih potreb bodisi spremembe zakonodaje. Neizpodbitno je, da so spremembe edina stalnica in informacijska tehnologija ni nikakršna izjema.

Glavno vprašanje ni, kako shranjevati vse podatke. Arhiviramo končno producirane podatke, ki jih predamo v arhiv. Večji izziv je morda, kako shraniti vse kreirane postopke in vse informacije, ki sodijo poleg. Namreč, kako bomo čez desetletje revidirali, kako so se opravljali določeni procesi. Za zastavljeno vprašanje moramo odmisliti idealne pogoje. Idealne pogoje smatramo, kjer so vsi postopki opisani ob vsaki spremembi verzije. V praksi je vedno drugače. Morda je postavljen nov tehnološki izziv s prihodom umetne inteligence, da optimizira procese delovanja ali nov model strojnega učenja, ki generira nove procese na podlagi sprememb zakonodaje?

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Summary

The optimization of documentary and archival material brings many challenges that must be taken into account. Digitization, Standardization, Data security, Accessibility and retrieval, Compliance with the law, Cost reduction, Employee training and Preservation of cultural heritage. Addressing these challenges requires a comprehensive approach, including investments in technology, training of personnel and cooperation between different institutions. Process-oriented software can significantly contribute to the effective management of documentary archival material, as it enables better management of business processes involving documents. This improves productivity and regulatory compliance.

New technologies allow us a wide variety of data processing options. For processing purposes, it is necessary to collect a variety of data. The variety of data is also hindered by its quantity. When collecting data, it is also necessary to take into account the limitations represented by the human factor. With the help of the latest technologies, we can make entering and processing data much easier.

The biggest question is how to fit all the processes that take place in the inspector's work into one framework. Namely, from a strategic point of view, the process must be based on the law. Law represents regulations or rules adopted by states or governments at various levels, thereby regulating the behavior of individuals and communities. The requirements of the state are unambiguous, i.e. what and how the individual process must take place.

In our case, we combine several individual solutions from different fields on one platform. The areas of work that we currently use on the platform are the management of fixed assets, an index collection of archival material from three different funds, support for notification of public procurement, collection of notifications from different postal systems in one place, and support for the management of specific inspection procedures. The end result we set for ourselves is business reports that we generate in real time. For the end user, this is almost unimportant data, for the decision maker it is the other way around. Management is obliged to report on the state of roads and traffic. In the following, we ensured that all procedures are in accordance with legislation and unified. In the solution itself, we have several control procedures and it enables all inspectors to work in the same way. In practice, this means that it is impossible to deviate from the procedure,

all procedures are conducted in the same way. With this, of course, we made a Solomonic solution; enables all new employees to shorten the introduction time and a unified way of working. The amount of inspections has increased at the expense of reducing bureaucratic obstacles.

When establishing the same procedures for all employees, in our case inspectors, the same process must therefore be introduced. A process that prevents any kind of fraud or reduces it to the extent that it takes significantly more time and knowledge to implement it. The process must comply with the law and guide the employee every step of the way. In this way, we obtain the same way of work for all employees, the work cannot go beyond the prescribed rules of the game.

The solution is installed on the M-files platform, which in turn enables everything that modern process support systems enable. Instead of installing different systems, all solutions are installed on one platform.

Typology: 1.04 Professional Article

Žiga Tekavec[1]

WAS ARCHIVAL SCIENCE AN AUXILIARY HISTORICAL SCIENCE - OVERVIEW OF THE ANCIENT HISTORY OF ARCHIVE DEVELOPMENT

Abstract

Purpose: *The aim of this paper is to analyze the concept of archival science, which is often classified as an auxiliary historical science, while many scientists have justified archival studies as an independent, multidisciplinary science.*

Method: *Through a review of literature on ancient archives, the article answers the question of whether ancient archives were created to support historiography or were established independently.*

Results: *Chronological examination of the ancient history of archives shows that the first archives were established to assist the administration of the state and kept documentary evidence that had power in courts and international relations.*

Conclusion/Findings: *The first archives were not created with an aim to document history, but were in the function of a notary, as the archives also certified public documents and contracts and were often publicly available. Without public ancient archives and consistent downloading, storage and transcription of materials, today we would have much worse knowledge about humanity's past.*

Key words: *archival science, archivist, auxiliary historical sciences, ancient archives, history of archival science*

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LA SCIENZA ARCHIVISTICA È UNA SCIENZA STORICA AUSILIARIA - PANORAMICA SULLA STORIA ANTICA DELLO SVILUPPO DEGLI ARCHIVI

ABSTRACT

Scopo: *Lo scopo di questo articolo è analizzare il concetto di scienza archivistica, che è spesso classificata come una scienza storica ausiliaria, mentre molti scienziati hanno giustificato gli studi archivistici come una scienza indipendente e multidisciplinare.*

Metodo: *Attraverso una revisione della letteratura sugli archivi antichi, l'articolo risponde alla domanda se gli archivi antichi siano stati creati per supportare la storiografia o siano stati istituiti in modo indipendente.*

