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EDITORIAL

WHERE ARE ARCHIVES AND WHERE SHOULD THEY BE IN A GLOBALIZED WORLD?

Marcus Tullius Cicero wrote: *"Historia vero testis temporum, lux veritatis, vita memoriae, magistra vitae, nuntia vetustatis."* In a free translation, this may be rendered as follows: History (and, with it, archival science) bears witness to past times, illuminates truth, preserves memory, teaches lessons about life, and conveys messages from the past. At the same time, it provides guidance for the future.

The answer to the question *"Where are archives and where should they be in a globalized world?"* is not easy to find. Contemporary society is so complex and extensive that we must continuously observe its developments and, to a certain extent, incorporate them into archival science, archival theory, and archival practice.

Despite the overwhelming amount of information associated with globalization, digital transformation, and artificial intelligence, archivists can still rely on certain principles enshrined in two important international documents: the *Code of Ethics for Archivists* (1996) and the *Universal Declaration on Archives* (2010). Individual provisions of these documents continue to provide answers to many of the questions that arise in our daily professional work. Although some may regard these texts as outdated, a broad interpretation of their principles remains highly relevant, particularly in the context of digitization, which archivists have been implementing extensively for many years.

In everyday life, not only archivists but society as a whole encounter events and processes that are directly or indirectly related to archives and archival work in the broadest sense of the term. Unfortunately, archival science and its role in the globalized world are perceived in very different ways. Alongside digitization, we are now increasingly confronted with the application of artificial intelligence. In practice, this raises numerous challenges concerning authenticity, reliability, trustworthiness, confidentiality, the protection of personal data, and related issues.

When discussing interoperability and the harmonization of archival terminology - regardless of linguistic differences - we must acknowledge that complete uniformity will never be achieved. Nevertheless, within information systems, it is possible to establish effective mechanisms for data exchange and mutual understanding.

The Latin proverb *"Litera scripta manet, verba volant"* (Written words remain, spoken words fly away) is particularly relevant to archivists when discussing archival records. The phrase emphasizes that recorded information endures over time. Archivists embraced this principle long ago, and today it can be readily incorporated into global information systems. Through archival records, we gain insight into relationships among states, institutions, communities, and individuals. Such records serve as evidence that can contribute to the development of a better society. Our primary concern should not be who will be held accountable for past mistakes or how such mistakes will be corrected, but rather ensuring the preservation and accessibility of the documentary evidence itself.

Preserved archival records provide evidence of actions and decisions made in the past - both positive and negative. The interpretation of these records and the assessment of what was beneficial or harmful are generally left to historians and other researchers. For archivists, however, the essential tasks are to assess the condition of archival holdings, ensure their long-term preservation, guarantee their accessibility, and maintain their security.

Today, archivists must understand the concept of "data" within the broader context of archival records that contain data. Consequently, archival records are defined and regulated through legislation, regulations, standards, and other normative instruments. It is true that the term "data" often feels somewhat foreign to archivists, as it is not traditionally part of our professional vocabulary. We encounter it primarily when describing records that document various aspects of human activity or when participating in projects that are increasingly managed by information technology specialists and computer scientists.

Recently, such specialists introduced me to a project focused on data erasure. According to the information provided, the project aims to ensure data protection through the secure deletion of information stored on modern media such as hard disk drives (HDDs), solid-state drives (SSDs), floppy disks, USB flash drives, and SD cards, thereby preventing unauthorized access and misuse. This raises an important question: can these modern information carriers constitute archival material? If they do contain records of enduring value, they should not be destroyed without proper archival appraisal and consideration.

Allow me to conclude with another Latin saying: *"Cuilibet arte sua credendum"* (One should trust experts in their own field). I am convinced that this principle must also apply to archivists and to the professional knowledge upon which archival work is founded.

Peter Pavel Klasinc,
Editor-in-Chief

Zdenka Semlič Rajh[1]

GUIDELINES FOR THE CREATION OF DESCRIPTORS WITHIN THE ARCHIVAL DATABASES

Purpose: *Descriptors represent an important tool in the process of creating objective information about archives, as most of the modern information processing systems are based on the descriptor system, which plays a key role. Descriptors represent an important access point for retrieval of information from archival information systems. They are the starting point for searching within the content and descriptions of archives therefore they must allow users the continuation of inquiries in archival information system. Practical experience gained through archival description, together with searching and retrieval within the Slovenian archival database has demonstrated a clear need for a more systematic treatment of the question of creation of headings. In particular, there is a need for guidelines governing the creation of subject headings and thesauri for archival content that can be applied consistently across different archival information systems and software platforms.*

Method/approach: *To investigate this need, a comprehensive research project was conducted. Its primary objective was to develop practical guidelines for the formulation of subject headings and the establishment of thesauri applicable to archival records of enduring value, regardless of the software environment used for archival description. To identify the requirements for such guidelines, two complementary studies were undertaken. The first focused on users and patterns of use within the Slovenian cooperative archival database. The second study employed a qualitative research design based on content analysis. Selected domestic and international archival databases were examined using a predefined coding framework, which provided the basis for the analysis. The central research question was as follows: "Is the subject indexing of archival records implemented in a manner that enables users to conduct independent searches of archival databases and facilitates faster and easier access to archival records?"*

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Results: *The importance of names was confirmed not only by the analysis of Slovenian archival database but also by our examination of foreign archival information systems. Of the fifty-four systems analysed, only thirty-three supported descriptor-based searching. Among these, 89% enabled searching by personal names, 45% by family names, 63% by corporate body names, and 88% by geographical names. The results unequivocally confirmed the need for formal guidelines governing the formulation and application of descriptors.*

Conclusions/findings: *On the basis of the analysis of records contained in Slovenian archival information systems, together with the identification of common theoretical principles, a set of guidelines was subsequently developed for the formulation of subject headings, thesauri, and classification structures within the Slovenian archival environment, particularly for the description of documentary and archival records.*

Keywords: *access, archives, access points, descriptors, subject headings*

1 INTRODUCTION

Efforts to facilitate faster and more efficient access to archival records emerged relatively early in the development of archival theory and practice and were implemented through a variety of approaches. Methodological challenges associated with archival access were generally addressed independently by individual archival institutions, resulting in the development of diverse systems and practices. A phenomenon was already noted by Vilfan (1956).

While these systems often proved effective within their local institutional environments, they were not designed to support relational archival databases. Their functionality was primarily adapted to facilitating access through traditional archival finding aids rather than through shared digital information systems.

In contemporary archival information environments, descriptors constitute an essential tool for the creation of objective and structured information about archival records. Most modern information retrieval systems rely on descriptor-based approaches that play a central role in organising, indexing, and retrieving information. Descriptors also function as important access points within archival information systems, serving as entry through which users search for and discover archival content. Consequently, descriptors must not only support the identification of relevant records but also enable users to continue and refine their searches within the broader archival information environment.

2 THEORETHICAL FRAMEWORK

Research on archival users has consistently demonstrated that access to archival records, whether archival reading rooms or through publicly accessible online databases, is most commonly sought through personal names, corporate body names, records creators, and geographical names. At the same time, studies have shown that searching archival databases through web-based interfaces presents considerable challenges for users, who often must rely exclusively on their own knowledge, experience, and familiarity with archival terminology.

The archival environment differs significantly from library and museum environments (Šauperl, Semlič Rajh and Knez, 2013), largely because of the importance of context (Johnson, 2008) which constitutes one of the defining characteristics of archival records. As Šauperl et al (2014a; 2014b) have observed, locating the

correct document does not necessarily imply that the user will be able to interpret or utilise it effectively.

Users frequently encounter difficulties in understanding the complexity of archival records (Daniels, Morgan and Yakel, 2010; Šauperl et al, 2014a; Šauperl et al, 2014b) often because they are unfamiliar with the professional terminology employed in archival description. These challenges are further exacerbated by the fact that not all archival holdings are represented in publicly accessible databases.

The importance of names as access points has been recognised by numerous researchers. Lytle (1980) identified names as the most straightforward and effective means of accessing archival records, particularly because archival fonds and collections are commonly named after their creators. Subsequent studies have confirmed the significance of personal and corporate names in archival searching. In her theoretical discussion Dooley (1992) identified subject headings, proper names, forms of archival material, chronological periods, geographical names, occupations, and functions of records creators as key elements for ensuring more consistent access to archival records. Similarly, Cole (2000) observed the importance of names among doctoral students of history, who systematically collected personal and corporate names and subsequently used them as search terms in their research.

The findings of Duff and Johnson (2001, 2002, 2003) further reinforced these observations. Of particular significance was their conclusion that researchers tend to situate archival records within specific time and space. Likewise, Daniels and Yakel (2010) demonstrated that online archival databases are primarily designed to facilitate searches based on personal names, family names, corporate body names, and geographical names.

Michelson's study (1987) provides an additional perspective on the role of names in archival description. Examining a sample of forty institutions within the Research Libraries Information Network, she found that archives and libraries generally did not assign subject headings for personal and family names, even when the records being described formed part of personal or family collections.

The importance of names in archival retrieval has also been confirmed through an analysis of user requests submitted to the Archives of Tuzla Canton (Šauperl et al, 2015a; Šauperl et al. 2015b). The study revealed notable differences among user groups: students most frequently searched by place, time period, subject,

and personal names; amateur researchers primarily searched by names, place, and time period; whereas professional historians most often searched by subject, place, and time period.

The significance of personal names, family names, and corporate body names within archival information systems is further reflected in the international standard ISAAR(CPF) (2004) which standardises authority records for these categories of entities. Such names constitute fundamental access points to archival records. The standard explicitly encourages the development of national rules for the standardisation of access points and the creation of authority records.

Practical experience gained through archival description, together with searching and retrieval within the Slovenian archival database has demonstrated a clear need for a more systematic treatment of this issue. In particular, there is a need for guidelines governing the creation of subject headings and thesauri for archival content that can be applied consistently across different archival information systems and software platforms.

3 METHODOLOGY

To investigate this need, a comprehensive research project was conducted. Its primary objective was to develop practical guidelines for the formulation of subject headings and the establishment of thesauri applicable to archival records of enduring value, regardless of the software environment used for archival description. Given the increasing standardisation of archival description practices within Slovenian public archives, the development of a unified subject indexing system and a common thesaurus for a shared archival database was considered particularly important.

To identify the requirements for such guidelines, two complementary studies were undertaken. The first focused on users and patterns of use within the Slovenian cooperative archival database SIRAnet and included an analysis of web server log files generated by the scopeArchiv Query application. The results unequivocally confirmed the need for formal guidelines governing the formulation and application of descriptors.

The second study employed a qualitative research design based on content analysis. Selected domestic and international archival databases were examined using a pre-

defined coding framework, which provided the basis for the analysis. The central research question was as follows: "Is the subject indexing of archival records implemented in a manner that enables users to conduct independent searches of archival databases and facilitates faster and easier access to archival records?"

The analysis focused on several key issues:

1. whether descriptor searching had been implemented;
2. which categories of descriptors were searchable (personal names, family names, corporate body names, geographical names, subject headings, functions, and others);
3. whether thesauri existed but remained inaccessible because descriptive units were unpublished or not linked to descriptors;
4. whether descriptor-based search tools were functional and user-friendly;
5. whether thesauri were organised into distinct categories;
6. whether descriptors had been standardised and
7. whether semantic relationships among descriptors had been established in accordance with ISAAR(CPF).

The importance of names was confirmed not only by the analysis of Slovenian archival databases but also by our examination of foreign archival information systems. Of the fifty-four systems analysed, only thirty-three supported descriptor-based searching. Among these, 89% enabled searching by personal names, 45% by family names, 63% by corporate body names, and 88% by geographical names.

On the basis of the analysis of records contained in Slovenian archival information systems, together with the identification of common theoretical principles, a set of guidelines was subsequently developed for the formulation of subject headings, thesauri, and classification structures within the Slovenian archival environment, particularly for the description of current records and archival records.

Given the relatively limited experience of Slovenian archival theory and practice in this field, the proposed guidelines draw upon methodological principles of subject indexing developed by Slovenian librarians as well as archival practices established in Canada and the United Kingdom. However, this does not constitute a simple transfer of library theory and practice to the archival domain. The distinctive nature of archival holdings requires solutions that differ fundamentally from those employed in libraries. The same applies to approaches developed within

foreign archival traditions. Owing to the enduring nature of archival records and the importance of contextual relationships, subject analysis in archives raises issues that are not encountered in the library environment.

4 GENERAL PRINCIPLES OF DESCRIPTOR FORMULATION

The description of archival records constitutes one of the fundamental professional activities within archival practice, as only adequately described records can be effectively identified, retrieved, and used by researchers. This principle has become particularly important in the digital environment, where increasing quantities of archival records are made available through online catalogues, archival information systems, and digital repositories. Consequently, the formulation and assignment of descriptors, as a core component of subject indexing, represent a critical element of archival description.

The primary purpose of descriptors is to provide additional intellectual access to archival records by representing their content in a consistent and controlled manner. In archival information systems, descriptors function as access points that facilitate information retrieval and enable users to navigate complex archival holdings. The effectiveness of any descriptor system therefore depends not only on the quality of the descriptors themselves but also on the consistency with which they are applied and the semantic relationships established among them.

When assigning descriptors, archivists must take into account the diversity of user communities and the variety of search strategies employed by different categories of users. Research has consistently demonstrated that archival users possess varying levels of expertise and familiarity with archival terminology. While professional researchers may formulate highly specific queries, less experienced users often rely on broader concepts or personal knowledge. Because most users are not proficient in advanced retrieval techniques, archival information systems should support intuitive and transparent searching based on clearly structured descriptor systems.

Descriptors are derived from the content of archival records and are intended to represent, as accurately as possible, the subjects, entities, activities, and contexts documented within a particular unit of description. Their formulation is therefore

closely linked to the intellectual analysis of records. This task becomes increasingly complex at higher levels of archival description, such as fonds, sub-fonds, series, and sub-series, where records frequently encompass a wide range of subjects and activities that cannot easily be represented through a limited number of indexing terms.

In practice, archival fonds may comprise hundreds or even thousands of files and physical units. Because descriptors are assigned on the basis of content, comprehensive subject analysis at higher levels of description often requires archivists to balance specificity with practicality. The objective is not to provide an exhaustive representation of every subject documented within a fonds but rather to identify those concepts that most effectively support retrieval and contextual understanding.

For this reason, descriptor assignment should be based on controlled vocabularies and thesauri developed for specific categories of descriptors. Controlled vocabularies ensure terminological consistency, while thesauri provide the semantic framework necessary for establishing relationships among concepts.

The principles proposed in this study draw upon the Slovenian Subject Headings System (Splošni slovenski geslovnik (SSG, 2002) and the international standard SIST ISO 5963:1996, Documentation–Methods for Examining Documents, Determining Their Subjects, and Selecting Indexing Terms.

Whenever a suitable descriptor already exists within the vocabulary it should be selected and assigned directly to the unit of description unit. Particular care is required, however, because identical terms may represent different concepts or entities. Archivists must therefore verify the meaning and scope of a descriptor before assigning it. For example the descriptor Mirna may refer to a settlement, a river in Slovenia, or a river in Croatia, each of which constitutes a distinct authority record.

Example:

- Mirna [Mirna]
- Mirna [river, Slovenia]
- Mirna [river, Croatia]

If an appropriate descriptor is not available within the existing vocabulary, a new descriptor should be created and incorporated into the thesaurus together with a corresponding authority record. The development of new descriptors must follow established rules to ensure consistency within the indexing system.

The principles governing descriptor assignment largely correspond to the principles advocated by both the Slovenian Subject Headings System and IFLA principle of specificity (Ifline smernice, 2002). According to this principle, records should be described using the most specific concept that adequately represents their content, while avoiding simultaneous indexing by both broader and narrower terms. Semantic relationships recorded within authority files ensure that users can navigate from one concept to related concepts without requiring redundant indexing.

Archival practice demonstrates that users generally seek for archival information in one of two ways. In the first case, users possess only a general idea of the information they seek and rely on the search system to guide them towards relevant materials if searching online. If they decide to consult the records in the reading room they can be assisted by the archivist. In the second case, users search for records relating to a clearly defined subject, person, organisation, or event. In both situations, the quality of descriptor formulation significantly influences the success of information retrieval. For example a researcher interested in buildings designed by the Maribor master builder Ludvik Baltzer may not know which categories of buildings he designed. Effective indexing should therefore allow retrieval through narrower subject concepts such as residential buildings, ecclesiastical buildings etc. Such an approach enables users to discover relevant records even when their initial query is incomplete or imprecise.

As a general principle, units of description should be assigned as many relevant descriptors as necessary to facilitate retrieval. The degree of specificity should correspond to the level of archival description. Broader descriptors are generally appropriate at higher levels, such as fonds and series, whereas narrower and more precise descriptors may be assigned at file or item level. The greater the precision and consistency of descriptor assignment, the greater the likelihood that users will successfully identify relevant records.

To support effective retrieval, archival information systems should also enable users to navigate among hierarchically related concepts. Broader, narrower, and related terms should be linked through semantic relationships that allow users to move easily between different levels of conceptual specificity. Such relationships are particularly important in archival environments because records are interpreted within their administrative, historical, and functional contexts.