Risultati: *L'esame cronologico della storia antica degli archivi mostra che i primi archivi furono istituiti per assistere l'amministrazione dello Stato e conservavano prove documentali che avevano valore nei tribunali e nelle relazioni internazionali.*

Conclusione: *I primi archivi non furono creati con lo scopo di documentare la storia, ma avevano la funzione di un notaio, poiché gli archivi certificavano anche documenti e contratti pubblici ed erano spesso accessibili al pubblico. Senza archivi pubblici antichi e un download, una conservazione e una trascrizione coerenti dei materiali, oggi avremmo una conoscenza molto peggiore del passato dell'umanità.*

Parole chiave: *scienza archivistica, archivista, scienze storiche ausiliarie, archivi antichi, storia della scienza archivistica*

ALI JE BILA ARHIVISTIKA POMOŽNA ZGODOVINSKA VEDA - PREGLED SKOZI ANTIČNO ZGODOVINO RAZVOJA ARHIVOV

Izvleček

Namen: *Cilj prispevka je analizirati pomen arhivistike, ki se jo pogosto uvršča med pomožne zgodovinske vede, medtem, ko so mnogi znanstveniki arhivistiko utemeljili kot samostojno, multidisciplinarno znanost.*

Metoda: *Skozi pregled literature o antičnih arhivih članek odgovarja na vprašanje ali so bili antični arhivi ustvarjeni za podporo zgodovinopisju ali so bili vzpostavljeni neodvisno.*

Rezultati: *Kronološki pregled antične zgodovine arhivov kaže na to, da so se prvi arhivi ustanavljali kot pomoč administraciji države ter hranili dokazno gradivo, ki je imelo moč na sodiščih ter v mednarodnih odnosih.*

Sklep/ugotovitve: *Prvi arhivi niso nastali zaradi želje po zgodovinopisju, ampak so bili v funkciji notariata, saj so v arhivih tudi overili javne listine in pogodbe ter so bili pogosto javno dostopni. Brez javnih antičnih arhivov ter doslednega prevzemanja, hranjenja in prepisovanja gradiva, bi danes imeli veliko slabše vedenje o preteklosti človeštva.*

Ključne besede: *arhivistika, arhivist, pomožne zgodovinske vede, antični arhivi, zgodovina arhivistike*

1 UVOD

Ko vtipkamo v internetni iskalnik pojem arhivistika, nam ta pove, da je arhivistika pomožna zgodovinska veda (Arhivistika, 2022). Ko prebiramo knjige in učbenike nam povedo, da je mesto arhivistike med pomožnimi zgodovinskimi vedami, ki so sicer samostojne in tudi niso nujno zgolj zgodovinske vede. Temeljna dela o arhivistiki, kot je knjiga Arhivistika, ki ga je izdalo Arhivsko društvo Slovenije, nam pove, da je arhivistika v interesu zgodovinopisja (Vilfan & Žontar, 1973, 16–21). Če bi sklepali po tej trditvi bi pomislili, da se je v preteklosti najprej razvilo preučevanje zgodovine in so se šele nato kasneje ustanavljali arhivi, ki so sprejemali in hranili določeno gradivo.

V članku se z metodo pregleda literature povzame dokaze o obstoju arhivov in njihovem gradivu v antiki ter s tem raziskuje vprašanje ali se je arhivistika, kot veda razvila v 20. stoletju, pred tem pa bila tretirana kot pomožna zgodovinska veda oz. se v starejših obdobjih arhivistike ne dojema kot vede oziroma znanosti. Za arhive v dobi starega veka je značilno, da so hranili informacije, ki so bile zapisane na medijih kot so glinene tablice, lončene posode, voščene tablice, papirus ter pergament (Smole, 1976). Tudi zgodovino so v preteklosti dojemali kot pripoved oz. literaturo in ne kot znanost. Zgodovino so pisali v obliki kronik predvsem po pripovedih o zanimivih dogodkih ter spoznanju vrednosti podatkov iz že obstoječih zapisov. Pisci preteklosti pa so se ukvarjali predvsem z vladarji, politiko in bitkami v preteklosti, pri tem pa so podatke črpali iz starih pripovednih virov (Žontar, 1984). Zato se tu postavi vprašanje ali je arhivistika kot dejavnost obstajala že prej ter ali je za pomnjenje preteklosti s svojimi ugotovitvami zaslužna zgolj zgodovina ali tudi arhivistika? Rimski zgodovinar Tacit brez arhivov ter takratnih arhivistov ne bi mogel dostopati do podatkov, ki jih je zapisal o zgodovini Germanov.

Vede ko so diplomatika, paleografija, heraldika, gerontologija, zgodovina administracije itd., se lahko štejejo za pomožne zgodovinske vede (Ryantová, 2017). Znanje iz teh ved pripomore k razumevanju in prebiranju določenih predmetov, listin in podob iz preteklosti, nikakor pa se z omenjenimi vedami ne pridobi znanja kako pravilno hraniti dokumente, da bo prebiranje na voljo trajno v obliki originala naslednjim generacijam (Klasinc, 2011). To znanje se pridobi na študijskih smereh iz arhivistike, zatorej arhivske znanosti ne moremo označiti kot po-

možne zgodovinske dejavnosti, temveč kot samostojno, multidisciplinarno vedo (Thomassen, 1999). Arhivistiko se je do konca 20. stoletja dojemalo kot pomožno zgodovinsko vedo. Zaradi hitrega družbenega razvoja, razvoja tehnologije in potreb družbe po ohranjanju informacij ter novih pravnih zahtev se je arhivistika začela razvijati v samostojno vedo ter postala samostojna humanistična veda kot so bibliotekarstvo, dokumentalistika ter informatika (Bizjak, 2007).

2 PRAZGODOVINA IN MEZOPOTAMIJA

Človek je že v prazgodovini upodabljal različne simbole in znake, kar kaže na to, da je želel pustiti neko sled ali pa ohranit informacije za kasnejše rodove. Primere najdenih simbolov, znakov in slik najdemo v votlinah današnje Francije (Lascaux), Španije (Altamira), Italije. (Klasinc, 2020).

Prvi arhivi so se začeli razvijati v dobi starega veka. Ti so se pojavili v t.i. zibelki civilizacije - Mezopotamiji in se naprej razvijali v antičnem Egiptu, v kretski in mikenski kulturi, skozi klasično Grčijo ter za časa rimske republikanske dobe vse do dobe rimskega principata. Javni arhivi antičnega tipa so se ohranili še v srednjem veku v mediteranskih srednjeveških državah zlasti na področju civilnega sodstva. V zgodnjem srednjem veku se je pojavil tudi arhiv zaprtega tipa, ki je služil le vladarju in njegovim interesom. V teh se je hranilo dokazno gradivo, ki je dokazovalo vladarske pravice, to je bilo v obliki zaključnih dokumentov oz. listin (Smole, 1976).

Potrebno je razlikovati področje zgodovine arhivov ter področje zgodovine arhivske prakse, čeprav se ti dve področji dopolnjujeta. Zgodovina arhivov proučuje nastanek in razvoj oz. pregled razvoja arhivov v preteklosti. Zgodovina arhivske prakse pa preučuje zgodovino dokumentov, torej raziskovanje razvoja medijev na katere se je pisalo ter hkrati tudi njihovo tipologijo in klasifikacijo dokumentov (Delsalle, 2017).

V Mezopotamiji v kraju Ebla so med izkopavanji našli 17.000 glinenih tablic in njihovih delcev iz 2300 pr. n. št. Kljub temu, da se je arhiv podrl, saj je padel eno nadstropje nižje, se je ugotovilo, da so bile glinene plošče urejene po točno določenem redu. Pomembnost pomena vsebine arhiva pa se kaže s tem, da je bil povezan s prostorom, kjer je kralj sprejemal svoje goste na avdienci.

Tablice so bile postavljene pokonci na policah ena pred drugo ter naslonjene ob steno. Vsebina tablic je zadevala davke, podatke, ki so se nanašali na agrikulturo in na hrambo živil ter nekaj kraljevih dekretov.

V arhivu iz 12. stoletja pr. n. št. v mezopotamskem mestu Ugarit se je med izkopavanji našlo dokumente, kjer je jasno berljiva korespondenca z egipčanskimi faraoni, pogodbe, finančne ter ekonomske dokumente. Raziskovalci so opazili tudi, da so bili dokumenti shranjeni po segmentih, torej finančne zadeve so bile ločene od diplomatskih, kar bi lahko danes označili kot posamezno arhivsko zbirko.

V veliki večini so obstajali t.i. administrativni arhivi, kjer se je hranilo tekoče državne zadeve. Lahko bi rekli, da so se takratni arhivisti, zavedali pomena pravilne hrambe dokumentov, saj so se trudili dokumente primerno zaščititi in očitno so se zavedali tudi, da imajo dokumenti izjemen pomen, kar se tiče dokazne in inteligenčne vrednosti ter tudi zgodovinske pripovedi.

Ostanke arhivov najdemo tudi na otoku Kreta iz časa Minojske kulture, kjer so v dobi palač, hranili dokumentacijo v za to namenjenih prostorih - arhivih. Te najdemo v mestih Fajstos, Zakros in Knossos ter v Malii. V kraju Knossos so bili dokumenti najdeni v osmih različnih sobah, kjer se je v posamezni sobi hranilo določeno temo dokumentacije.