The establishment of semantic relationships presents additional challenges when historical concepts and classifications are involved. Hierarchical relationships that existed in the past do not necessarily correspond to contemporary understandings of the same concepts. Consequently, descriptor systems must be sufficiently flexible to accommodate historical terminology while maintaining consistency and usability for contemporary users.

Given both the volume of archival holdings and the contextual nature of archival description, complete representation of all aspects of record content is rarely achievable. Descriptor systems should therefore be designed to provide an optimal balance between comprehensiveness and manageability.

In this respect, the archival domain can largely adopt IFLA's principle of uniqueness (Ibidem), according to which "each concept or named entity should be represented by a single authorised form". The purpose of this principle is to ensure control over synonyms and variant forms while promoting consistency in information retrieval.

Accordingly, each descriptor should be represented by a single authority record that incorporates non-preferred forms, synonyms, and other semantic relationships. Geographical names constitute a partial exception to this principle, as distinct places sharing the same name require separate authority records in order to preserve their unique spatial and historical identities.

Because archival description is inherently contextual, one of the most important tasks in descriptor formulation is the creation of semantic networks linking descriptors to descriptive units and to one another. Archivists therefore establish two interconnected types of relationships: relationships between records and descriptors, and relationships among descriptors themselves. Together, these relationships form the intellectual structure that enables sophisticated retrieval and supports users in navigating complex archival information systems.

4.1 UNIFIED CREATION OF DESCRIPTORS

The standardization of descriptors constitutes a fundamental prerequisite for the development and maintenance of a coherent archival thesaurus. Descriptors must be constructed according to uniform principles of form and structure in order to ensure their mutual comparability and semantic consistency. Such standardiza-

tion not only contributes to the internal integrity of the thesaurus but also facilitates efficient information retrieval within archival information systems.

Within the archival domain, this requirement corresponds to the IFLA principle of consistency (Ibidem), according to which "every newly established subject heading should conform in form and structure to comparable headings already present within the system". Consistent subject representation of archival records therefore presupposes the application of standardized rules for the formulation of personal names, family names, corporate bodies, geographical names, functions, and topical descriptors.

As a general principle, descriptors are established in the singular form, except in cases where linguistic conventions or conceptual considerations necessitate the use of the plural. Consistency in the application of number is of particular importance. Aupič (2014) has observed that the rules governing singular and plural forms in the Slovene Subject Headings (SSG) are overly complex, a view that is shared in the present study. The complexity of these rules may create difficulties in both the assignment and retrieval of subject descriptors.

Examples:

- building permit
- criminal case
- option
- construction
- denationalization
- administrative dispute
- Christianity
- education system
- upbringing and education
- newspaper
- official gazette

Descriptors are recorded in the nominative case and may be classified as either simple or compound. Simple descriptors consist of a single lexical unit and are generally preferred whenever they provide an adequate representation of the subject matter. This approach is consistent with Rule 3.1.2.1 of the SSG.

Examples:

- teacher
- strike
- tax

In practice, however, simple descriptors frequently prove insufficient for the precise representation of archival content. In such circumstances, compound descriptors are employed. These take the form of multiword expressions and are recorded in natural word order. This practice corresponds to Rules 3.1.2.2 and 3.2 of the SSG (Ibidem), the latter of which also governs the formulation of personal names.

Examples:

- criminal case
- business corporation
- public order and peace

An exception to the principle of natural word order is represented by personal names, which are recorded in inverted form.

Examples:

- Aškerc, Anton [1856–1912]
- Novak, Miroslav [1961–]

The use of inverted personal names reflects the functional requirements of information retrieval systems, particularly with regard to alphabetical arrangement and the sorting of search results. Such a form enables the immediate grouping of individuals sharing the same surname and thereby facilitates identification and disambiguation.

Where a descriptor is capable of expressing more than one meaning, semantic clarification is achieved through the use of qualifiers. Qualifiers serve to specify the intended meaning of a descriptor and thus reduce the possibility of ambiguity in both indexing and retrieval.

Qualifiers are recorded in square brackets following the descriptor and constitute an integral component of the authorized form. The use of square brackets is deliberate, as they function as editorial markers indicating information supplied by the archivist during the process of description.

In certain categories of descriptors, qualifiers represent a mandatory element of the authorized form. Mandatory qualifiers are applied, among others, to:

- names of saints (e.g., Clare of Assisi [1193–1253, saint]);
- names of popes (e.g., John Paul II [1920–2005, pope]);
- names of families and dynasties (e.g., Gariboldi family [1649–1945]);
- titles of periodicals and monographs (e.g., Marburger Zeitung [periodical]);
- general concepts requiring semantic differentiation (e.g., Nuba [people]; Nuba [language]);
- geographical names (e.g., Mirna [settlement]; Mirna [river]);
- homonymous terms (e.g., depression [medicine]; depression [economics]).

The systematic application of standardized forms, grammatical conventions, and qualifiers contributes significantly to terminological consistency and enhances the precision of subject access within archival information systems.

4.2 ESTABLISHMENT OF SYNONYMS

The establishment of synonym relationships represents a fundamental component of vocabulary control in archival thesauri. Natural languages are characterized by lexical variation, whereby multiple terms may denote the same or closely related concepts. Such terms are generally referred to as synonyms and may comprise both indigenous lexical forms and loanwords. The Slovar slovenskega knjižnega jezika (2000) defines a synonym as "a word having the same or nearly the same meaning as another word." From the perspective of information organization and retrieval, synonymy constitutes a significant challenge, as users may employ different terms to express the same information need.

Examples:

- map ↔ geographical map ↔ geographic map
- agricultural reform ↔ agrarian reform
- domicile register ↔ domicile record book
- marketing ↔ market promotion

The need for systematic synonym control is particularly pronounced in archival information systems. Archival records are embedded within specific historical, administrative, legal, and social contexts, which often result in the coexistence of multiple designations for the same phenomenon, institution, function, or activity. Furthermore, terminology employed by archivists may differ considerably from that used by researchers or members of the general public. Without appropriate

mechanisms for synonym control, such variation may adversely affect retrieval performance by fragmenting access to conceptually identical information.

The management of synonymy within archival thesauri may therefore be understood as an application of the IFLA principle of synonym control, according to which semantically equivalent or near-equivalent terms are linked through explicit equivalence relationships. The objective of this process is to ensure that all references to a given concept converge upon a single authorized access point, thereby promoting consistency in indexing and improving retrieval effectiveness.

Within an equivalence structure, one term is selected as the authority record and serves as the preferred representation of the concept within the thesaurus. Alternative lexical forms are designated as non-preferred terms and are linked to the authority record through reciprocal references. In accordance with established thesaurus practice, non-preferred terms are connected to the preferred descriptor by means of the reference see, while the preferred descriptor contains corresponding used for references indicating the lexical variants subsumed under it.

Examples:

- Map
  - used for: geographical map
  - used for: geographic map
- Geographical map
- see: map
- Geographic map
- see: map

By consolidating synonymous expressions under a single authorized descriptor, the thesaurus establishes a consistent terminological framework that supports both uniform indexing practices and effective retrieval of archival information. The explicit representation of equivalence relationships thereby serves as an essential mechanism for overcoming linguistic variation and improving access to archival resources across diverse user communities.

4.3 ESTABLISHING HOMONYMS

Homonyms are words that share the same form but have different meanings (Ibidem).

To prevent the retrieval of irrelevant archival material and to increase both system precision and search accuracy, homonyms must be clearly distinguished.

For homonyms belonging to the category of subject descriptors, different meanings are differentiated through qualifiers. In building homonyms we are following the IFLA principle of homonym control.

Examples:

- Bank [the side of the river]
- Bank [place to keep money]

For homonymous geographical names, distinctions are made by assigning the descriptor to the appropriate class within the geographical-name thesaurus and by using a qualifier, which in such cases is mandatory.

Examples:

- Mirna [Mirna] (geographical name → settlement name → settlement)
- Mirna [municipality] (geographical name → regional name → municipality)
- Mirna [river, Slovenia] (geographical name → hydronym → river name)
- Mirna [river, Croatia] (geographical name → hydronym → river name)

4.4 ABBREVIATIONS

As a general rule, abbreviations should be avoided in archival information systems. A single abbreviation may have multiple meanings, not only across different countries but even within the same linguistic or administrative context.

Examples:

- ZKJ – League of Communists of Yugoslavia
- ZKJ – Zeitschrift für Kindschafts- und Jugendrecht

Moreover, most users are unfamiliar with many abbreviations unless they possess specialized knowledge of a particular subject area. The same principle applies to descriptor construction. All abbreviations should therefore be expanded, and the authority records should consist of the full term or official name. This approach follows SSG Rule 3.7.1.2 (Splošni slovenski geslovnik, 2002).

Abbreviations may be used only when they are more widely recognized than the full form.

Examples:

- NATO
- UNESCO
- AIDS

Whenever an abbreviation is included in the system, cross-references linking the abbreviation and the full official name must be established.

Examples:

NATO

- used for: North Atlantic Treaty Organization

UNESCO

- used for: United Nations Educational, Scientific and Cultural Organization

4.5 ESTABLISHING CROSS-REFERENCES

Because both archivists and users must understand the semantic relationships among descriptors when describing and searching archival materials, archival information systems must incorporate a structured network of cross-references. These references guide users from authorized records to related records and from broader concepts to narrower and associated concepts, thereby facilitating the retrieval of archival content.

Two types of references are distinguished: equivalence references and associative references.

5 CONCLUSION

The guidelines presented in this paper are grounded in the IFLA „Principles Underlying Subject Heading Languages“ (2002), the Guidelines for the creation of alfabethic catalogues (Pravilnik I priručnik za izradu abecednih kataloga, 1986), the Rules for the construction of Personal, Place and Coroprate names (1997) and the Rules for Archival Description developed by Canadian archivists. Building upon these established frameworks, the present study seeks to adapt and extend their underlying principles to the specific requirements of archival description and archival information systems.

The proposed guidelines represent one of the first systematic attempts within Slovenian archival theory and practice to establish a coherent theoretical and methodological framework for the formulation of descriptors and the development of archival the-

sauri. Although controlled vocabularies and authority systems have long been recognised as essential instruments in libraries and other information environments, their systematic application within archival institutions has remained comparatively limited. The increasing availability of archival descriptions through online information systems and digital repositories has, however, made the development of consistent descriptor systems indispensable for ensuring effective access to archival records.

In adapting international principles to the archival domain, the objective was not to reproduce models developed for libraries uncritically, but rather to identify those concepts that can be meaningfully transferred to the archival context and modified where necessary. Consequently, the guidelines incorporate and reinterpret a number of fundamental principles, including the principles of uniqueness, synonym control, homonym differentiation, consistency, naming, semantics, specificity, and the principle concerning the origin and development of archival vocabulary.

At the same time, the study recognises that archival records differ fundamentally from library materials in terms of provenance, context, structure, and long-term preservation. For this reason, several of the proposed solutions depart from traditional library approaches and instead reflect the theoretical foundations and practical requirements of archival science. Particular emphasis has been placed on preserving contextual relationships, supporting hierarchical navigation, and facilitating user access through semantically connected descriptors and authority records.

A central objective in developing these guidelines was to achieve the greatest possible degree of clarity, consistency, and practical applicability. Descriptor systems can fulfil their function only when the rules governing their creation and application are sufficiently transparent to ensure their consistent implementation by archivists across institutions. By promoting standardised descriptor formulation and the systematic establishment of semantic relationships, the proposed framework contributes to the development of more coherent archival information systems and more effective retrieval of archival records.

The guidelines have been conceived not only as a practical tool for archivists engaged in archival description but also as a means of improving the user experience within archival databases and information systems. Enhanced consistency in descriptor formulation enables more accurate searching, facilitates independent user navigation, and strengthens intellectual access to archival records.

It is hoped that the principles and recommendations presented in this study will provide a foundation for the development of a national standard governing the formulation of all categories of archival descriptors. Such a standard would contribute significantly to the harmonisation of archival descriptive practices, support the development of shared authority files and thesauri, and reduce many of the difficulties currently encountered by both archivists and users in the discovery, retrieval, and interpretation of archival records. Ultimately, the establishment of a standardised descriptor framework would represent an important step towards improving access to Slovenia's archival heritage in both national and international information environments.

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Boštjan Dornik[1]

EVOLUTION AND IMPLEMENTATION OF THE DELPHI METHOD IN ARCHIVAL THEORY AND PRACTICE[2]

Purpose: *The article examines whether, and in what ways, the Delphi method is methodologically appropriate for addressing contemporary challenges in archival theory and practice, particularly those arising from digital transformation, technological change, and the growing complexity of archival decision making.*

Method/Approach: *The study adopts a qualitative, exploratory research design based on a systematic review and analytical synthesis of methodological and empirical literature. Sources were identified through the Scopus, Emerald Insight, and Springer Nature Link databases and complemented by foundational literature to capture the theoretical origins, development, and variants of the Delphi method. A comparative analysis of major Delphi variants (classical, modified, policy, decision, real-time, argument, and disaggregative) was conducted to assess their methodological characteristics and applicability to specific archival research domains.*

Results: *The analysis demonstrates that the Delphi method is well suited to archival research problems characterized by uncertainty, limited empirical evidence, and normative judgment. Different Delphi variants address distinct research needs: classical and modified Delphi support consensus building, policy, and argument Delphi structure normative and legal debates, while real-time and disaggregative Delphi facilitate rapid iteration and scenario-based analysis. Evidence from published applications confirms the method's relevance for appraisal, preservation, access, governance, and technology-related archival research.*

Conclusions findings: *The article concludes that the Delphi method constitutes a flexible and robust methodological framework for archival science, offering practical guidance for selecting appropriate Delphi variants in future archival research and interdisciplinary studies.*

Keywords: *Delphi method, origin and variants of Delphi method, archival science. research methodology, digital archives.*

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1 INTRODUCTION

With the expansion of digital society, the volume of generated digital records is increasing exponentially. This growth presents complex challenges across all areas of records management and archival work from appraisal, acquisition, arrangement, description, and preservation to ensuring access (Shinde et al., 2024). Archival research problems increasingly arise from a set of demanding conditions driven by rapid technological progress and the continuous evolution of software and technological solutions. These developments accelerate hardware obsolescence, complicate the management of exponentially growing data volumes, and require constant adaptation of archival workflows to evolving technical components and infrastructural changes within archival systems. In responding to new technological environments ranging from the digitization of analogue materials and the processing of born-digital records to the long-term preservation of digital archival holdings and the initial integration of artificial intelligence into archival practice the question arises as to which research methods are most appropriate for investigating contemporary archival theory and practice. Many of these challenges are characterized by limited empirical evidence, normative decision-making, and a high degree of uncertainty, rendering traditional empirical research approaches insufficient. Consequently, exploring emerging areas within archival science necessitates an adapted methodological approach capable of systematically incorporating expert judgment.

This paper is guided by research questions of whether, and in what ways, the Delphi method is methodologically appropriate for investigating contemporary challenges in archival theory and practice. The purpose of the study is not the empirical implementation of a specific Delphi study, but rather an analytical and comparative examination of different variants of the Delphi method and an assessment of their applicability to particular research domains within archival science. In doing so, the paper demonstrates that the Delphi method does not constitute a single, uniform research procedure, but rather a flexible methodological framework whose variants enable tailored approaches to diverse research problems ranging from archival appraisal and long-term preservation to issues of access, governance, and the impact of the technological environment on archival work.

The research is structured as follows. It first outlines the methodological and conceptual foundations of the Delphi method and its historical development. It then presents and compares the most common variants of the Delphi method, followed by an analysis of selected examples of its application in archival research. The concluding sections synthesize the findings and discuss the methodological implications for future research in archival science.

2 METHODOLOGY

The study employs a qualitative, exploratory research design to examine the evolution, variants, and applicability of the Delphi method in archival theory and practice. The research is based on a systematic analysis and synthesis of existing methodological and empirical literature. The literature was selected to cover both the theoretical foundations of the Delphi method and its practical implementation in archival and records management contexts.

The literature review was conducted using the Scopus, Emerald Insight, and Springer Nature Link databases. The initial focus was placed on more recent publications. However, the analysis revealed that contemporary studies rely on and repeatedly cite older foundational literature when addressing the theoretical underpinnings and development of the Delphi method. A closer examination of the recent literature showed that its core theoretical assumptions are derived exclusively from earlier works, while newer studies primarily reference these original sources without substantial theoretical advancement.

Consequently, the review was deliberately extended to older literature, which provided comprehensive insights into the origins of the Delphi method, its theoretical foundations, and the development of its major variants. The search strategy employed the terms Delphi method and Delphi technique, as authors in the literature frequently use these terms interchangeably. There is no substantive methodological difference between them; the distinction is primarily terminological rather than conceptual and reflects disciplinary conventions rather than differences in research design. In this study, the term Delphi method is used consistently. Although the terms method and technique are often treated as synonyms in the literature, this research adopts the term Delphi method for reasons of methodological precision and conceptual consistency.

In addition, the term Delphi process was included in the search strategy. Following Jorm (2, 2025), this term is primarily understood as referring to the procedural sequence of steps involved in conducting a Delphi study rather than to the method itself. Nevertheless, the literature occasionally uses the term interchangeably with Delphi method, which justified its inclusion in the search process.

A comparative analysis of major Delphi variants (classical, modified, policy, decision, real-time, argument, and disaggregative) was conducted, focusing on their methodological characteristics and applicability to archival research domains. The outcome is a conceptual and methodological contribution, providing guidance for selecting and designing Delphi-based research in archival theory and practice.

3 ORIGINS OF THE DELPHI METHOD: THE INITIAL RESEARCH STUDY

The Delphi method was developed by the RAND Corporation in the 1950s and 1960s as a means to prepare for national security threats during the Cold War (Sablatzky, 2022, 1). The RAND Corporation conducted Project Delphi as a study designed to use expert opinion to determine from the viewpoint of a Soviet strategic planner an optimal U.S. industrial target system and the number of atomic bombs required to reduce munitions output by a prescribed amount (Dalkey & Helmer, 1963, 458). The experimental application of the method yielded several notable findings. The experimental procedure revealed multiple methodological weaknesses that limited the robustness of the results. First, the independence of expert judgments was not fully ensured, as the structure of the study allowed for indirect influence among respondents. Second, the dual role of the experimenters as coordinators and substantive consultants introduced an inherent risk of bias in both questionnaire construction and interpretive framing. Third, certain informational inputs unintentionally "led" respondents toward particular interpretations, thereby compromising the neutrality of the elicitation process.

The study was also terminated prematurely due to time constraints, even though additional rounds may have facilitated further convergence of estimates. Moreover, the restricted comparison of "neighboring" bombing strategies constrained analytical depth, while several questions triggered strong respondent criticism, indicating shortcomings in clarity or relevance. Finally, the post-hoc correction

of results altered the distribution of estimates in ways that complicate straightforward interpretation. Overall, the procedure illustrates the need for stricter methodological control, clearer question design, and sufficiently iterative cycles to achieve a reliable expert consensus (Dalkey & Helmer, 1963, 466–467).

4 APPLICATION OF THE DELPHI METHOD IN RESEARCH PRACTICE

The Delphi method is used to investigate complex problems through a panel of experts selected based on their specialized knowledge and experience in the relevant field (Strasser, 2017, 120). The Delphi method works especially well when the goal is to improve our understanding of problems, opportunities, solutions, or to develop forecasts (Skulmoski et al., 2007) The Delphi method has become a fundamental tool in the field of technological forecasting. Even within "classical" management science and operations research, there is growing recognition of the need to incorporate subjective information (such as risk assessment) directly into evaluation models addressing increasingly complex societal challenges, including environmental protection, public health, and transportation systems. As a result, the Delphi method has found broader application across these domains (Linstone & Turoff, 1975, 11). The Delphi method is well suited as a research instrument when there is incomplete knowledge about a problem or phenomenon (Skulmoski et. al., 2007). Precisely because of these characteristics, the Delphi method is also applicable to archival theory and practice, which in recent years has faced multiple challenges related to the professional processing of archival records, the adoption of new technological solutions (digitization, digitalization, artificial intelligence), and the accelerating pace of technological change. In this context, the method can be employed as a tool for measuring and supporting forecasting and for enhancing informed decision-making across a wide range of disciplines (Rowe & Wright, 1999, 353).

Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem (Linstone & Turoff, 1975, 3). The methodological instrument typically involves questioning experts through interviews or questionnaires, with the explicit aim of avoiding direct confrontation among panel members (Dalkey & Helmer, 1963, 458). To accomplish this structured communication between experts we need: some feedback on individual contributions

of information and knowledge; some assessment of the group judgment or' view; some opportunity for individuals to revise views; and some degree of anonymity for the individual responses (Linstone & Turoff, 1975, 3). The core principle of the Delphi process is controlled, indirect interaction among expert's participants with substantive knowledge of the research domain with the objective of progressively narrowing differences in judgment over successive rounds of inquiry (Fink Hafner et al., 2019, 3; Czinkota & Ronkainen, 1997, 829). The ultimate goal is to achieve expert consensus regarding the solution to a defined problem. According to Skulmoski et al. (2007, 1), the method is particularly suited to generating solutions aimed at improving problematic situations, identifying opportunities, proposing solutions, and forecasting future developments.

The basic elements of the Delphi method, as described by Dalkey and Helmer during its early development, include: (1) repeated individual questioning of a panel of experts, (2) anonymity among panel members, and (3) the provision of interspersed, structured feedback on group opinions (Dalkey & Helmer, 1963, 458). For the method to be effective, it must be designed in such a way that questions "challenge experts to justify their responses," thereby enabling the generation of more refined and higher-quality data (Grime & Wright, 2016, 3).

Finally, the "holy grail" of research lies in the establishment of methodological rigour, which reflects the researcher's responsibility to ensure adherence to defined procedures and to eliminate confounding factors wherever possible to produce reliable and defensible results. This denotes the researcher's obligation to ensure strict adherence to established procedures and, where feasible, to control or eliminate confounding variables to achieve reliable and reproducible results (Hasson & Keeney, 2011, 1695).

Figure 1 illustrates the Delphi method conducted in three rounds. The process begins with the definition of the research problem, followed by the selection of experts. In the first round, questionnaires are distributed to the experts; once the completed questionnaires are returned, the responses are analyzed and used to prepare the questionnaire for the second round. The same procedure is repeated in the third round, culminating in a final analysis of the results.

According to Linstone and Turoff (1975), a Delphi study typically proceeds through four distinct phases (see figure 1). The first phase involves exploration of the topic, during which each participant contributes information they consider

relevant. The second phase focuses on determining the group's overall perspectives by identifying areas of agreement and disagreement, as well as clarifying the meanings assigned to concepts such as importance, desirability, or feasibility. When substantial disagreement emerges, the third phase examines the underlying reasons for these differences and evaluates their validity. The final phase consists of a comprehensive assessment in which all previously collected information is synthesized and the results are returned to participants for final consideration.

Figure 1: Structure of Delphi Method in Three Rounds

4.1 METHODOLOGICAL LIMITATIONS OF THE DELPHI METHOD

Conducting a Delphi study is frequently associated with considerable temporal and organizational demands. When the research instrument contains a substantial number of statements, participants are required to devote extended periods to the completion of iterative questionnaires, thereby increasing respondent burden (Hsu & Sandford, 2007). In such cases, the cumulative workload across multiple rounds renders the process both time-consuming and labor-intensive for researchers and panel members alike. This structural characteristic contributes directly to participant attrition, which represents a recurrent methodological vulnerability of Delphi designs (Fink Hafner et al., 2019). Attrition may further result from the prolonged temporal commitment required, reduced engagement between successive rounds, or dissatisfaction with procedural aspects of the study (Donohoe & Needham, 2009). Donohoe and Needham (2009) additionally caution that attempts to mitigate drop-out through monetary incentives or moral persuasion may compromise methodological integrity by introducing response bias. Consequently, while the Delphi method remains valuable for structured expert consultation, its practical implementation requires careful management of questionnaire scope, panel fatigue, and retention strategies in order to preserve both participation rates and the validity of findings. A further methodological limitation arises from the iterative feedback structure that is inherent to the Delphi process. Because the method relies on repeated rounds of controlled feedback and reassessment, maintaining sustained and robust participation across all stages may prove challenging. The cyclical nature of the procedure creates a structural risk of declining response rates over time, particularly when participant motivation diminishes or survey fatigue increases (Hsu & Sandford, 2007). An even more significant concern relates to the marked reduction in participation typically observed in the final rounds of Delphi investigations. As noted by McKenna, the concluding stages of many Delphi studies are characterized by comparatively poor response rates, which may affect the stability and interpretability of the aggregated results (McKenna, 1994). This progressive attrition can compromise the reliability of consensus measurement and weaken the overall robustness of the methodological design. A further potential weakness of the Delphi method lies in the considerable degree of discretion afforded by researchers during its implementation. Given

that the procedure relies fundamentally on the quality, synthesis, and presentation of controlled feedback between rounds, the analytical rigor and interpretative neutrality of the research team are of decisive importance. The responsibility for accurately summarizing responses and structuring subsequent iterations places substantial methodological authority in the hands of the researcher. In addition, there is no universally accepted criterion for determining what constitutes a sufficient level of consensus within a Delphi study, which further complicates the evaluation of results (Fink Hafner et al., 2019; Donohoe & Needham, 2009).

Moreover, the assumption of independence among expert judgments may not always be held in practice. If panel members maintain professional or institutional contact outside the formal Delphi framework, their responses may be influenced by informal communication, thereby compromising the intended anonymity and independence of opinion formation (Dalkey & Helmer, 1963). Such interdependencies can affect the authenticity of consensus and represent a structural limitation of the method (Fink Hafner et al., 2019).

5 DELPHI VARIANTS

The Delphi method encompasses a range of methodological variants (see figure 2). The following section presents the most common types of the Delphi method and highlights their key differences.

- The classical Delphi method is an iterative, anonymous expert elicitation method designed to achieve consensus on complex issues characterized by uncertainty and limited empirical evidence. It is based on repeated rounds of questionnaires combined with controlled feedback and statistical aggregation of group responses, enabling experts to reconsider and refine their judgments. The distinctive feature of the method lies in its capacity to systematically transform independent individual judgments into a structured group consensus while minimizing the influence of dominant individuals, authority bias, and groupthink, which are common in face-to-face expert deliberations (Dalkey & Helmer, 1963; Linstone & Turoff, 1975; Rowe & Wright, 1999; Khodyakov et al., 2023).

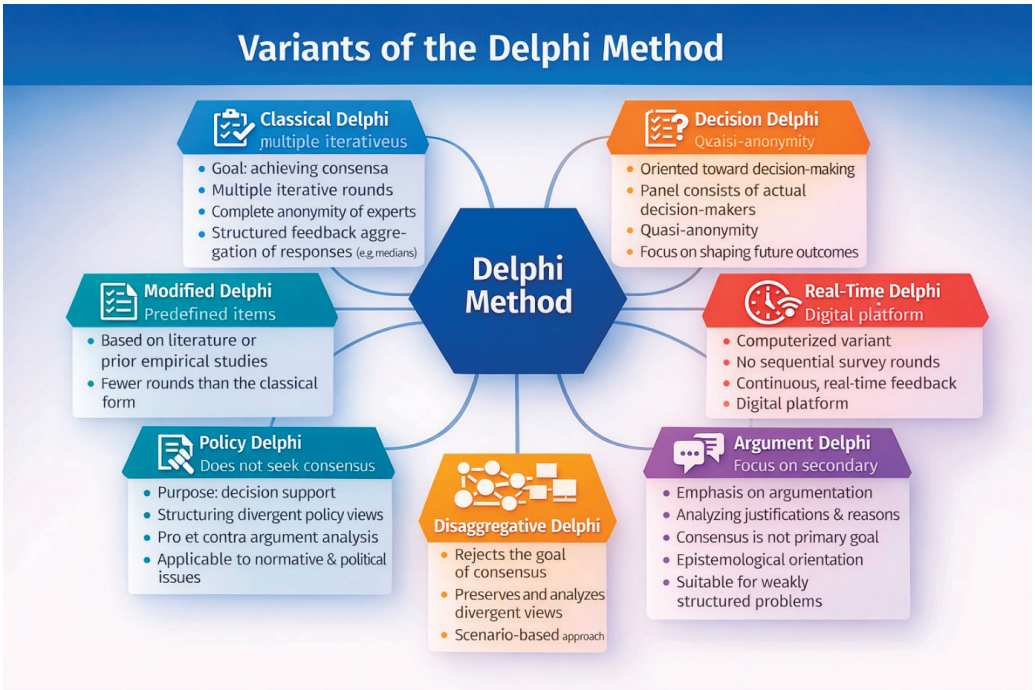

Figure 2: Variants of Delphi method

- The Policy Delphi method is a variant of the Delphi method specifically designed for the systematic analysis of complex, controversial, and value-laden policy issues. Unlike the classical Delphi, which seeks convergence of expert opinion, Policy Delphi aims to generate and structure the strongest possible opposing views on policy options and their consequences. In the Policy Delphi, the communication process is designed to produce the best underlying pro or con arguments associated with various policy or resource allocation alternatives. The primary purpose of Policy Delphi is not decision-making, but decision support. It is intended to present policymakers with a comprehensive map of available options, underlying assumptions, arguments pro and contra, and anticipated consequences, thereby improving the quality and transparency of policy deliberation. A central methodological risk of the Policy Delphi is its misinterpretation as a decision-making instrument rather than as a decision-analysis tool. For this reason, the objective of the study must be clearly defined in advance, emphasizing that the process is intended to structure and analyze policy options, not to produce binding decisions. In many public organizations, responsibility for decisions is often diffused.

Normatively, a decision should be taken by a single accountable individual, whereas the function of the Policy Delphi is to provide systematically organized information and ensure that all relevant options are placed on the table. To achieve this, the process must explicitly explore dissent rather than prematurely seek consensus. Once initiated, a Policy Delphi cannot guarantee any specific outcome if methodological integrity is to be preserved. Sponsors must recognize that consensus may or may not emerge, even if the respondent group is composed to make agreement unlikely. As a structured forum for ideas, the method may also surface sensitive or controversial issues, creating risks of misinterpretation or premature disclosure. Furthermore, as with any policy process, misuse is possible through selective editing, omission of viewpoints, or strategic presentation of results. Accordingly, researchers conducting a Policy Delphi must possess a thorough understanding of it (Turoff, 1970; Linstone and Turoff, 2002).

- The Modified Delphi adapts the classical design by introducing predefined items derived from literature reviews, interviews, or prior empirical studies. An acceptable and a common modification of the Delphi process format to use a structured questionnaire in Round 1 that is based upon an extensive review of the literature as an open questionnaire such as in classic Delphi. It is commonly used in applied research fields, where the research problem is already partially structured. The number of rounds is often reduced to increase efficiency (Hsu & Sandford, 2007). McKenna (1994) cautions that excessive modification may compromise the methodological rigor and validity of the Delphi process.
- The Decision Delphi method is a variant of the Delphi method designed to support and structure decision-making rather than forecasting or policy analysis. It focuses on situations where future developments are primarily shaped by the actions of a limited number of actual decision makers, who therefore constitute the Delphi panel. Unlike classical and policy Delphi, Decision Delphi aims not to describe or predict reality, but to actively influence and "create" future outcomes through coordinated decision processes, employing a model of quasi-anonymity in which participants are known but individual statements remain anonymous. In the context of a Decision Delphi, strict anonymity is generally not considered appropriate. Instead, it is replaced by a form of

quasi-anonymity in which the identities of participants are known, while individual statements remain anonymous. Through the central administrative coordination of the process, participants will typically become aware of one another's involvement in the exercise. Under such conditions, once panelists learn that colleagues from the same institution are also participating, they may feel less constrained to articulate formal institutional positions and more inclined to express their personal expert judgments, as they no longer perceive themselves solely as representatives of their organizations. In contrast to classical or policy-oriented variants, the outcomes of a Decision Delphi are not intended as neutral forecasts; rather, they are designed to exert a direct influence on future developments. Such influence, however, must remain exclusively within the authority of the decision makers themselves, namely, the panelists. Consequently, the aggregation, computation, and evaluation of group opinions must be conducted with particular methodological rigor and without interference from the views of the research directors. In this setting, the risk of manipulation–whether intentional or inadvertent–is especially pronounced and constitutes a critical methodological concern (Rauch, 1979).

- The Real-Time Delphi (RT Delphi) method is a computerized variant of the Delphi method that eliminates sequential rounds and replaces them with continuous, real-time feedback. Participants view aggregated group responses (e.g., averages or medians) and justifications immediately upon entering or revising their judgments, allowing them to update their inputs dynamically. This round-less design significantly reduces the duration of Delphi studies while preserving core principles such as anonymity, controlled feedback, and iterative reflection, making RT Delphi particularly suitable for time-sensitive decision-making and policy analysis. The principal limitation of the Real-Time Delphi method lies in its current developmental stage, as it remains primarily a proof-of-concept prototype. Consequently, further methodological and technical development is required before the approach can be reliably implemented in full-scale research applications, particularly in asynchronous environments. Among the key developmental requirements are the establishment of comprehensive administrative tools enabling efficient editing of initial inputs, real-time presentation of aggregated results, and systematic monitoring of study progress over time (Gordon & Pease, 2006).