3 FARAONSKI EGIPT

V faraonskem Egiptu se je pisava začela hitro razvijati, za starodavne zapise je značilna upodobitev pisarjev, kot figur oblasti in izvajanja nadzora. Kot medij za pisanje se je vedno bolj uveljavljal papirus, vendar so vseeno uporabljali tudi glinene tablice ter usnje in lesene tablice. Ker je papirus rastlinskega izvora (papirusovo trsje) je žal velik del zapisov na papirusu uničen ali izgubljen, saj je za papirus značilno, da je podvržen raznim bakterijam ter plesni, ki papirus uniči. Žal ni trdnih dokazov, da so v faraonskem Egiptu imeli arhive, odkrite pa so bile posamezne lesene škatle, ki so omogočale hrambo papirusa. Prav tako, ni dokazov o gradnji arhivov oz. prostorov, kjer bi se dolgoročno hranila dokumentacija. Najdenih je bilo nekaj dokumentov v templjih, kjer je opisano vsakodnevno življenje. Na krajih, kjer so bila gradbišča za grobnice so bile najdene lončene posode ter kamni iz srebra, kjer so se ohranili zapisi, ki spominjajo na današnje delovodnike ter administrativni zapisi o delovnem dnevu,

delovni seznami, izračuni za izdajo obrokov hrane ter računi. Najdeni so bili tudi dokazi o lastništvu zemljišč ter odmere prihodkov od zemljišča v obliki glinenih tablic v prostorih guvernerjev.

V faraonskem Egiptu so za državne zadeve skrbeli nadzorniki pisarjev t.i. pomočniki vezirjev, ki so delovali kot nekakšni državni arhivisti. Te podatke se najde na stenah grobnic, ki so ohranjene. Grobnice so iz časa 19. dinastije, ki je trajala od 2700 - 2300 pr. n .št. Lahko bi rekli, da je to prva omemba poklica arhivarja, kjer je podrobno opisano tudi, da so bili kot pomočniki vizirja odgovorni za to, da so sestavljali zemljiške knjige.

4 ANTIČNA GRČIJA

Antični Grki (Heleni) sicer pisave niso odkrili temveč so jo preoblikovali na bazi abecede. Zapisovali so nekakšen kolektivni spomin (*memnom*), zaradi, katerega je danes veliko znanega o antičnih Grkih. Zaradi barbarskih vpadov ter naravnih katastrof sta počasi zamrli minojska ter mikenska kultura, vendar se je grška kultura ohranjala zaradi preseljevanja različnih ljudstev, tako Dorcev kot Joncev, ki so se preseljevali na Peloponez ali pa iz Peloponeza na otoke v Egejskem morju. Ta ljudstva so se počasi ustalila in zaradi geografskih značilnosti ter varnosti ustvarjala majhne državice imenovane polis. Polisi so postale majhne samostojne države in so pripeljale do novih oblik civilnega življenja ter politične oblasti, kjer je veliko vlogo dobila tudi hramba dokumentov.

V Atenah v času 6. stol. pr. n. št. so bili arhivisti poimenovalni *grammateis* - uradniki, ki so služili kot tajniki mestnih oblastnikov in so vodili dokumentacijo pri opravljanju njihovih funkcij. V 7. stol. pr. n . št. so pomembne odločitve in zakone objavljali v velikem obsegu na lesenih tablicah, v 5 . stol. pr. n . št. pa so jih začeli objavljati na kamnih. Obseg najdenih dokumentov je bil povezan s stopnjo demokratičnosti takratne vladavine. Namreč v demokratičnih mestih, kot so bile Atene, je bilo takšnih dokumentov najdenih veliko, medtem, ko je bilo v mestih, kot so bile Tebe ali Korint, kjer je bila oblika vladavine v tem obdobju oligarhija, takšnih dokumentov najdenih v manjšem številu. V polisih so bili arhivi različni in so služili različnim ustanovam. Tako je osrednji svet mestnega polisa imel svoj arhiv ter ostale mestne oblasti prav tako. V osrednjem skladišču so hranili tudi notarske listine, ta prostor, so imenovali *archeion*. Z besedo *archeion*

so prostore, kjer so se hranili dokumenti, imenovali v dvajsetih polisih, medtem ko so se drugje ti prostori imenovali: *demosion, grammata, grammateion, grammatophylakon, chereophylakoin, syngraphphylahion.* Ne glede na poimenovanje skladišča dokumentov je bil njihov namen v vsakem polisu enak, torej, da zagotavlja varno hrambo privatnih dokumentov (rojstni dokumenti, oporoke, kupoprodajne pogodbe…), kakor tudi javnih dokumentov (Rhodes, 2001). Po tem so se grški arhivi razlikovali od takratnih arhivov v Perziji, kjer se takšne vrste dokumentov ni hranilo. Iz dobe Ahamedinjskega perzijskega imperija, iz palače Perzepolisa, obstajajo ohranjene tablice o fortifikaciji ter tablice o zakladnici iz 492–459 pr. n . št., iz časa vladanja Dareja I. ter Kserksesa.