- The Argument Delphi, also referred to as the Argumentative Delphi, is a variant of the Delphi method that shifts the analytical focus from numerical convergence toward the explicit elicitation, exchange, and critical assessment of arguments and justifications underlying expert judgments. Rather than prioritizing consensus, the method emphasizes the epistemic quality, coherence, and plausibility of reasoning, making it particularly suitable for foresight, technology assessment, and weakly structured problem domains. While Kuusi (1999) conceptualizes Argument Delphi as a means to advance understanding through the systematic confrontation of competing arguments, Cuhls (2024) further develops this approach by highlighting the role of structured feedback on arguments to enhance transparency and interpretability of results, albeit at the cost of increased cognitive and analytical demands on participants and researchers. The main limitation of the Argumentative Delphi approach lies in its high time and organizational demands, as both participating experts and researchers must process a large and continuously expanding number of arguments. As new arguments are added in successive rounds, questionnaires tend to become increasingly extensive, which may reduce participants' overview of the material and encourage the selection of frequently chosen arguments, thereby unintentionally reinforcing consensus effects. Similar limitations arise during the analysis phase. The large volume of qualitative data complicates systematic evaluation, and although text analysis tools may support processing, they often fail to capture important nuances and contextual differences. As a result, analysis frequently remains qualitative in nature, while less frequently mentioned arguments, despite their potential analytical value, may receive insufficient attention. An additional limitation is that extensive qualitative findings are often only partially included in reports and publications due to space constraints and the increasing preference for shorter and more visual outputs. Consequently, the method may generate more information than can be effectively communicated, creating a paradox in which the principal strength of the approach, rich argumentative input , simultaneously becomes a methodological weakness (Cuhls 2024, 136).
- The Disaggregative Delphi method is a variant of the Delphi method that explicitly rejects the goal of consensus and instead seeks to preserve and systematically analyze divergent expert views. Rather than aggregating responses

toward a single central tendency, this approach groups individual judgments into clusters using statistical techniques such as cluster analysis, which are then interpreted as alternative scenarios. According to Tapio (2002), disaggregative Delphi enhances scenario formation by reducing researcher bias, avoiding oversimplification, and making better use of the richness of Delphi data, particularly in policy-relevant and contested domains where disagreement is substantive rather than noise. A central methodological limitation arises from the use of cluster analysis, as it does not determine an objectively valid number of scenarios; rather, the final decision remains within the discretion of the researcher (Tapio, 2002, 84). Consequently, the delineation of scenario structures is partly contingent upon interpretative judgment. Moreover, responses grouped within the same cluster may emphasize underlying factors in markedly separate ways. Such internal heterogeneity complicates the construction of analytically coherent and substantively consistent scenarios (Tapio, 2002, 98).

6 EXAMPLES OF THE USE OF THE DELPHI METHOD IN ARCHIVAL SCIENCE

This section presents seven examples of how the Delphi method has been applied within archival science:

- **An Analysis of the Effectiveness of Records Management (Austin and Moseley, 1994)**

A four-round Delphi study was conducted to develop a consensus-based definition of effectiveness in records management. The research sought to determine which core functions constitute an effective records management system, addressing the absence of an established industry standard. Thirteen experts, each an Air Force Institute of Technology graduate with a minimum of four years of professional experience, participated in iterative rating and ranking exercises using structured questionnaires. In the first two rounds, experts rated nine predefined records management functions on a seven-point importance scale; in the third and fourth rounds, they ranked these functions to establish their relative priority. Consensus converged around five foundational functions storing records, screening for compliance, retrieving records, assigning disposition instructions, and indexing while automatic destruction was consistently judged least desirable.

The study also faced several methodological challenges, including a small expert panel, an administrative error in feedback during the first round, conceptual overlap in questionnaire items, and limited generalizability due to the homogeneous expert group.

- **Consulting records management oracles - a Delphi in practice (Mcleod and Childs, 2007)**

A three-round modified Delphi study was employed to explore international expert perspectives on the role, value, and future of ISO 15489. The aim was to examine complex conceptual issues that had emerged during a longitudinal investigation of the standard's impact in the United Kingdom. Eight purposively selected experts from four countries participated anonymously in an email-based process using open-ended questionnaires designed to elicit both convergent and divergent views. Common factor among experts was their involvement in records management field. Each round focused on a distinct thematic area: the role of standards in records management, the nature and structure of records management standards, and the future trajectory of ISO 15489. Responses were analyzed qualitatively, and thematic summaries were fed back to participants after each round. The study revealed broad agreement that ISO 15489 provides a high-level framework for best practice but also highlighted tensions concerning its strategic versus operational character, its potential as a compliance standard, and the need for stronger promotion and integration into governance and risk-management practices. Methodological limitations included the small expert panel, reliance on qualitative analysis, the absence of numerical consensus measures, and the use of discrete thematic rounds rather than a cumulative convergence process.

- **Appraising the value of statistical records of the European Central Bank for retention scheduling purposes (Beneito Arias, 2008)**

A three-round traditional Delphi study was conducted to determine justified and consensual retention periods for the 29 classes of statistical records produced and received by the Directorate General Statistics of the European Central Bank. The research sought to answer what retention value should be assigned to these records in order to design a functional and defensible corporate retention schedule. Twelve experts: General Statistics managers, statisticians, and European Central Bank records management specialists participated anonymously and provided

written feedback through structured questionnaires. Round 1 gathered initial retention periods using appraisal variables such as administrative, research, legal, and cost-benefit value; Round 2 enabled experts to review aggregated results and refine their judgments; and Round 3 aimed to finalize consensus on a draft retention schedule. The study achieved full agreement for 15 of the 29 record classes and demonstrated that end-user participation can produce meaningful and implementable retention guidance. Methodological challenges included significant initial divergence of expert opinions, time pressures due to the holiday period, the overly broad scope of the first questionnaire, and differing perspectives between statistical and records management professionals, all of which complicated the process of achieving uniformity.

- **A Delphi Study Assessing Long-term Access to Electronic Medical Records (EMR) (Nicholson, 2008)**

A two-round Delphi study was conducted to identify what measures are necessary to ensure long-term access to electronic medical records (EMR) as technologies evolve. The aim was to gather informed expert judgment on risks, requirements, and preservation strategies essential for sustaining EMR accessibility. Six experts from medical informatics, EMR administration, information systems, and electronic archiving participated in Round One, with three continuing into Round Two. The first questionnaire comprised two open-ended questions addressing long-term access needs and the feasibility of such access in the future, while the second round asked participants to evaluate and comment on the synthesized results. The findings revealed strong consensus that long-term access poses a significant challenge and requires standardization, active digital preservation techniques, robust backup and redundancy, and organizational commitment to appropriate archiving practices. Methodological limitations included the small and diminishing expert panel, the brevity of second-round responses, reliance on email-based communication, and early termination of the study, all of which constrain the depth and generalizability of the results.

- **A study of digital curator competences: A survey of experts (Madrid 2014)**

A three-round modified Delphi study was conducted to identify and validate the core competences required of digital curators within the library, archives, and museum environment. The research sought to define a coherent competence frame-

work to support curriculum development and professional practice, addressing the absence of a clear professional profile for digital curators. Sixteen international experts drawn from academia, libraries, archives, and digital preservation practice evaluated an initial set of 18 competence statements generated from literature and key-informant interviews. Using structured Likert-scale questionnaires supplemented with open comment fields, experts refined, expanded, and rated competences across three iterative rounds. Consensus was achieved on 20 competences, alongside an agreed definition of a digital curator, encompassing both operational skills (such as appraisal, authenticity assurance, interoperability, and preservation risk assessment) and managerial abilities (including policy development, project planning, and legal compliance). Methodological challenges included limited sectoral representation particularly the absence of museum professionals panel homogeneity, reliance on researcher-defined statements in a modified Delphi design, and the potential constraints this imposed on creativity and dissent.

- **Information Competencies of Historians as Archive Users: A Slovenia/ UK Comparison (Vilar et al., 2016)**

A two-round Delphi study was conducted to examine archivists' expert perspectives on the information competencies of amateur and professional historians in Slovenia and the United Kingdom. The study sought to identify differences in user behavior, required skills in both physical and digital archival environments, and the implications for archival support practices. Nine archivists participated five from Slovenia and four from the UK responding first to an open-ended questionnaire covering five thematic areas: types of archival materials used, attitudes toward digital versus physical sources, necessary research competencies, differences between amateurs and professionals, and the archivist's role in assisting each group. In the second round, experts reviewed synthesized cross-national findings and refined their views. The results revealed strong consensus that both user groups require traditional archival skills alongside emerging digital competencies, while also highlighting cultural and experiential differences in attitudes toward archival materials and support needs. Methodological limitations included the small expert sample, the indirect nature of studying users through archivists' perceptions, national differences in digitization practices, and the constraints of a two-round design.

- **Metadata in Digital Preservation and Exchange of Electronic Healthcare Records (Gotis and Nagibin, 2017).**

A two-round Delphi study was conducted to identify the essential metadata categories required for a national Common Specification[3] for Swedish electronic healthcare records. The expert panel consisted of four specialists representing major Swedish regional archives and electronic healthcare records management organizations, each with experience in digital preservation, metadata modeling, and large-scale electronic healthcare records transfers. In the first round, experts proposed and described metadata categories deemed necessary for transferring electronic healthcare records between information systems and to e-archives. Their inputs were synthesized into nine unified categories. The second round enabled participants to review the consolidated list, suggest any missing elements, and designate categories as mandatory or optional. Consensus was achieved after the second round, as most participants had no further additions. The resulting categories were subsequently validated through an interview with the Swedish National Archives and Sydarkivera, confirming their alignment with national terminology, international metadata standards, and practical requirements for interoperability and long-term preservation.

A comparative analysis of the examined Delphi studies demonstrates that the method is highly effective in archival science, particularly when addressing complex issues that lack established standards, empirical indicators, or unified professional criteria. The most robust findings emerge from studies with three or more rounds and a balanced panel of experts which yield more stable judgments and a stronger combination of qualitative and quantitative synthesis. In contrast, two-round studies provide faster results but exhibit limited generalizability and greater sensitivity to individual viewpoints. Across all studies, Delphi serves as a valuable tool for structuring and resolving multidimensional problems related to standardization, competency frameworks, and long-term preservation. Common methodological limitations include small and homogeneous expert groups, participant attrition, differing national practices, and inconsistent interpretations of

3 Common Specifications (CS) are structured formats designed to standardize the exchange of information across different IT systems. They serve several purposes: supporting the procurement and implementation of e-services for e-archives and electronic records within Swedish local authorities and regions; facilitating the exchange of information between operational business systems; and enabling the transfer of data to e-archives and, ultimately, to permanent archival repositories (Gotis and Nagibin, 2017, 2).

core concepts. Despite these constraints, the Delphi method remains a powerful mechanism for generating informed consensus in archival research environments where expert judgment is essential and empirical evidence is scarce.

7 DISCUSSION

Archival theory and practice encounter a range of new challenges in their work. The areas of research on interactions in archives can be examined through several conceptual and methodologically distinct domains, which together form a comprehensive framework for contemporary archival theory and practice:

- Preparation of records and archival materials for acquisition: Research in this area focuses on the appraisal and valuation of records. Key research questions address the principles (archival, legal, cultural, and scientific) according to which records acquire enduring value for society, culture, and science. Attention is paid to whether appraisal can rely solely on classical archival definitions and criteria, and to the role and responsibility of the archival profession in cooperation with records creators during the appraisal process. The appraisal of archival materials represents a classic example of a weakly structured problem domain, in which empirical evidence is often insufficient, and decisions rely heavily on professional judgment and normative value frameworks. In this context, the Classical Delphi method is particularly suitable, as it enables the gradual formation of expert consensus regarding criteria for enduring archival value through iterative, anonymous feedback and controlled aggregation of judgments (Dalkey & Helmer, 1963; Linstone & Turoff, 1975). The Modified Delphi method is especially appropriate when research builds upon pre-existing normative and theoretical frameworks such as ISAD(G), the OAIS reference model, or national archival regulations allowing these foundations to be systematically validated, refined, and operationalized (Hsu & Sandford, 2007). The Argument Delphi method is methodologically justified when the research aim is to uncover the underlying reasons for divergences in expert interpretations of archival, cultural, and scientific value, thereby emphasizing epistemic reasoning rather than convergence (Kuusi, 1999; Cuhls, 2024). Furthermore, the Policy Delphi method is well suited to the investigation of normative and regulatory

dilemmas, such as the relationship between records creators and archival institutions and the allocation of responsibility within appraisal processes (Turoff, 1970; Linstone & Turoff, 2002).

- Acquisition of records and archival materials: This research domain examines the procedures used by records creators when transferring records to the archive, relationships and interactions within organizational and production environments, and the comparison between traditional and electronic acquisition processes, especially regarding metadata capture and quality. It also addresses interactions between records creators and the archive after acquisition, as well as the terminology applied in these processes. The acquisition of archival materials involves clearly defined operational procedures, institutional responsibilities, and technological solutions. Research in this domain can effectively employ the Modified Delphi method, which facilitates the optimization of acquisition workflows based on predefined transfer phases and metadata requirements, while maintaining methodological rigor (Hsu & Sandford, 2007). The Decision Delphi method is particularly appropriate in cases where acquisition is not merely an analytical issue but requires coordinated decision-making among a limited group of actual decision-makers, such as archival professionals, information technology specialists, and records creators (Rauch, 1979). In addition, the Real-Time Delphi method is suitable for time-sensitive changes in acquisition processes, for example during the implementation of electronic transfer mechanisms or automated metadata capture systems, as it allows for continuous feedback and rapid iteration (Gordon & Pease, 2006).
- Professional processing and description of archival materials: This area includes the study of the formation of archival units in accordance with archival standards and principles (fonds, collections, records), the structure and naming of descriptive units, and the elements of archival description. Special emphasis is placed on the application of national and international archival standards, the preparation of inventories and guides, reference and classification systems, and the integration of advanced technologies, particularly artificial intelligence into archival processing and descriptive practices. Professional processing and archival description constitute areas in which formal standards exist, yet their application in practice is subject

to varying interpretations, particularly in the context of introducing artificial intelligence into descriptive workflows. In this domain, the Classical Delphi method supports the development of shared professional positions regarding the interpretation and application of descriptive elements and standards (Linstone & Turoff, 1975; Rowe & Wright, 1999). The Modified Delphi method is appropriate for validating and adapting existing descriptive models to new technological and organizational contexts (Hsu & Sandford, 2007). The Disaggregative Delphi method allows for the identification and systematic analysis of distinct professional schools or practices that should not be forced into artificial consensus, thereby preserving the diversity of expert perspectives (Tapio, 2002). The Argument Delphi method, in turn, reveals the epistemological foundations underlying differences in expert understanding of descriptive principles and the automation of archival description (Kuusi, 1999; Cuhls, 2024).

- Access to and use of archival materials: The starting point of this research area is the fundamental purpose of archiving: ensuring access to and usability of archival materials. Research focuses on access tools and retrieval systems (including comparisons between traditional and digital environments and common search-related challenges), procedures and regulations governing access for internal and external users, and the legal frameworks regulating access and use, particularly in relation to copyright, related rights, and data protection. Access to archival materials is a highly normative and legally constrained domain in which consensus is often neither achievable nor desirable. The Policy Delphi method enables the structured presentation of conflicting perspectives, including public access interests, personal data protection, and copyright considerations, without imposing premature agreement (Turoff, 1970; Linstone & Turoff, 2002). The Argument Delphi method is suitable for analyzing the legal and ethical justifications that underpin access regimes and for making implicit assumptions explicit (Kuusi, 1999). The Disaggregative Delphi method supports the development of alternative access models reflecting differing normative priorities (Tapio, 2002), while the Real-Time Delphi method is particularly useful in the design and continuous evaluation of digital access systems in rapidly evolving technological environments (Gordon & Pease, 2006).

- Preservation and long-term safeguarding of archival materials: Research in this domain addresses the technical, organizational, and material aspects of preservation. It examines archival infrastructure, protective measures, and the challenges of long-term preservation of both analogue and digital archival materials. Long-term preservation requires a high degree of professional consensus, as the consequences of preservation decisions are long-lasting and often irreversible. The Classical Delphi method is therefore well suited to achieving agreement on preservation risks, strategies, and priorities through structured expert reflection (Dalkey & Helmer, 1963; Linstone & Turoff, 1975). The Modified Delphi method allows for the systematic assessment and refinement of existing technical and organizational preservation models (Hsu & Sandford, 2007). The Decision Delphi method is appropriate in situations where research directly informs strategic decisions related to infrastructure development, digital migration, and the prioritization of preservation actions (Rauch, 1979).
- Impact of the technological environment on archival work: Archives operate within complex and rapidly evolving technological environments. Research in this area focuses on the impact of technological change on archival processes, the use of multiple information systems, and the possibilities for efficient, reliable, and standardized migration of metadata from legacy systems to contemporary digital environments. Technological development creates uncertain and rapidly changing conditions in which stable consensus is frequently unrealistic. The Argument Delphi method facilitates a deeper understanding of differing expert interpretations of technological impacts on archival work by foregrounding reasoning and justification rather than convergence (Kuusi, 1999; Cuhls, 2024). The Disaggregative Delphi method is methodologically appropriate for developing multiple, coexisting scenarios of technological development and adoption (Tapio, 2002), while the Real-Time Delphi method enables the continuous adjustment of expert assessments in response to fast-paced technological change (Gordon & Pease, 2006).
- Organizational structure and governance of archives: This research domain explores organizational, managerial, and procedural aspects of archival operations, their integration within broader institutional frameworks, cooperation with other archival and related institutions, and the influence of staffing policies and professional competencies on the quality, efficiency, and sus-

tainability of archival work. The organizational structure and governance of archives constitute a strategically and politically sensitive research domain in which divergent interests are unavoidable. The Policy Delphi method structures debate around alternative governance and organizational models and supports informed policy deliberation rather than decision enforcement (Turoff, 1970; Linstone & Turoff, 2002). The Decision Delphi method supports coordination and alignment among key decision-makers in organizational and governance contexts (Rauch, 1979), whereas the Disaggregative Delphi method allows for the identification and comparative analysis of different governance models without enforcing artificial convergence (Tapio, 2002).

When considering the application of the Delphi method, it is essential to recognize that a critical prerequisite for its successful implementation is the sustained motivation and active engagement of the participating experts. Insufficient motivation may result in participant attrition, particularly after the initial round, when experts fail to perceive direct benefits or relevance in continued participation. This methodological risk must be explicitly addressed in the research design. At the same time, it should be noted that archives across different institutional and national contexts encounter broadly comparable challenges.

According to Sablatzky (2022, 1), the justification for conducting a Delphi study lies in the theoretical assumption that collective group judgments are superior to individual judgments. This perspective holds that even highly qualified and well-informed individuals may not generate optimal solutions in isolation; however, when individual perspectives are aggregated and iteratively refined, the most robust and well-founded ideas tend to emerge. This theoretical foundation is further supported by Linstone and Turoff (1975, 501–502), who emphasize that experts, stakeholders, and process participants involved in Delphi studies inevitably possess different mindsets, divergent ways of interpreting reality, and distinct bases of expertise upon which they draw when proposing solutions. The structured and anonymous nature of the Delphi process allows these heterogeneous perspectives to be systematically articulated, compared, and reassessed without the distortions commonly associated with face-to-face group dynamics.

Methodological vigilance is required with respect to what Hsu and Sandford (2007) identify as the potential of molding opinions within the Delphi process.

Cyphert and Gant (1971) explicitly cautioned that the Delphi technique could "be used to mold opinion as well as to collect information" (p. 273), thereby underscoring the susceptibility of iterative feedback mechanisms to influence participant judgments rather than merely aggregate them. Similarly, Dalkey and Helmer (1963) observed that "some 'leading' by the experimenters inevitably resulted from the selection of the information supplied," indicating that the manner in which feedback is curated and presented may introduce subtle directional bias. Because the researcher determines which statistical summaries, arguments, or qualitative comments are redistributed to the panel, the neutrality of the process is contingent upon rigorous analytical discipline and transparency. An additional concern relates to the distinction between general statements and highly specific, topic-related information. Participants with less in-depth knowledge of the issue under examination may lack the capacity to identify or prioritize the most salient statements formulated by subject-matter experts. Consequently, nuanced or technically sophisticated contributions risk being overshadowed by more general formulations. Empirical observations further suggest that participants may adjust their ratings upward after receiving inaccurate or false feedback, in some cases assigning above-average scores to statements they had previously evaluated more critically. Such dynamics highlight the epistemic vulnerability of the Delphi method to conformity effects and feedback-induced bias.

The usefulness of the Delphi method in archival research conducted in conditions of rapid technological progress and the continuous evolution of software and technological solutions is clearly demonstrated by the study *Forecasting and Assessing the Impact of Artificial Intelligence on Society* (Firschein et al., 1973). Conducted in the 1970s, this research examined how experts in artificial intelligence assessed the future development, applications, and societal implications of AI technologies. Specifically, the study sought to identify anticipated time limits for the emergence of particular AI-based products and to assess their potential impact on society. The aim was to produce a systematic, expert-grounded technological forecast to support long-term societal planning. The Delphi study on the future of artificial intelligence had a significant long-term impact because it demonstrated, already in the 1970s, that expert-based forecasting can reveal not only anticipated technological developments but also their societal risks and

governance challenges. First, the study showed that AI progress would unfold unevenly, with breakthroughs concentrated in specific domains such as expert systems, language technologies, and robotics and observation that proved correct in later decades. Second, it highlighted early concerns about ethical and societal implications, including surveillance, automated decision-making, and military applications, many of which became central issues in contemporary AI governance debates. Third, the study demonstrated the value of structured expert consensus methods (such as Delphi) for anticipating disruptive technologies, shaping later foresight practices in government, defense, and technology policy. Finally, by emphasizing both the transformative potential and the dangers of AI, the research helped establish a framework for viewing AI not merely as a technical field but as a societal force requiring long-term planning, regulatory oversight, and interdisciplinary engagement.

The application of the Delphi method is particularly well suited to technological questions in archival practice. Areas such as digitization and digitalization processes, the management of LTO library infrastructures, archival information systems, and, more recently, the integration of artificial intelligence into archival workflows represent complex and interdisciplinary problem domains. In such contexts, the Delphi method enables the inclusion of experts from multiple professional backgrounds and supports the structured elicitation of informed judgments in response to clearly formulated research questions. Consequently, the Modified Delphi method is especially suitable for addressing issues related to archival information systems, digitization strategies, and the application of artificial intelligence in professional archival processing, as it allows research to build upon existing empirical findings, standards, and best practices.

The Classical Delphi method, by contrast, is particularly appropriate for exploratory and forward-looking research, such as forecasting future developments in archival formats or anticipating challenges related to data migration between technological systems in response to rapid technological obsolescence. One of the most frequently cited concerns regarding the use of the Delphi method relates to the duration of the research process, especially in studies employing three or more rounds. While this temporal aspect represents a legitimate methodological limitation, it must be weighed against the depth, robustness, and reflexivity of the results produced.

8 CONSLUSION

The Delphi method is particularly appropriate for use in archival theory and practice in situations where research problems are poorly defined, ambiguous, or even initially unknown. Such conditions are common in archival research, especially in contexts shaped by rapid technological change and evolving professional paradigms.

The Delphi method is highly relevant to archival theory and practice due to its capacity to facilitate interdisciplinary scientific collaboration. It is necessary to identify the fundamental principles and enduring standards that govern the functioning of archival theory and practice, recognizing archival science as an independent academic discipline characterized by its multidisciplinary and interdisciplinary scientific foundations (Klasinc, 2019, 16). Research on the application of artificial intelligence in professional archival processing, for example, requires not only the expertise of archivists but also the involvement of information scientists, engineers, and technology specialists. The Delphi method provides a structured and methodologically sound framework for such interdisciplinary cooperation, enabling the integration of diverse forms of expertise into a coherent analytical process.

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Arian Rajh[1]

ARCHIVING BEYOND DOCUMENTS: HEALTH AND SPORTS DATA FROM WEARABLE SENSORS IN A DATA-INTENSIVE WORLD

Purpose: *Wearables in the health and sports domains have spread significantly over the past period, and this article analyses several wearable devices and systems used in the treatment of diabetes and in tracking endurance sports.*

Method/approach: *The theoretical framework this research uses is a Foucauldian analysis of datafied reality, alongside both discursive and materialist views of data.*

Results: *The author examines data generated by users and wearables as material-discursive phenomena that rely on data imaginaries and enable specific users' actions over data. After analysing threats to the continued use of data from wearables, the author emphasises the importance of preventing data loss. The author explores whether wearable data should be archived as data or as documents.*

Conclusion/findings: *The author discusses the value of data, recommends using archival strategies to restore user control over their data, and proposes developing a data-driven archival apparatus.*

Keywords: *data imaginary, data archiving, deplatforming, diabetes, health and sports data, personal data governance, sensors, wearables.*

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1 INTRODUCTION

A document is information with a fixed constellation of certain elements of form. Following Duranti (1989, 15; 1991; 2010, 81) and Lemieux (2024, 144), a document's constituents are its form, the action and activities of agents, an archival bond with other documents, and adherence to technological and social contexts. This article explores questions about data archiving, particularly when data rather than documents are generated. Of course, documents still have a place in today's world as fixed-information objects of a particular type, but there is no reason for an archivist to neglect other forms of personally and socially significant information. Although the global quantity of data by the end of 2025 has reached approximately 180 zettabytes (Statista, 2025), making data the primary form of information today, and will continue to grow at even higher rates than before, many archivists still refuse to deal with data on the theoretical and practical level and continue to focus just on documents. Data is not even considered a proper topic of our discussion or archival scientific communication. Maintaining this ignorant attitude may lead to losing oversight of data collected by large tech companies, as they have their own approaches to managing and protecting it. It also renders our profession largely irrelevant in the age of "data-driven capitalism" or "platform capitalism" (Acker, 2025; Srnicek, 2016). Tech companies appear to have recognised the merits of data earlier than other key stakeholders and have assumed an overly large role in the user-engineer-archivist "three-way relationship" (Moss et al., 2018, 146). We live in an era of the "connective turn" and the omnipresence of digital technologies, networks, and storage (Hoskins, 2011; Hoskins, 2017), yet we witness the failure of archiving (Hoskins, 2017, 4). This article points to the pitfalls of this conservative archivist position, which neglects data generated by monitoring conditions or diseases and by tracking fitness, sports achievements, and general bodily activities. Data from patients and athletes that are generated and collected by contemporary wearable technologies.

In this article, wearable tracking technologies, or wearables, refer to Internet of Things (IoT) devices with sensors, connected to software, linked to systems and ecosystems, and used for health or sports purposes. The proliferation of wearable technologies in sports over the last few decades has been noteworthy (Toner, 2023, 19, 26–27, 29). There has also been an explosion of wearable technologies

for monitoring various health conditions (Majdinasab in Mitsubayashi, 2024, 42). Wearables and their application environments, or devices that continuously collect personal health and performance data, fall under the Internet of Things (IoT), Big Data, and AI spheres. Talboom and Huentelman (2018) describe them as continuously attached or applied devices that are minimally or not at all invasive for the user and use sensors to gather and transmit data. Domains that use wearables, according to Talboom and Huentelman, include disease-related domains, childhood development domains, and general physical monitoring, but other domains could also be metricated using wearables.

Wearables are worn directly on or in the body (e.g., glucose sensors, 2D fabrics and patches, implanted wearables) or as separate devices (e.g., rings, bands, sports watches and smartwatches). They could also include clothes, contact lenses, insoles, glasses, goggles, shoes, monitoring suits, and so on (Vaghasiya et al., 2023, 2; Vijayan et al., 2021, 1; Xue et al., 2024, 4). There are also combinations of implantable and wearable solutions, such as the Eversense glucose monitoring system, which plans to eliminate the separate wearable transmitter component and enable Bluetooth connectivity between the sensor and a transmitter implanted under the patient's skin. A typical wearable ecosystem consists of one or more devices from a single vendor, each with accompanying software. This can be expanded into a broader system that includes other vendors' products. Such a system includes a wearer with accumulated data, one or more wearables with sensors and transmitters, smartphone software, the first vendor's cloud environment, and other vendors' cloud environments and apps. As stated, this article examines two types of wearable technology, both widely used today: health condition-monitoring and sports-tracking wearables.

1.1 WEARABLES FOR MONITORING SPECIFIC CONDITIONS OR CHRONIC DISEASES – USE CASE OF DIABETES

This group of wearable devices includes various sensors and transmitters for tracking specific health parameters. Processes involving this type of data in the literature are also referred to as "sensor data analytics" (Karthick, 2026). As stated in the literature, they are used both in and out of hospitals, facilitating the transition of treatment to patients' homes, either by patients themselves or under the supervision of healthcare professionals (Vijayan et al., 2021, 3). While more accurate methods exist for determining immediate treatment, such as in-

vasive glucometers for measuring blood glucose levels in patients with diabetes, data from wearables are frequently used to manage treatment continuously and to keep patients in low-risk conditions (e.g., glucose levels of 4-10 mmol/L for patients with diabetes).

1.2 WEARABLES FOR TRACKING FITNESS, SPORTS ACHIEVEMENTS, AND GENERAL CONDITIONS

This group of wearable devices includes sports or smartwatches, shoes and other type of sensors for tracking the number of steps, jogging, running, swimming or cycling speed, foot balance while running, running pace, heart pulse while resting or physical activity, pulse variability, calories burned in activities, minutes of exercise, exercise effects, altitude difference between start and end of activity, sleep time and quality, etc. Their sensors collect static, kinetic, and kinematic data about the body and its activities (Toner, 2023). Professional and recreational athletes use them to monitor conditions during activity and track their athletic development. "Quantified-self" population (Hill, 2011; Lupton, 2013, 25), people who do not have to be athletes, also voluntarily use sports and other wearables to track their overall health or parameters of interest.

1.3 RESEARCH QUESTIONS

This research on data from health and sports wearables covers the following questions:

RQ1: What are the implications of leaving the preservation or archiving functionality to technology companies that create wearables for collecting user data?

RQ2: Is there a professional responsibility of the archival community in these cases?

RQ3: Should the archival strategy be focused on archiving documents or data?

RQ4: Should archival discourse change to archive data generated by wearable technologies in the targeted form?

2 APPROACH AND METHODOLOGY

The methodology of this research comprises a review of the literature on social changes today, focusing on the intensification of data use in general, the use of data in domains of sports and health activities and conditions, and document and

data objects in archives, as well as analyses of use cases regarding data formats and their ecosystems. Secondly, both approaches, i.e., management that focuses on data and management that focuses on data derivatives such as documents, will be analysed in cases involving wearable-generated data and discussed. In the case of wearables, the documents are derivatives of the original data. Thirdly, the author will present the answers to the research questions. Finally, after discussing these answers, the author will draw a conclusion and evaluate the potential impacts on data archiving and archival science.

2.1 REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK FOR THE RESEARCH

Today, almost everything is followed by data or "datafied" (Mayer-Schönberger & Cukier, 2014, 78, 91). Many authors describe today's data-rich or data-intensive world, ranging from its dataism ideology to the social impact of the changes it has brought (Beer, 2019; Couldry, 2020; Mejias & Couldry, 2024; Zuboff, 2019). For this article, some newer articles and books on an archival perspective on data have been consulted (Acker, 2025; Mordell, 2019; Moss et al., 2018; Payne, 2018; Rajh, 2025). The author also consulted the literature on wearable technologies (De Arriba-Pérez et al., 2016; Karthick, 2026; Mitsubayashi, 2024; Szeto et al., 2024; Talboom & Huentelman, 2018; Toner, 2023; Vaghasiya et al., 2023; Vijayan et al., 2021; Xue et al., 2024). The theoretical framework for this research draws on neo-Foucauldian theories, including those of David Beer and Amelia Acker, as well as Karen Barad's agential realism within the New Materialism framework.

Beer draws parallels between power and social structures, and between the clinical-scientific practices described in Foucault's "The Birth of the Clinic" (2003) and the datafication movement of our own time. Data is now included in all aspects of our lives, from the workplace to health and leisure, and it enables the formation of knowledge and insights into social life (Beer, 2019, 4–5). Beer explains the infrastructure stat supports data processes and analytical practices, aiming to understand the data industry's role in our societies. His "data gaze" is the concept that relies on the ideology of the "data imaginary," or the promise of what could be accomplished through data, and connects today's data analytics and power structures. IT companies and data centres create new landscapes for data gaze, for its rationality and expanding worldview (Beer, 2019, 130–132).

Acker's "Archiving machines" also examines data and platforms as means and channels of new relations of power (Acker, 2025, 157). With the advancement of IT and telecommunications, the users, as Acker states, gave up control of our data for the convenience of technical solutions and their functionality. In her view, platform-based companies separated users from their data (externalisation), changed users' expectations and behaviour (the grammar of action), and imposed their own meaning of the term "archiving." This relationship with private companies is neither collaborative (Farrugia, 2024, 31) nor healthy.

Finally, Barad's agential realism brings together Foucauldian poststructuralism, realism, feminist theory, and related strands of critical thought with the physics-philosophy of Niels Bohr, who addressed the problem of light's wave-particle duality through the principle of complementarity, arguing that different scientific apparatuses capture different aspects of light. While Barad adopts a realistic ontology, she rejects both representationalism and pure constructivism of the world (by the discourse) in favour of performativity (Barad, 2007, 46–49). She reconciles the materialistic and discursive nature of the world in which humans participate, rather than occupy a central position. Within this framework, phenomena of the world consist of objects and scientific apparatuses that we use to measure and comprehend them. In this case, measuring is not a representation of the object but a material-discursive intra-action. Agency involves actively participating in the creation of phenomena that delineate the boundaries between subjects and objects. Archival materials do not merely record events but actively shape them as material configurations that contribute to the creation of new meaning. Digital data and records are not just discursive; they are also physical phenomena.

Barad's theory and similar theories are beginning to influence archival science (Goudarouli & Prescott, 2025). There is common ground among all these theories, which constitute the framework for this article. For example, the automatic save function in software is, for Acker, a grammar of action and, for Barad, an active agency of software. Beer's "data imaginary" corresponds to Acker's notion of a common belief in data's predictive power, so both outline the ideology behind the data movement. They all see not just raw data but information-related phenomena, products of apparatuses used today. The SWOT analysis presented in the results of this work was broadened in the discussion through a less technical,

more philosophical literature on wearables, such as that by De Arriba-Perez et al. (2016), Sharon (2017), and Toner (2023).