Grški arhivarji so delovali tudi kot notarji, saj so tudi overjali listine. Ko so kvalificirani tajniki mestne oblasti v Atenah (imenovani *grammateus*), pod nadzorom sopodpisnika (priče), podpisali dokumente, so ti dokumenti bili poslani v njihove arhive, kjer so hranili uradne, javne ter tudi zasebne dokumente. Ko je po pravnem postopku določen dokument postal javen, so tega premestili v javni arhiv (*demosia grammata*). Antični Grki so se zavedali pomena hrambe dokumentov in so vedeli, da določeni mediji zagotavljajo daljšo hrambo dokumentov, zato so zelo pomembne dokumente prepisali in izklesali v kamen, vendar je bilo to zelo drago. To je veljalo predvsem za zakone, ker so želeli, da zakoni ostanejo berljivi dalj časa ter za več rodov. Primer izklesanega zakona je Goritski zakonik iz Krete, kjer so zakonik okoli leta 450 pr. n . št., vklesali v marmorne plošče ter jih namestili na notranji del mestnega obzidja.

Med leti 390 in 370 pr. n . št. so se mestni arhivi pojavili tudi v templju (*metroon)*, kateri je bil namenjen kot javni arhiv, imel je nalogo dolgoročne hrambe in je gradivo bilo dostopno ljudem. To je prvi arhiv katerega namen je bil tudi za študijske namene, torej se gradiva ni hranilo zgolj za administrativne namene oz. kot gradivo namenjeno upravnemu postopku, temveč je bilo gradivo kot trajno gradivo, ki je imelo velik pomen za grško kulturo.

Za časa grškega osvajanja širnega perzijskega imperija, katerega je osvojil Aleksander Veliki je bil perzijski prostor podvržen helenizaciji, kot rezultat tega pa je bila mešanica grško-perzijskega tehničnega znanja ter prevlada grške administracije na perzijskih tleh. V času osvajanja perzijskega imperija je Aleksander Veliki upravljal svoj imperij na daljavo s pomočjo dobro organizirane uradne pošte, ki je bila name-

njena le za pošiljanje uradnih dokumentov. S seboj je Aleksander Veliki vozil tudi svoj osebni arhiv, kateri je bil poškodovan, ko se je v šotoru njegovega poveljnika, kjer se je hranila dokumentacija, vnel požar. Aleksander Veliki je ukazal, da se dokumente, predvsem dnevnike, obnovi s pomočjo ostankov ter kopij dokumentov njegovih poveljnikov, ki so v svojih spisih premlevali tudi neenotnost v vojski zaradi izmučenosti ter domotožje vojakov zaradi oddaljenosti od domače Makedonije. To dejanje lahko razumemo kot prvo restavracijo uničenega arhiva v zgodovini, kar tudi poudari pomen ohranjanja in pravilne hrambe pomembnih dokumentov.

Babilon je takrat postal novo središče Aleksandra Velikega ter glavno mesto perzijskega kraljestva, v njem pa so vzpostavili tudi sedež arhivov kraljestva. V arhivih so hranili dekrete in ukaze Aleksandra Velikega, pisemsko korespondenco, poročila iz terena kraljestva, katera so pridobila na pomenu po smrti Aleksandra Velikega leta 323 pr. n. št., ko so si oblast razdelili njegovi nasledniki poimenovani *diadohi*. Obdobje diadohov je tudi obdobje vojn in upravno-administrativnih sprememb, saj se je imperij razdelil na Egipt, Sirijo ter Makedonijo. Upravo teh so si razdelili Aleksandrovi poveljniki, ki so upravljali razdeljene dele prejšnjega grško-perzijskega imperija.

5 GRŠKO-RIMSKI EGIPT

V grško-rimskem Egiptu so se arhivi razvijali z prihodom Ptolemaja I. (eden od diadohov, ki so si razdelili cesarstvo Aleksandra Velikega) oz. prihodom dinastije Ptolomajcev na oblast v Egiptu. Ptolemajsko obdobje je trajalo 275 let, v tem času je prišlo do stroge centralizacije uprave države, kjer se je v arhivih kopičila velika količina gradiva, saj se je spremenila tudi fiskalna politika države, hkrati pa se je z dekreti omogočilo lažji dostop do arhivov.

Z Ptolemajsko dinastijo je v Egipt prišlo veliko število grških priseljencev, k so s svojim tehničnim in praktičnim znanjem spremenili državno upravo in egipčansko državno področje birokratizirali z uvajanjem administracije, ki je bila popolnoma podrejena ptolemajski dinastiji. To pa pomeni, da se je povečala t.i. papirusologija in je s tem je prišlo do povečane proizvodnje in uporabe papirusa v vsakdanjem življenju.

Ker je večji del gradiva moral tudi v hrambo, so se arhivi hitro soočili z pomanjkanjem prostora za zagotavljanje primerne hrambe množičnega kopičenja

gradiva, tako so pisarji pogosto brisali ali rezali tekste iz obstoječih zlatih papirusovih zvitkov in spajali skupaj z zvitki nove tekste. Obstajala je pisarna imenovana *hypomnematographeion,* katera je bila odgovorna za ohranjanje dnevnih knjig poimenovanih *commentarii*, druga pisarna imenovana *epistolographeion,* pa je bila zadolžena za hrambo korespondence ministra. Rimljani, ki so zavzeli Egipt so v grško-rimskem Egiptu še izpopolnili delovanje arhivov, kjer so v pisarnah perfekta morali sestaviti v en skupen dokument: vsa pisma, dnevne knjige, transakcije in izvlečke. Dnevne knjige (*commentarii)* niso bili mišljeni zgolj kot dokumenti, ki se so se hranili za potrebe poslovanja perfekta, vendar so bile namenjene ohranjanju za kasnejše rodove in so jih selili v državne arhive, kateri so bili namenjeni javni uporabi (Posner, 1972).