2.2 ANALYSIS OF WEARABLES AS DEVICES AND THEIR ECOSYSTEMS

Following the literature review for this article, this section aims to analyse systems, data-related processes, and data as phenomena related to Type 1 diabetes (T1D) wearables, such as Continuous Glucose Monitoring (CGM) devices, from the first group. It also examines performance-tracking sports watches from the second group. Due to their availability and widespread presence in the EU market, three CGM products are being analysed in the first group of devices: Abbott FreeStyle Libre (generations 2 and 2 Plus), Dexcom One+, and Sibionics. All these CGMs can be used with Android and iOS smartphones, providing an easy-to-use experience, along with the additional LibreView application for family members and healthcare professionals. The analysed systems employ a flexible filament that is minimally invasive and reaches the fluid surrounding cells in the tissue under the skin to measure glucose levels.

The FreeStyle CGM ecosystem, manufactured by Abbott, includes a device and software for continuous glucose monitoring and diabetes treatment, featuring a sensor and transmitter integrated into a single device, a smartphone application, and a cloud services solution. It can use third-party vendor information on smart insulin pens, such as the Novo Nordisk NovoPen Echo Plus, to track daily insulin intake. The Libre sensors measure glucose levels in interstitial fluid, which reflects changes in blood glucose levels with time delays of approximately 15 minutes (Libre 2) or 2 minutes (Libre 2 Plus). The manufacturer calibrates the sensor, but the wearer cannot calibrate it independently. Collaborating with third-party partners, Abbott has used the Libre sensor and their insulin pumps in specific configurations. PC/Mac application represents glucose level statistics, average glucose levels, glucose variability, daily glucose profiles, and glucose management indicators (GMI). GMI indicates or estimates the average three-month glucose level and should be confirmed by laboratory analysis.

The expanded ecosystem for Dexcom One+ CGM (shown in Figure 1 below) comprises a smartphone app, the Apple Watch Dexcom app, and Dexcom Clarity cloud software. The sensor measures interstitial glucose every 5 minutes. The system

includes the Dexcom Clarity application for home users (patients or parents) and healthcare professionals. Dexcom Clarity provides reports that include average glucose values; time-averaged glucose values considered appropriate for persons with diabetes (4.0 to 10.0 mmol/L); information on insulin intake; the best day for maintaining glucose levels; data visualisation; trends; comparisons of values for selected days; and ambulatory glucose profile information. Wearers can calibrate the sensor on demand after measuring their blood glucose levels. The EU-marketed Dexcom device does not integrate with smart insulin pens; the patient must manually enter insulin doses. When integrated with tubeless insulin pumps, Omnipod 5 features an automated insulin delivery system that uses advanced Dexcom CGMs available in the US (Dexcom G7) to automatically adjust insulin doses. The Dexcom One+ sensor-transmitter is fully waterproof (up to approximately 2.5 metres), which can be critical for wearers with diabetes who lead active lifestyles, such as swimmers or triathletes, and is beneficial for managing their condition.

Figure 1: Dexcom One+ is combined with a device accompanying the sensor, a smartphone application, and a smartwatch

Sibionics CGM consists of the sensor, additional patch, and smartphone app. The sensor sends data to the app at 5-minute intervals, and patients can view values in 3-, 6-, 12-, or 24-hour segments. The Sibionics app provides diary functionality with time-in-range, time-above/below-range percentages, daily trends, and events such as meals, exercises, additional blood glucose measurements, and insulin intakes. The user doesn't estimate carbohydrate intake; instead, they choose meals from a database that provides calorie and nutrient values, like calorie-counting applications.

Figure 2: Garmin Fenix6 sports watch and HR monitor (parts of the Garmin ecosystem).

The Apple Watch and Garmin ecosystems belong to the second group of wearables being analysed in this article. Both sports tracking systems allow third parties, such as the social network Strava, to ingest data they collect. The Apple sports-tracking ecosystem consists of a smartwatch, the Apple Fitness app and Health app on the phone, and iCloud synchronisation. The literature describes

Apple's Health system (De Arriba-Pérez et al., 2016, 6). Fitness and sports tracking functions include pedometer data, calorie data for activities and rest, daily walking distance and activity data, running and walking paces, cadence, geolocation data for activities, various heart rate (HR) data, etc.

Garmin's ecosystem includes various sports watches and additional sensors that track data more precisely (e.g., running dynamics and HR via a separate heart rate monitor connected to the Fenix watch, as shown in Figure 2). Garmin Fenix 6 and 8 watches and triathlon HRM were analysed. The system applications are the Garmin Connect smartphone application and the Garmin Connect cloud solution. Although sensor accuracy is not perfect, many sports watches offer sufficient accuracy for personal use (Jamieson et al., 2024, 11)3-min step test (3MST. Garmin is reputed for its reliable algorithms, and accuracy increases with the addition of sensors to its ecosystem. Its race preparation plans and race PacePro strategies utilise predictive analytics. Transferring data from a Garmin watch to Strava can be considered an indirect warehouse data transfer (De Arriba-Pérez et al., 2016, 8–10), in which the data flows through intermediate systems without direct communication between the Garmin watch and Strava. The watch records activities, and the data are synced to Garmin Connect. If the wearer links their Connect and Strava accounts, Garmin's backend systems push activity data to Strava's servers. There was a dispute between Strava and Garmin in 2025, but Garmin's sports data can be displayed on both systems. Garmin Connect acts as a warehouse, aggregating and processing data before enabling its use in the Strava environment. Strava also enriches the data by applying its algorithms and adding comments from other community members, thereby satisfying users' need to share data and compare with others (Grüning & Richlan, 2026), as well as their general "compulsion of connectivity" (Hoskins, 2017, 2).

Several types of sensors used by wearables are categorised and listed in the literature (Vaghasiya et al., 2023, 3–4; Xue et al., 2024). The showcased CGMs use electrochemical sensors for glucose monitoring (Majdinasab in Mitsubayashi, 2024, 41–43), and the sports watches described in this article rely on a combination of motion sensors (accelerometer, gyroscope), environmental and navigation sensors (ambient temperature, barometer, GPS), and optoelectronic sensors (photoplethysmography for HR). These sensors gather data that must be processed by

accompanying software. Data are transmitted and stored within the system. The article's upcoming section 2.3. will focus on long-term preservation tasks that may extend beyond the original system's borders, beginning with the format issue as a foundation for further preservation efforts.

2.3 ANALYSIS OF FORMATS FOR PRESENTING HEALTH AND SPORT DATA

Data on specific health conditions and recording file formats were analysed using the primary example of the Dexcom Clarity application (version 3.51.0) with the export function. Two other CGMs were also considered, both from literature (Roze et al., 2021; Visser et al., 2024) and practical cases. Data from Dexcom Clarity can be exported as Excel files and thus converted to CSV files. The Excel file contains glucose levels, times, warning events, insulin and carbohydrate intake, and technical metadata for wearable devices.

Dexcom Clarity records sent by mail provide weekly summaries of patients' time within appropriate glucose levels, with incremental or decremental changes compared to the previous week's summary, and visualised trends. The following reports from the Dexcom Clarity application can be exported as PDF files: overview report, pattern report, overlap report, daily reports, comparison report, daily statistics, hourly statistics, and Ambulatory Glucose Profile (AGP). The overview report includes average glucose over 2 weeks, time in range, sensor usage, percentages of fast- and long-acting insulin, average total daily insulin intake, best glucose day, and device metadata. The patterns report provides information about the patient's optimal day, while the overlay displays daily glucose graphs stacked on top of each other. The Daily report presents glucose graphs and event information for each day. A comparative report assesses biweekly periods, and a statistics report displays daily and hourly measurements in tabular form, accompanied by visualisations. The AGP provides insights about the time the patient spends in a good glucose range, average glucose levels, the Glucose Management Indicator (GMI) that estimates laboratory values expressed as a percentage, the coefficient of variation, the timing of CGM activity, a visually represented ambulatory glucose profile, and daily glucose profiles for all days within the reporting period. Libre CGM (version 2.11.2.8275) provides reports with statistics, time-

in-range data, AGP data, daily glucose profile, trends, trends after meals, monthly summaries, weekly summaries, and a diary with all events in the reporting period. Sibionics' reports (app version 01.12.00.00) include time-in-range data as percentages and hours, average glucose value, GMI, glucose variability (compared to the goal), and daily glucose profiles.

Sports performance data and record types have been analysed using an example of a running session recorded by a Garmin sports watch. Exporting data from Garmin Connect as a binary FIT file (Flexible and Interoperable Data Transfer (2019)) is possible. TCX (Training Centre XML) and CSV (Comma-Separated Values) files are also available. There are also XML-based files containing geospatial and sports data, as well as GPX (GPS Exchange Format) and KML (Keyhole Markup Language) digital files. An author's half-marathon recorded activity is an example to analyse the file formats below (the 'Starek' race, held in November 2024, Zagreb, Croatia). The FIT file for the race includes a file identifier, software version information, and timestamps for the event start, markers, and stop moments. It contains details about the wearable device and the wearer's personal data, including sex, height, weight, and HR (resting, maximum, threshold). It also provides information about the type of sports session, the wearer's activity (speed, vertical oscillation), external conditions (temperature, altitude), and details about laps and segments of activity and the overall session, as in the Fit File Explorer application (v. 3.5, 2023, developed by Brice Rosenzweig). A CSV file contains less information, organised by running segments or laps: lap time, distance, average pace, average and maximal HR, ascent and descent data, average power, average cadence, stride length, and other running-related data. A TCX file is an XML file with the root TrainingCenterDatabase element that lists Garmin's namespaces and includes elements for the activity and the software agent responsible for recording it. The activity element consists of sub-elements for describing laps: lap start time, total time in seconds, distance, maximum speed, calories spent, HR values, intensity, trigger method, and tracks. Tracks are smaller segments of geospatial data, including position, altitude, and distance from the start of a run to the end of a segment, along with the wearer's data, such as speed and running cadence. The GPX files (shown in Figure 3

below) contain information about the running path (the trk element), including a track segment (trkseg) sub-element and lower-level sub-elements, such as track points (trkpt). Track points contain geospatial data, elevation data, a specific time point, and extended HR and cadence data.

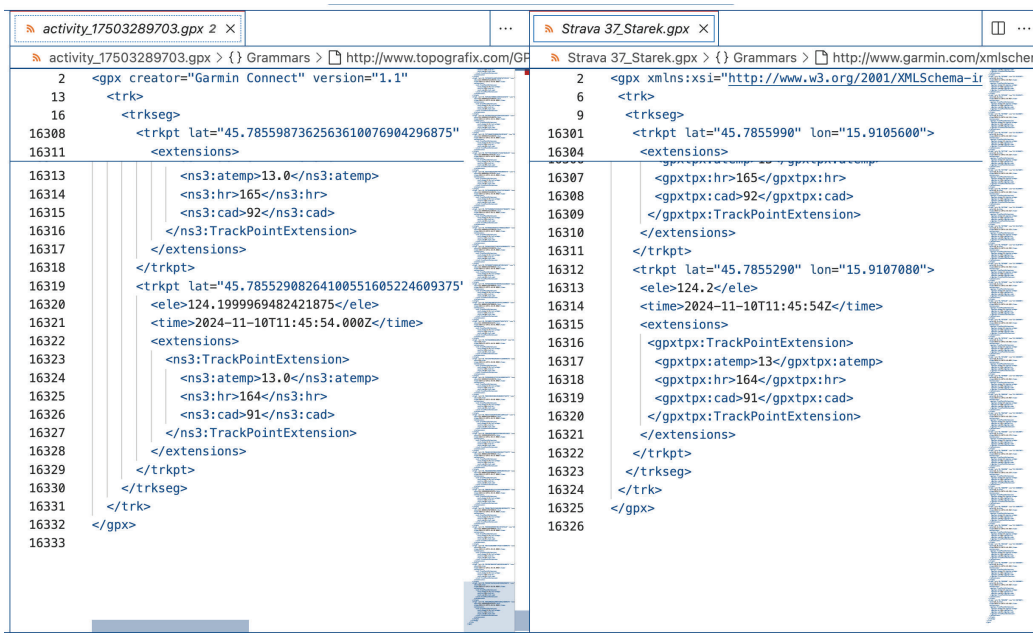

Figure 3: GPX files from Garmin (left side) and Strava applications describing the same activity

The Garmin half-marathon activity was also shared on Strava, from which FIT and GPX files were exported. GPX files generated by both applications were similar, as expected, since Garmin data was processed by Strava and inserted into an XML template following the same standard. FIT files were based on the same data, but there were minor differences in structure and visualisation, as shown in Figure 4. It is also possible to create PDFs from Strava by using a browser's PDF export feature.

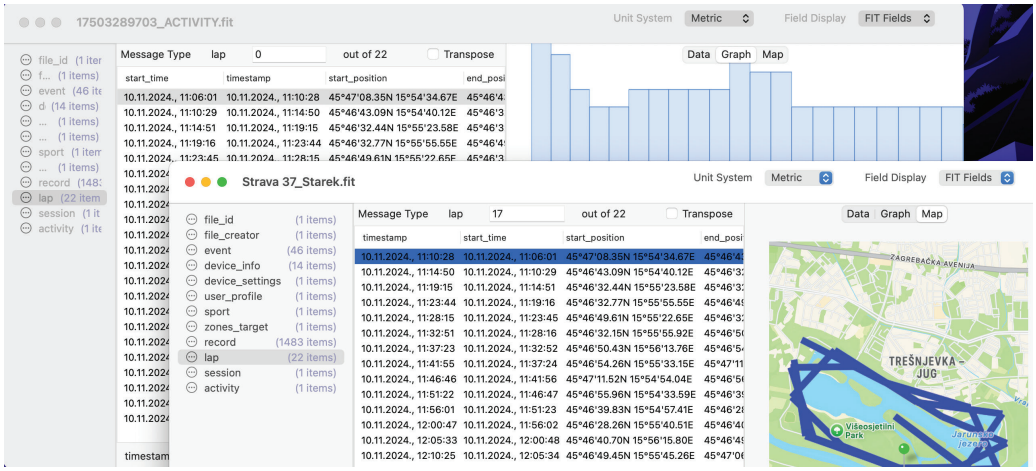

Figure 4: Garmin and Strava FIT files compared (the file created by Strava in the front), presented in the Fit File Explorer application

3 RESULTS

Data elements created by two groups of wearable technologies, described in the previous section and summarised here, capture different phenomena, as shown in Table 1 below. The table shows an implicit imaginary (Beer) of information collected by those wearables, which is involved in the creation of the patient or athlete as datafied subjects (Barad), material-discursive phenomena created by these wearables (Barad) that serve to reshape patients' and athletes' bodies, and grammars of user actions and excluded actions (Acker) with the data and phenomena. Data imaginary is what is promised, phenomena are what are being created as information objects, and grammars of actions refer to what is permitted and banned.

Wearable	Promised	Created	Permitted	Excluded
Abbot Libre	Continuous diabetes monitoring; routine disease management; quality of life optimisation	Interstitial glucose; hypo/hyperglycaemic events; GMI; glucose variability; time-in-range; glucose profiles	CSV export (partial); report downloads (document-based)	User calibration; full raw data export
Dexcom			Report downloads (document-based)	Automated insulin data integration; full raw data export
Sibionics				User calibration; automated insulin data integration; raw data export
Garmin Fenix	Performance optimisation; longevity; self-improvement; preventing threats; return of investment in an athlete	Training readiness; HRV status; race prediction; training load/effect	Performance analysis; historical trend review	Full raw data export
Apple Watch	Holistic life management; everyday self-tracking	Activity metrics, trends, awards, and aggregated health indicators	Data visualisation; limited export via ecosystem	

Table 1: Data imaginary, phenomena, and grammars of actions for the analysed wearables

Toner critically examines the proliferation of wearables in the sports domain and links it to the perception of analytical apparatus that provides insights and predictions about the wearer's performance. Toner sees this as the approach to managing athletes in the current biopower landscape, alongside its monitoring, risk-mitigating, and discipline systems (Toner, 2023, 30–31). According to Toner, the hidden goal of using wearables is to prevent athletes from failing to reach their potential, as identified through predictive analytics, thereby avoiding the risk of not generating profit in today's competitive world. The literature on medicinal wearables highlights the potential benefits for patients (Inoue, Yokota, and Takewa & Mitsubayashi in Mitsubayashi, 2024, 19). The final column in Table 1 highlights the actions excluded from the grammars of action governing the analysed wearable ecosystems. Although these systems generate data ostensibly for patients and athletes, access to that data remains restricted, rendering it "asymmetrical" and increasingly „distant" from users (Acker, 2025, 137). When limitations are embedded at the point of data creation, concerns regarding long-term preservation and archival responsibility inevitably arise. This raises a fundamental question: whether the archiving function can be left to the technology companies that design and control wearable platforms, or whether archivists bear responsibility for intervening in the governance and preservation of such data (RQ1, RQ2).

Table 2 below presents strengths, weaknesses, opportunities, and threats related to the preservation of data or documents that contain processed data. Data from the examined systems can be exported and preserved in several ways. Diabetes-related data can be exported from various CGM systems as PDF files or CSV container files. Sport-related data can be exported as XML files (TCX and GPX) or in binary FIT format. Diabetes-related data could not be ingested into another CGM system, but sports-related data can be ingested into third-party systems like Strava (TCX, GPX, and FIT files). Examined wearables that generate sports-related data demonstrated greater flexibility in using export and preservation formats outside their original ecosystems.

Approach	Strengths	Weaknesses	Opportunities	Threats
Preservation of health data as documents	Preservation of data in a standardised PDF file format.	Data is encapsulated in static files that are not easily processable.	PDFs can be transformed straightforwardly into archival PDFs; using the archival document format adds reliability.	Static representations may become impossible to reuse as analytical needs evolve, information is discontinued, interoperability is limited, or an archival strategy is lacking.
Preservation of health data as data	Exported data in standard CSV format.	Limited health data formats hinder continuity of monitoring.	Data could be reused and processed in more advanced ways at some point.	Data is represented as neutral, although it is already pre-processed; limited interoperability and functionality of the chosen data containers; a lack of context; and a lack of an archival strategy.
Preservation of sports data as data	Data export (binary and XML containers) supports continuity and interoperability as files can be manually uploaded to some third-party systems.	Data derived from company-dependent metrics and algorithms.		

Table 2: SWOT analysis of different approaches to archiving sports and health data

The current situation, characterised by varied preservation approaches, indicates a lack of a systematic archiving strategy, posing a threat to hundreds of millions of patients with both types of diabetes (World Health Organisation, 2024) and to athletes, who might lose their valuable health and performance data. Another group of sensor data producers includes ageing populations, which further exacerbates the problem, but this is outside the scope of the article. Archivists are committed to preserving and assuring access to information valuable to individuals, groups, or societies. Information in the past was typically shaped as a document. In contrast, data generated by wearable technologies today is a different

type of informational object – dynamic, deeply system-dependent, and continuously produced stream of data. This divergence calls into question whether such data, created as data, should be preserved as typical, static archival documents, usually in PDF files, or as data (RQ3), and whether existing archival discourse and practice are adequate for preserving these forms in their native, data-centric configurations (RQ4). The approach of archiving documents by the wearables' software has few advantages but more severe weaknesses and threats (as shown in Table 2), so preserving personal sports activities by archiving fitness-related datasets and formats would make more sense. FIT and TCX files focus primarily on fitness-tracking data, while GPX and KML files integrate geospatial data and fitness and sports-session information. FIT and TCX file formats are industry standards that are not globally accepted. Globally accepted file types are GPX and CSV. The XML files for describing the half-marathon activity obtained from the Garmin ecosystem were relatively large. Still, the GPX file was approximately 40% smaller (by line count and disk size) than the KML and TCX files derived in one of the analysed use cases and compared. Preservation of sports data as documents was not analysed in Table 2 because the creation of a PDF with data processed by Strava was possible by using a browser's PDF saving feature. Rather than a purely technical problem, the issues analysed point to a broader need to reorient archival theory and practice towards the preservation of data as information in adequate forms, as this affects individuals and patient communities.

4 DISCUSSION

Although dataism ideology and data imaginary were criticised in the literature (Acker, 2025:129–130; Beer, 2019:18), both health and sport data collection and processing rely on data for predictions at the individual level, e.g., early detection and individualised treatment for a diabetes patient (Karthick, 2026, 1) and race-distance predictions for an athlete. The reality, as always, is in the middle: despite all the processing techniques, sensor data can still produce errors, but it also makes life much easier for a person with diabetes. Data from wearables can be beneficial for planning rest and training of an athlete or recreational athlete. Yes, wearables are a part of today's platformed world. Predictive possibilities have limitations; "data imaginary" is a set of promises, but data can be used to

predict some consequences of the state from which the data is collected. This research does not place itself within the dataist literature; instead, it highlights the benefits of sensor technologies and encourages their use with self-awareness. But more importantly, given the recognised threats, it calls for the addition of an archival strategy to the export, preservation, interoperability, and use of data collected by wearables.

The literature also identifies additional positive and negative aspects of wearables, complementing the SWOT analysis presented in Table 2. Sharon (2017, 106–107) describes wearable technologies, identifying empowerment to manage one's health, individual responsibility for personal health, and the facilitation of self-knowledge as key positive attitudes. The values Sharon associates with wearables are *solidarity*, *autonomy*, and *authenticity*. Preventing unnecessary costs for overburdened health systems contributes to overall social solidarity, autonomy refers to gaining control over one's personal health, and understanding oneself leads to a more authentic self. On the other hand, loss of autonomy and the imposition of control can be observed when wearables are not used voluntarily. Further loss of solidarity, as Sharon states, occurs when healthcare is left to individuals, and the quantification of various states can further distance individuals from genuine experiences. Importantly, Sharon's framework focuses on wearable systems rather than on the data they produce.

This article extends that discussion by shifting the focus from devices to the nexus of wearable systems and data. Wearables, the domain discourse (diabetes, running, cycling, swimming, triathlon, etc.), and the body of a patient or athlete comprise an apparatus in Barad's sense. The data produced are not raw but material-discursive, processed phenomena (as shown in Table 1) that must be maintained and preserved over time. We need to include an archival strategy within those apparatuses to ensure this. The empowerment that wearables offer ends when users lose control of their data. The literature also indicates that autonomy diminishes as users increasingly lose control of their data (Acker, 2025, 82, 110, 169). In addition to Sharon's values, the author of this article would identify continuity, interoperability, and reliability as guiding principles for data selection and management that archivists should adopt. These principles directly concern how wearable data persist and remain reusable over time.

The first guiding idea concerns maintaining *continuity*. Continuous monitoring or tracking of medical and sports phenomena aids in diagnosis, treatment, and performance planning. However, interruptions and data discontinuity caused by platform obsolescence, device and technology switching, or static data in documents undermine these advantages. Wearable data can be exported as static PDF documents, which prevents recombination with newly generated datasets and results in information that is not readily reusable.

Valuing *interoperability* is also a key guiding idea. Efforts toward standardisation facilitate users' ownership of data and third-party integration, which is critical to switching systems and, again, user independence. Weak interoperability increases threats and undermines continuity. Sensor data fusion, i.e., combining multiple data streams (Karthick, 2026, 14–15), is essential for advanced analytics. This also favours the argument that wearable data should not be preserved merely as static documents. Interoperability was also discussed by Arriba-Pérez, Caeiro-Rodriguez, and Santos-Gago (De Arriba-Pérez et al., 2016, 3).

Finally, *reliability* is a very valuable data characteristic, and we need to maintain it. The guiding idea here concerns the seamless integration of wearables into daily life and the sensor accuracy that supports well-informed health- or performance-related decisions. Unreliability can result from sensor inaccuracies or battery loss. A broader context loss when data is discontinued and segmented also affects reliability. Wearables do not directly replace human medical or sports coaching expertise; instead, they depend on insightful contextual interpretation of trustworthy data. Unreliable data and misinterpretation can make data unusable and destroy users' trust.

There is additional literature that addresses additional threads related to wearables and their data and describes mitigation measures (Apple, 2023; Talboom & Huentelman, 2018; Vijayan et al., 2021). Despite some standardisation efforts, the domain is still too heterogeneous. Proprietary formats, such as Garmin's FIT and TCX, coexist with open standards, such as Topografix's GPX format. Health-related data rely on condition-specific standards (e.g., HL7, DICOM, IEEE 11073-10417-223 for glucose monitoring systems (2023), and ISO medical device standards). However, there is no comprehensive framework that addresses data containers and directs the preservation of data generated by wearables. Leaving

standardisation solely to technology companies risks further entrenching the domains' deep dependence on platforms, as Acker aptly noted (Acker, 2025, 156). From an archival perspective, wearable data should be actively "de-platformed" (Acker, 2025, 147). Platforms are not the enemy here; they drive forward progressive data use, but they are not the sole stakeholders and should certainly not own private data. To address these challenges, the development of semantically rich, machine-readable, and interoperable data formats should be prioritised and incorporated into archival strategies. Linked data approaches offer advantages over overly simple, yet voluminous, XML-based formats for managing complex sensor data. Relevant ontologies usable for sports data include WGS84 Geo, GeoSPARQL, the Time Ontology in OWL (2022), the Semantic Sensor Network Ontology (2017), the Quantity-Units-Dimensions-and-Types ontologies, Schema.org, and PROV-O (2013). Although there are standards and terminologies in the health super domain (SNOMED, DICOM, etc.), ontology frameworks suitable for many disease- and condition-specific monitoring processes still need to be developed.

5 CONCLUSION AND FURTHER DIRECTIONS

Large amounts of personal and personally identifiable data are being generated and must be continually managed if they are to be used over time or throughout an individual's life. There is *more than enough archival science* to address questions about producing fixed digital documents of archival quality, as well as about managing other non-documentary information of significant social and personal value. The current state of wearable data practices implies that responsibility for long-term information preservation should not be delegated exclusively to wearable technology companies. This finding addresses RQ1. Enormous amounts of data are being collected, and a vast population is involved, so archivists can no longer ignore identified needs. Archivists have an institutional or professional responsibility in such cases because information must remain available to users, especially vulnerable groups such as patients, over the long term. This finding addresses RQ2.

Should we archive the original, loosely fixed data in non-documentary form with full functionality, or the secondary, derived, less-functional records that resem-

ble traditional archival records and are stored in static, stable file formats, such as PDFs? As indicated by the SWOT analysis and the discussion of values, it is better to archive data stored in more dynamic data containers, as this enables active reuse of information. Instead of pushing traditional static records, medicinal products or sport-related IT platforms should start adopting data formats that users need. From the traditional perspective on originality, storing data as static documents is also questionable, as the original material-discursive objects were data, not documents. The recommendation, based on the SWOT analysis and discussion presented above, is to archive data in fast-processing formats supported by ontologies. This directs the answer to RQ3.

Not long ago, archival practice shifted its focus from records inseparably fixed to physical media to logical archival objects. Nowadays, archived data remains connected to (predominantly XML) records. However, if the structure of the global infosphere shifts, archival science should take this into account. If the information to be preserved evolves, archival theory and practice should also adapt. It is shown that connecting our profession to wearables' practices and standardising the wearable-archival subdomain are worthwhile and much-needed endeavours. Does this mean the archival profession's attention should shift towards all forms of relevant information? In today's data-intensive world, it's justified because the function is important ("form […] perpetuates the function it serves," Duranti, 1991, 6), and it gives users back control of their data. Data should be fully reusable across various manufacturers' ecosystems, and users shouldn't lose control of their data at any point. Data collecting, processing, and access can be tools of Foucauldian power, as Toner and Acker insightfully wrote, or means of our empowerment. Archivy has always been a double-edged sword for its wielder. Regarding RQ4, yes, the author of the article believes that archival discourse and its material-discursive practices should change to accommodate data as their object and to develop solutions for data preservation at the level of data. Further directions should include adjusting archival terminology to recognise data as its subject, establishing a sound legislative framework and practical professional standards, adhering to the data selection and management guidance outlined in the discussion (continuity, interoperability, data reliability), and promoting good archival practices in the field.

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Francis Garaba[1]

TRUMP(ETING) EVIDENCE CONCEALMENT: RECORDKEEPING TURMOIL IN THE UNITED STATES OF AMERICA AND LESSONS ON PRESIDENTIAL RECORDS WITHIN THE EASTERN AND SOUTHERN AFRICA REGIONAL BRANCH OF THE INTERNATIONAL COUNCIL ON ARCHIVES (ESARBICA)[2]

Abstract

Purpose: *Presidential records define and amplify the relationship that exists between the governing and the governed. As such, they should be treated as public records in the broad interest of transparency and accountability to promote good governance. The tumultuous events recently witnessed at the National Archives and Records Administration in the United States of America should be an eye opener to the global archives community and provide a window of opportunity to advance the cause for archives. Evidence management has been at the epicentre of the archival profession since time immemorial as this defines who we are as archivists and this piece attempts to highlight this as it dissects this watershed moment in archival discourse. An attempt is also made to draw lessons from this incident for the benefit of archival institutions within the East and Southern African region and to reignite the contentious debate on archival ethics.*

Methods: *This is a desktop study that qualitatively draws on a review of relevant archival scholarship and online publications. A desk top study also knows as a desk study is a research method that involves collecting, reviewing and analysing existing information and data from secondary sources without fieldwork.*

Results: *The findings highlight the vulnerability of the records profession to the whims of politicians in view of the evidence that recordkeepers protect in these records. These insights underscore the broader challenges faced by the recordkeeping profession in managing records of a country's leader. The sanctity of evidence is what makes our calling as archivists as we are guardians of the*

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2 NB. This paper attempts to provoke discussion of archival issues (presidential records) and re-ignite the debate on archival ethics and is an original article not submitted to any publication.

truth. Enacting specific legislation that informs the management of presidential records could help solve this conundrum especially for archival institutions within ESARBICA.

Discussion: *By interrogating President Trump's destabilization of the recordkeeping profession, this article assesses the seismic professional impact it has had. The incident highlights several lessons that can be drawn from this event which inter alia include the need to enact specific legislation that informs their stewardship and re-ignites the contentious debate on archival ethics. Lastly, it is argued in this article that this incident provides a window of an opportunity from an advocacy point of view for us to defend the recordkeeping profession as we need an evidence management campaign in this regard.*

Keywords: *Archival ethics; advocacy; Presidential records, evidence; archival activism, presidential records legislation*

1 INTRODUCTION

The 7th of February 2025 could arguably be heralded as a troubling chapter for the records and archives profession in the United States of America (USA) with the White House's forcing out of the National Archives top leadership in a major shakeup. The national archivist, Colleen Shogan, the first woman ever in the USA to assume this position got the sack which triggered forced and voluntary resignations en masse, something unprecedented in American archival historiography. This chain of events sent shock waves to the global archives community as this incident serves to highlight how vulnerable our profession is to the whims of politicians. To state that archives follow the flag is not an understatement as this incident underscores the political dynamics behind recordkeeping and archival control.

The politicization of the archives has never been so dramatized as this leadership change is an attempt to wrestle control of the national archival institution, the National Archives and Records Administration (NARA), and bring it under political influence with appointed loyalists or sycophants. The American Historical Association (AHA) (2025a) noted that political interference into professional curatorial practices places at risk the integrity and accuracy of historical interpretation and stands to erode public trust in our memory institutions. Theodore R. Schellenberg, one of the most influential American archival theorists, should be turning in his grave as he firmly believed in professional neutrality and accountability as this incident is an ethical affront to the sanctity of evidence (see Schellenberg, 1956). The NARA incident serves to illuminate how archival concepts of public accountability, national memory and state custody have evolved from the French Revolution in 1789 into institutional practice. The thesis of this records incident is that records of leadership belong to the public and must be preserved and accessed to uphold democracy and accountability.

2 THE BACKGROUND

During President Trump's 1st term (first presidency), between 2017–2021 is when this recordkeeping drama unfolded as NARA as the designated recordkeeping entity by law was a key player (whistle-blower) in this case about his mishandling of classified records. These records contain information deemed sensitive by a national government, disclosure of which for instance could jeopardise a coun-

try's national security. Records designated as classified at the time of their creation form a very significant part of public records produced by state and public administration bodies in a broad sense (Čtvrtník, 2022, 129). The issue at stake is that when he left office in early 2021, Mr. Trump allegedly took dozens of boxes of presidential papers, including nearly 340 documents bearing classified markings, to his home in Florida. However, according to the Presidential Records Act (PRA) of 1978, once a president leaves office, all presidential records must be transferred to the archivist of the United States, who makes them available to the public over time unless the national archivist requests that the records be kept private (Ginsberg, 2014). The PRA is the primary law governing the collection and preservation of, and access to, records of a former President (Ginsberg, 2014).

Presidential papers are the records created by the office of a president of the United States of America (Society of American Archivists Dictionary of Archives Terminology, 2025a; see also Wilson, 1997, 339). These presidential papers are historical resources that capture each incumbent's conduct in presidential office and are provided to NARA upon departure from office (Ginsberg, 2014) and there was non-compliance in this regard. Mr. Trump was eventually charged with 40 felonies, including for allegedly refusing to turn over some of the papers (Watson, 2025). This is popularly known as the Mar-a-Lago documents event, named after the former president's residence in Florida. Mar-a-Lago "was not an authorized location for the storage, possession, review, display, or discussion of classified documents" after Trump left office. Documents were stored in a ballroom, a bathroom and shower, an office space, his bedroom, and a storage room (Smith, 2023) and yet these were supposed to be in the custody of NARA. Colleen Shogan was a victim of this political malfeasance as she was not the archivist at the time the agency was attempting to retrieve boxes of presidential records from Trump's estate in 2021 and 2022. However, Trump viewed NARA with suspicion since the investigation and has openly described its top staff as complicit in efforts to damage him politically (Watson, 2025).