6 RIMSKA REPUBLIKA

V dobi rimske republike, ko se je povečala fiskalna politika države zaradi vse večjega ozemlja, je arhiv deloval v arhivski praksi, kot del infrastrukture nastajajoče nacije, zato je domoval v državni zakladnici imenovani *aearium.* Aearium je kot del zakladnice domoval pri Saturnovem templju. Tukaj se je hranilo tako finančno kot ne-finančno dokumentacijo, ki se je sčasoma združila z dokumentacijo questorjev (finančnih uradnikov, ki so skrbeli za Aerarij), ter kasneje tudi z dokumentacijo rimskih senatorjev. Z združevanjem dokumentacije je rimski arhiv postajal vse bolj pomembna ustanova, ki je v sodelovanju s templjem Ninf, kjer se je hranilo dokumentacijo, ki je zadevala popis prebivalstva in s tem nudil podporo pri davčni politiki. Kljub združevanju različne dokumentacije, arhiv, kot del državne zakladnice, še vedno ni bil samostojna ustanova.

Požar na kapitolovem griču leta 83 pr. n. št., je uničil večji del Jupitrovega ter Saturnovega templja, zaradi česar je bila potrebna obnova templjev, ter dela rimskega foruma, vsekakor je to pa je lahko vplivalo na Aerarium, saj je rimski senat z resolucijo, sklenil, da se zagotovi ločena zgradba državnega arhiva. Po požaru in sklepu senata so se na rimskem forumu začela obnovitvena dela, ki so popolnoma spremenila podobo osrednjega dela mesta Rima. Z veliko stavbo imenovano *tabularuim* se je zapolnil prostor med dvema mestnima hriboma ter z arkadami združila povezavo med hriboma. Stavba nad tabularijem na desni strani je bila kovnica denarja, na levi strani nad tabularijem pa je bil Jupitrov tempelj. Tokrat

se je stavba tabularija, delila na zakladnico ter državni arhiv. Stene hodnikov, dela stavbe, kjer se je hranila dokumentacija, so bile obložene s poroznim vulkanskim kamnom, ki je takrat veljal za standard, ki zagotavlja požarno varnost.

V to ustanovo se je odlagalo podpisane dokumente, zakone in dekrete, na ta način pa se je zagotovila tudi varnost pred ponarejanjem listin hkrati pa se je zagotavljalo tudi dokumente kot dokazno gradivo v pravnih postopkih za zagovarjanje pred sodišči (Delsalle, 2017).

Arhiv je vseboval izvode zakonov (*senatus consulta*), (ki niso bili veljavni, dokler niso bili ustrezno deponirani ter javni. To morda morda lahko enačimo z današnjim uradnim listom. Javne pogodbe, zapisi uradnih priseg, seznami javnih dolžnikov in knjige rimskih rojstev ter osvobojencev so bile prav tako del gradiva tabularija. V arhivih so se hranili tudi anali (*annales*), to so bile letne kronike, ki so jih zapisovali glavni svečeniki t.i. pontifex maximus (Culham, 1989).

Obstoj rimskega arhiva poimenovanega *tabularium* v dobi rimske republike, ni bil potrjen zgolj iz arheoloških najdb, temveč tudi iz dokumentov oz. zapisov, kar postavi večjo težo v zgodovini arhivistike, saj na ta način izvemo več o rimskih arhivih. Cicero v enem svojih govorov opisuje rimske arhive, kot institucije javnega spomina, medtem, ko skozi literaturo spoznamo iz del senatorja Kata mlajšega za obstoj arhiva. Napis vklesan na kamnu ob tabulariju pa postavi dodatno težo kot arheološki dokaz, o rimskem tabulariju, saj omenja senatorja Kata kot ustanovitelja tabularija, ki je bil zadolžen za njegovo izgradnjo.

Prek zapisov, ugotovimo tudi uporabniško izkušnjo s strani uporabnika. Že Kato mlajši ter kasneje slavna politika, pisca in zgodovinarja Tacit in Svetonij, iz časa rimskega principata pišeta tudi o tem, kako težko je bilo priti do gradiva v času njunega raziskovanja zgodovine. Njuno opisovanje stanja rimskega arhiva po vsej verjetnosti ni bilo pretirano, saj so gradivo upravljali kvestorji - *quaestores*, ki so bili voljeni vsako leto. Kvestorji pa so bili nadrejeni aparitorijem - *apparitores,* ki so bili javni uslužbenci vezani na enoletni mandat svojih nadrejenih. V tabulariju so delovali tudi librariji - *librarius,* katerih naloga je bila zgolj prepisovanje tekstov in jih zlagati skupaj v knjigo. Torej so v stavbi delovali trije različni poklici: zakladniki, arhivarji ter pisarji. Kakšna je bila povezava med njimi žal ni znano.

Tabularij je bil odprt za raziskave za usposobljene osebe. Tako vemo, da je Kato mlajši za plačilo petih talentov uspel dobiti tabelo javnih prihodkov in izdatkov od

časa Luciusa Corneliusa Sulle pa vse do časa, ko je funkcijo quaestorja (quaestor - rimski uradnik zadolžen za nadzor nad financami), prevzel sam Kato mlajši.

Plebejci - običajno ljudstvo so uporabljal še en arhiv, arhiv v Cererinem templju, cenzorske zapise so odnesli v tempelj nimf in Atrium Libertatis, podatki so tudi o zasebnih arhivih, npr. nekdanjih uradnikov. Bronaste tablice z zakoni, ko so bile vidne na Kapitolu, so bili javni referenčni vir (Thomas, 2016).

Delovanje rimskih arhivov v času principata se je drastično spremenilo, saj se je spremenil tudi način delovanja države. Politična moč se je preselila iz senata v imperialno oz. cesarsko palačo na palatinu. S tem pa je Tabularium pravzaprav izgubil značaj centralnega državnega arhiva, kot prostora kjer se trajno hranijo gradiva najpomembnejših rimskih političnih teles, ki ga je pridobil v času republike. V času republike je senat sprejemal zakone, ki so bili odraz volje ljudstva in v tabulariju je bilo gradivo senata najobširnejše ter najpomembnejše.

Z jemanjem moči senatu, kot zakonodajnemu telesu države je senat v času principata postal družbeno telo, ki je zgolj potrjeval zakone, kateri so odražali voljo cesarja, lahko bi rekli da je senat postal urad, ki je publiciral cesarjeve ukaze.

Kar se tiče ljudi ki so delali v arhivu pa se je zgodila sprememba glede vprašanja ureditve dela v državni zakladnici, kjer so se v času principata bolj jasno ločilo, na tiste, ki so delali v državni zakladnici ter na tiste, ki so delali z gradivom. Tako se je mestne kvestorje razrešilo odgovornosti za mestno zakladnico in se je njihovo dolžnost omejilo na del stavbe, ki je predstavljal arhiv.

Čeprav so imeli kvestorji (*quaestores*) zdaj nadzor izključno nad Tabularijem - arhivom, so bile razmere v arhivu neustrezne, zato je cesar Tiberij imenoval tri kuratorje (*curatores tabularum publicarum*) v arhiv, ki so morali priskrbeti manjkajoče dokumente in restavrirati tiste, ki so bili poškodovani. V tem času je nastal tudi posebni arhiv v cesarski palači, ki bi ga lahko razumeli kot osebni arhiv cesarja. Danes bi ta arhiv, lahko enačili z arhivom predsednika države, v državah ki imajo predsedniški sistem oblasti.

7 RIMSKO CESARSTVO

Pod cesarstvom se gradivo vedno bolj osredotoča na cesarjeve arhivske zapise, imenovane *tabularium principis*. Cesarjevi komentarji (*commentarii principis*)

so vključevali cesarske edikte in pisma (komentarje, ki beležijo podelitev rimskega državljanstva (zapisano v tabuli Banasitana), kar je uvedel Avgust.

Vso gradivo cesarja danes lahko razumemo kot en fond, takrat se je to gradivo imenovalo cesarjev arhiv (*tabularium Caesaris*). Vso to gradivo je bilo namenjeno predvsem trenutnemu cesarju ter naslednikom na mestu cesarja, da so lahko pravno dokazovali pravico do političnega mesta ter naslova. Morda najpomembnejši del tega gradiva so bile oporoke, sklenjene ob smrti ter tudi pogodbe posinovljenca, ker so cesarji z pogodbo vzeli za sina sposobne ljudi v državni upravi in na ta način zagotovili nadaljnji prevzem cesarskega mesta in s tem nadaljevanje rimskega cesarstva.

Zgodovinar Svetonij piše o tem, da so bili dokumenti cesarja Tiberija na voljo kasnejšemu cesarju Domicijanu, torej so obstajali dokumenti, ki so jih lahko brali novi rimski cesarji in na ta način lahko domnevamo, da so bili arhivi ob smrti starega cesarja na voljo novemu cesarju ter tudi kasnejšim cesarjem.

Kasneje za časa cesarja Hadrijana in cesarja Dioklecijana se je formiral tudi urad za pošto oz pisma, za potrebe cesarja, saj so se cesarji selili iz Rima in so imeli so-cesarje. Za časa cesarja Hadriana se je poštni urad razdelil na del, ki je vseboval pisma napisana v grščini ter pisma napisana v latinščini. V teh časih se je uporabljalo tudi skrinje (*scrinia*) - lesene škatle, ki so vsebovale nekakšne knjige oz. dokumente v obliki papirusa, ki so bili zlepljeni skupaj. Skrinje so uporabljali predvsem kot način hrambe dokumentov na terenu, torej, ko so bili cesarji na poti v province.

Arhivi v provincialnih mestih so se imenovali tabularji (*tabularia*), po voščenih tablicah, ki so jih Rimljani uporabljali na terenu, kamor so zapisovali podatke z pisalom (*stylus*), zadeve, ki so bile pomembne so nato odnesli v tabularije, kjer so pisarji prepisali tekste na papirus in zapise predali v prostore, kjer se je hranilo gradivo (Visočnik, 2019).

Po propadu rimskega cesarstva, plenjenju barbarskih narodov določena masa gradiva propada in uničuje. Vseeno pa se določen del arhivov, dobro ohranil, predvsem v t.i. lateranskih - torej cerkvenih arhivih. Papeški arhiv v Rimu je v 7. stol .n. št. je izpričan, kot arhiv, ki je delno prevzel rimske vzorce arhivistike (Košir 2002).

Sprva so gradivo hranili v kripti cerkve sv. Petra, kar pomeni da prostorsko arhiv ni bil povezan z papeško pisarno (Smole, 1976).

8 ZAKLJUČEK

Pregled razvoja arhivov skozi stari vek kaže na določeno mero razumevanja pomena ohranjanja listin, ki so bile za ljudi pomembne saj so tudi na ta način lahko dokazovali lastništvo, pravice, privilegije… Vse kaže na to, da se je človek zavedal pomena ohranjanja podatkov tako za tekoče zadeve, npr. za dokazno gradivo, kakor tudi za hrambo gradiva za kasnejše generacije. Ljudje so se zavedali pomena izgube neke listine in so se trudili vzpostaviti standarde, ki bi zaščitili arhivsko gradivo pred različnimi zunanjimi vplivi. Pri izgradnji arhivskih stavb so želeli zagotoviti čim boljšo zaščito pred požari, poplavami, krajami, načrtnimi uničenji, itd.

Pregled skozi zgodovino arhivistike kaže na to, da arhivistika ni delovala kot pomožna zgodovinska veda, saj sprva arhivsko gradivo ni bilo namenjeno raziskovanju zgodovinarjev, kot piscem o preteklosti, vendar so arhivi služili predvsem kot ustanove, kjer se je shranjevalo dokazno gradivo, hkrati pa so bili sestavni del administracije države.

Vzpostavljanje arhivov pomeni pomemben premik v zgodovini človeštva saj, če se človek, kot arhivist, ne bi ukvarjal z arhivi in ohranjanjem dokumentacije, danes ljudje ne bi imeli dovolj znanja in tok zgodovine bi bil verjetno drugačen. Brez pojava arhivov se po svetu ne bi širilo znanje, saj je prepisovanje antičnih tekstov bistveno prispevalo k širjenju znanosti. Lahko govorimo o začetkih razmišljanja, da se skozi arhivske dokumente lahko preučuje zgodovino. Zato se današnji arhivisti ter ostali znanstveniki, ki se ukvarjajo z arhivsko teorijo in prakso morajo zavedati zgodovine arhivske dejavnosti, saj na ta način lahko razumejo razvoj arhivske dejavnosti, hkrati pa zglede iz preteklosti lahko uporabijo tudi v novodobni arhivistiki.

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Summary

The article titled „Was Archival Science an Auxiliary Historical Science - Overview of the Ancient History of Archive Development“ explores the evolution and classification of archival science. Historically, it was considered an auxiliary discipline supporting historiography. The paper argues against this notion, asserting that archival science should be recognized as an independent and multidisciplinary field.

The study reviews ancient archives, examining whether their primary purpose was to support historical research or serve other societal needs. Findings show that early archives were not established with a historical agenda; instead, they functioned to support state administration, legal systems, and international diplomacy. The first archives preserved documents of legal and administrative significance, such as contracts, decrees, and evidence for judicial use, often accessible to the public.

The development of archival practices dates back to prehistory, where evidence of symbol use indicates an early desire to transmit information across generations. In Mesopotamia, evidence of organized storage practices emerged, with thousands of clay tablets documenting taxes, agriculture, and royal decrees. Ancient Egypt‘s administrative system relied on documents stored in places like temples, though no formal archive buildings have been discovered.

In Ancient Greece, archives played a significant role in administrative and legal functions. The term „archeion“ referred to state archive locations, such as in Athens, where records included public and private documents. Public access varied, reflecting the level of democracy in city-states. Greek archivists acted as notaries, ensuring documents‘ authenticity, which contrasts with the closed archives of Persia.

The Roman Republic saw archives as integral to state infrastructure. Initially housed within religious and financial centers, the destruction of archives due to fire led to the construction of dedicated facilities like the Tabularium. In Imperial Rome, the archives transitioned from a public record-keeping function to supporting the emperor‘s administration. The differentiation between administrative archives and imperial records became more pronounced, reflecting changes in governance.

Overall, the article concludes that archival science has evolved from practical functions in administration and law, distinct from historiography. While historical records benefit from archives, their primary function was administrative rather than historical. This distinction supports the view of archival science as a standalone discipline, crucial to preserving human knowledge and societal development.

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