The commencement of his 2nd term (second presidency) between January 2025 to present could be viewed as payback time as this is when the upheavals started with the firing of the national archivist, Colleen Shogan, the forced retirement of the Deputy Archivist, and the appointment of Secretary of State Marco Rubio as Act-

ing Archivist–a position for which he has no professional qualifications, let alone hours in the day (Baron, 2025). There are reported plans to purge Archives officials who sought the recovery of records the then-former president had failed to return to the federal government despite repeated requests to do so (Baron, 2025).

Baron (2025; see also Kiayabo & Mnjama, 2012; Ginsberg, 2014) notes that in response to President Richard Nixon's abuses of power, Congress passed the Presidential Records Act (PRA) of 1978 to ensure that White House records were owned not by presidents but by the American people. The PRA sets strict rules for presidential records created during a president's term. That law has required every president since Ronald Reagan to turn over custody of official White House records to the Archivist on or before the day they leave office. In this regard, public records define the relations of the government to the governed and are the main source of information on all its activities (Schellenberg, 1956, 9–10). According to data from NARA, the volume of records created by Presidents has been growing exponentially, and the platforms used to create records are also expanding. This includes records created on ephemeral technologies like email, Facebook, Twitter (now X) and YouTube (Ginsberg, 2014; see also Johnson, 2018).

The foregoing narrative provides a condensed insight on the Mar-a-Lago documents event which could inform archival institutions within the Eastern and Southern Africa Regional Branch of the International Council on Archives (ESARBICA) on their stewardship of presidential records.

3 THE EASTERN AND SOUTHERN AFRICA REGIONAL BRANCH OF THE INTERNATIONAL COUNCIL ON ARCHIVES (ESARBICA)

ESARBICA is a professional body dedicated to advancing archives and records management in the region through cooperation. ESARBICA has grown to include 13 member countries, and these are Angola, Botswana, Eswatini, Kenya, Lesotho, Malawi, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe. Among the 13 ESARBICA member countries, none have legislation specifically titled a Presidential Records Act similar to the Republic of Korea or United States of America models. As testament to this fact, one archivist within ESARBICA lamented the lack of a policy on how presidential records could be accessed and sought advice by reporting that:

> *"Assist me develop a policy to this effect. How do i go about this --- the example from where i am coming is like those cabinet records returned to the records centre after being repatriated from (anonymous) have not yet been opened to the public because the country does not have a policy on how to handle them"*[3].

Kiyabo and Mnjama (2012) reported that in Tanzania, the management of presidential records, apart from the Founders of the Nation initiative[4], is not clearly regulated by existing laws and policies. This could also be extended to other countries within ESARBICA with regards to their records and archives laws that should be covering this genre of records. Archival institutions with their respective countries within ESARBICA need to develop first a legal framework for the management of presidential records. Consequently, as recommended by Kiyabo and Mnjama (2012, 94), this calls for the need to review all the records legislation acts to formulate one act to include the management of presidential records. In doing so, it will be clear as what these records are: definition, scope, management, and custody. The Republic of Korea, for instance provides a framework as to how presidential records need to be managed. Enacted in 1999, the Korean Public Records Management Act (PRMA), for the first time, contained items that deal with the systematic management of and public access to presidential records (Articles 8 and 13 of the Act and its Enforcement Decree 28, as cited by Lee 2006,117). Before these laws were enacted, presidential records were not managed systematically as public papers. Upon retirement from office, former presidents destroyed their records for various political reasons or simply took the documents (Lee, 2006, 118-118).

However, despite the lethargy on the development of a Presidential Records Act within ESARBICA, there have been notable developments in the establishment of presidential libraries in Kenya, Tanzania, Nigeria, and South Africa. In Kenya for instance, there was an announcement in June 2018 by President Uhuru Kenyatta that papers and mementos of former Presidents Jomo Kenyatta, Daniel Arap Moi, and Mwai Kibaki would be acquired for preservation by the state and housed in a presidential library, museum and exhibition centre (Kamau 2018). In

3 The identity of this informant is anonymized for security and ethical reasons.

4 In accordance with The Founders of The Nation Honouring Procedures Act, promulgated in 2004, the government of Tanzania is planning to create a centre to commemorate the first president of Tanzania, Mwalimu Julius Nyerere, and the first president of Zanzibar, Sheikh Abeid Amani Karume (Nelson Mandela Foundation 2007).

May 2022, President Uhuru Kenyatta commissioned to the public the newly built Uhuru Gardens Monument and Museum. An archivist has since been assigned to oversee the building and stocking of content for the Archives section of the Museum (ESARBICA Kenya country report, 2023). However, Kamau (2018) correctly notes that presidential libraries should not be pyramids of hero-worshipping but should help in demystifying the presidency. Hero worship often happens when public monuments centre powerful figures like founding presidents or military leaders, rather than the collective people who fought or sacrificed. However, a positive development in Kenya has been the reviewing in 2022 of the Public Archives and Documentation Service Act, CAP 19 as the new law has an official (Director) who will be specifically in charge of Presidential Archives Services (ESARBICA Kenya country report, 2023). In Tanzania, the Mwalimu Nyerere Foundation holds the papers and books of its contemporary. Nigeria has witnessed the establishment of the Olusegun Obasanjo Presidential Library with its primary aim of promoting accountability and transparency for those who occupy Nigeria's highest political office thus deepening democracy (Olusegun Obasanjo Presidential Library, 2022).

In South Africa, it is interesting to note that presidential records are generally considered public records but in practice their custody is private, self-owned by their creators and not by state or government. South Africa's archival legislation act states that records with archival value should be transferred to archival custody, in accordance with the National Archives and Records Service of South Africa Act (No. 43 of 1996, as amended). To the contrary, South Africa's former presidents have proceeded to establish their own presidential libraries modelled on the Republic of Korea and the USA. The Nelson Mandela Foundation (NMF) holds the papers of Nelson Mandela in private custody. The University of South Africa (UNISA) is collaborating with the Thabo Mbeki Foundation to create a presidential library for former president Thabo Mbeki who happens to be its Chancellor. This equally applies to the Jacob Zuma Foundation that holds private papers for former President Jacob Zuma.

The foregoing provides a brief insight into the developments within the ESARBICA region with regards to presidential papers/records and an attempt will be made in the next sections to highlight some valuable lessons that can be drawn from this Mar-a-Lago incident.

4 LESSONS TO BE DRAWN FROM THIS SAGA

Mar-a-Lago casts the issue of archival ethics in the spotlight as this is a violation of professional recordkeeping principles with this improper political pressure. The ethics trinity conundrum could not have been better exemplified by this incident – as archivists, is our obligation to the record, government or to society? Archivists struggle to uphold all the three values at once. However, archivists should be neutral as their primary responsibility is to serve society and ensure that the public has access to the records of government for accountability and transparency purposes to promote good governance and democracy – the latter needs archives to thrive. According to one of the leading thinkers in the archival discipline, Hilary Jenkinson (1937), the archivist's role is the physical and moral defence of the archives (apolitical – neutrality) - committed to the complete historical record–not sanitized narratives. Section 1 of the International Council on Archives (ICA) code of ethics (1996) is pointed on the need for archivists to protect the integrity of archival material and thus guarantee that it continues to be reliable evidence of the past and it further states that:

> *The primary duty of archivists is to maintain the integrity of the records in their care and custody. In the accomplishment of this duty they must have regard to the legitimate, but sometimes conflicting, rights and interests of employers, owners, data subjects and users, past, present and future. The objectivity and impartiality of archivists is the measure of their professionalism. They should resist pressure from any source to manipulate evidence so as to conceal or distort facts* (International Council on Archives code of ethics, 1996).

In the case of the incidents at NARA, the agency as the nation's top recordkeeping auditor, had every right to pursue the classified records from Trump's estate in 2021 and 2022, notwithstanding the fact that Shogan wasn't working for the agency at the time. This means that archivists must be prepared to resist state pressure whenever this is applied and Jimerson (2007, 215) agrees with this assertion in order to protect public interests and support open government. Archives should thus be free from ideological censorship in view of the fact that the integrity of archives is critical to preserving democratic legitimacy. A partisan archivist could assist the administration in distorting the historical record for ideological purposes. The good, the bad, and the ugly parts are all worth saving because they

tell the full history of a country. Politicizing archives erodes democracy and can only take us in the direction of authoritarianism (Charles F. Kettering Foundation, 2025; see also Sangmin, 2009). Outside influence should not inform archival stewardship and Section 8 of the International Council on Archives (1996) notes that archivists should not allow people outside the profession to interfere in our practice and obligations.

This stance might sound ambiguous when one considers the relationship that should exist between employer and the archivist. The South African Society of Archivists Code of Ethics (1993) notes that at all times, the archivist must act within the parameters of the policy laid down by his/her employer. NARA was ethically correct to use their discretion in the pursuit of these papers that were improperly taken from the White House to ensure that these classified records were taken care of so as to protect them from removal, damage, and theft. Baron (2025) correctly notes that NARA archivists fulfilled their statutory responsibility by not shying away from insisting that a former president's government turn over government records still in its custody. To protect public interest, archives can be used to hold political leaders accountable for their actions (Jimerson, 2007, 215). The NARA archivists honoured their duty by informing law enforcement officials about the national security implications of finding top-secret classified documents in returned boxes (Baron, 2025).

The tragedy is that Trump treated White House records as his own personal property which flies in the face of transparency, accountability, and good governance. Trump acted in apparent ignorance of his recordkeeping obligations by allegedly ripping up documents and even going so far as to flush records down the toilet (Baron, 2025) which is in contempt to recordkeeping principles and ethos as this is a nation's evidential history. Records about government business, classified or unclassified, are not his personal records. In a democracy, the public has that right to know how decisions were made and not honouring this was a violation of the Presidential Records Act during Trump's first term. For records, transparency and accountability are core values (Cox, 2007, xxxi) and the former NARA Archivist David Ferriero could not have put it better when he remarked that records management is the backbone of open government (National Archives and Records Administration, 2010).

To put it simply, the government cannot be accountable if it does not preserve–and cannot find–its records (National Archives and Records Administration, 2010). Open government is thus about providing access to government records for transparency purposes. Everything that happens in the government, domestically and internationally, generates records. As the nation's recordkeeper, the Archives tells the story of a country – its founding, breakdowns, mistakes, and triumphs (Swenson & Fields, 2025; see also Kamau, 2018). In other words, the records function because of the evidence contained in there makes it possible to hold to account individuals in terms of how they arrived at decisions during their term in office. Jimerson (2009, 331) correctly noted that:

> *"Records are powerful tools. Most political figures attempt to restrict or limit access to their papers and to governmental records, fearing consequences of public disclosure".*

In consequence, the need for professional independence cannot be over-emphasized as this will help to ensure neutrality, transparency, and integrity in preserving public records. The National Archives (TNA) in the United Kingdom, as a non-ministerial department, operates free from direct political influence – a standard of professional independence that should guide the governance of archival institutions globally.

Professional associations and sister organizations have been united in voicing their stance with regards to Mar-a-Lago. Solidarity messages in protecting USA's full history have come from the Society of American Archivists (SAA) and its chapter affiliates, as well as from its broader watchdog and intellectual alliance partners like the Charles Kettering Foundation and the American History Association respectively. Such collaboration is what Millar (2023, 31) refers to as a collective consciousness, which comes with a shared understanding of "truth" and of facts and evidence. Evidence protection is sacrosanct to our profession and defines who we are as archivists and we are guardians of the truth. Millar (2019, xvi) correctly remarked that archivists are evidence keepers and protectors of proof. The SAA (2025) said its leadership was alarmed by the news and said the firing with no stated cause "does harm to our nation and its people." (SAA, 2025). The SAA as the main professional association in the USA, condemned the decision of the White House to terminate substantial numbers of archivists and cultural heritage workers at the NARA (SAA, 2025).

In this time of authoritarian creep, the Charles F. Kettering Foundation (2025) noted that:

> *"It is not the job of an archivist to save materials from a presidency or organization that only show the president or organization in a good light, but rather to follow the core values such as identifying and preserving the historical record, organizing and maintaining the historical record, providing a means of accountability, providing access to materials, and preserving materials from our diverse communities".*

The AHA[5] dispatched a letter to the White House in which they highlighted the legal oversight of the dismissal and that the history of the United States rests on unfettered access to the archival record (American History Association, 2025b). Despite these solidarity stances, they all acknowledge their powerlessness to address this which further validates the political clout and power that governments have over the public record. Bastian (2014, 109) aptly observed that the professional associations that promulgate these codes often feel unable to enforce them.

However, our archival institutions need to maintain an above reproach ethical paradigm in handling presidential records to avoid these being politicized or weaponised. In consequence, our code of ethics needs to be revised in view of such powerlessness to include the need for archival activism. According to the Society of American Archivists Dictionary of Archives Terminology (2025b; see also Doncabe & Garaba, 2025, 11; Novak, 2017, 973–974), archival activism is about striving to move the archives profession so that the voice of the record is heard not only within the high echelons of power but in society at large. As noted by Millar (2019, xiv), we need an evidence movement that makes a call to arms for the protection of authentic evidence. Novak (2017, 992–993), further notes that another issue central to archival activism is the significance of archivists in holding governments, political or cultural leaders, or other institutions or people in power accountable for their actions. This includes maintaining, preserving and making accessible records that document criminal, unethical or other un-just actions.

5 The American Historical Association (AHA) had a tremendous influence in the establishment of most archival institutions in the USA and Schellenberg (1965:22) notes that one of the matters to occupy the attention of the association was the establishment of a national archival institution. See also Jimerson (2009, 93, 99-105)

Bastian (2014, 101) correctly noted that ethical positions may be expressed in protocols and codes, but in the end, it is people who must make the often-difficult determinations about right or wrong actions. Our profession needs records and archives activists. The luminary of South African archives, Verne Harris, is one shining example of archival activism who between 1993–1994, spoke fearlessly about the destruction of records by the apartheid government in the transition to a new South Africa (Harris, 1999; see also Harris, 2000, 73–75). That said, archivists need more autonomy and independence and legal protection in their discharge of duties. Victimization has rarely been as evident as in the recent dismissal, forced resignations, and reported buyouts at NARA. The morale impact on the profession is not difficult to discern as this is disempowering. The Society of American Archivists as the main professional body for records professionals in the USA will need to undertake a survey to assess public sentiment in the wake of this devastating records controversy and evaluate its seismic impact on the profession.

In safeguarding presidential records, professional acumen should never be sacrificed for political expedience. Records and archives professional associations should have a say in the appointment of national archivists. Arguably, advocacy in this regard has not been forthcoming for most professional associations worldwide as we have failed to exploit the power we have in our hands in view of the evidence that we keep. We need national archivists with archival credentials, who are apolitical, and not political appointees hence the need for their neutrality and impartiality. Selecting and distorting the archival record to suit those in power should be sanctioned by our code of ethics as dereliction of duty. Jimerson (2009, 362) aptly averred that archivists should commit themselves to preventing the archival profession's explicit or implicit support of privileged elites and powerful rulers at the expense of people's rights and interests.

Public offices from which presidential records are generated are tax-payer funded and so the public have every right to know how they are governed. As stewards of evidence management, we thus need to defend its authenticity and integrity (Millar, 2019, xvi). In light of the Mar-a-Lago incident, we need to step up the gear by advocating for stronger ethical standards similar to the Hippocratic oath[6]

6 The Hippocratic Oath is a traditional ethical code historically taken by physicians, swearing to practice medicine honestly, ethically, and responsibly. It's named after Hippocrates, a Greek physician often called the „father of medicine (Miles, 2005,5-6).

for the medical profession as our loyalty should be guided by the management of evidence. Archival leadership requires specialized or technical knowledge in stewarding collections and the input of professional associations will assist in vetting candidates. In addition, involving professional associations will also hep in generating public trust as such endorsements ensure transparency in the appointment process. Lastly, professional associations should act as deterrents against such hand-picked appointments so as to preserve an archival institution's autonomy from political interference.

5 CONCLUSION

Presidential papers should be treated as public records and have an important role in contributing to the cultural patrimony of a nation. The need for legislation, especially within the ESARBICA region, needs no emphasis. Any attempts to conceal the evidence contained in there, as is the case in the USA recently, is a travesty to recordkeeping principles and practices as this undermines public trust and accountability. This Mar-a-Lago document controversy provides a real and classic case of archival ethics study for practitioners, scholars, academics, and graduate students in the archival profession awaiting interrogation. Another positive spin is that this episode has cast the recordkeeping profession in the spotlight, which provides an opportune moment to advocate for our profession. The sanctity of evidence is what makes our calling as archivists and defines who we are as a profession as we should remain defenders of the truth. The digital environment, now embedded in our information systems, introduces complex ethical challenges–particularly as emerging strategic technologies increase the temptation to create, alter, or delete records with easeIt should remain our primary duty to hold public officials to account by preserving the records they generate in the interest of transparency, accountability, and good governance. It is in this light that archival activism should be fathomed and understood as we are the vanguards of societal memory.

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VISIBLE AND INVISIBLE BOUNDARIES OF ACCESS: THE CASE OF PRIVATE ARCHIVES IN TURKEY

Abstract

Purpose: *Private archives occupy a distinctive position in that they have the capacity to reflect individual lives and actions in an unfiltered and uncensored manner. This study aims to identify and categorise access restrictions applied in private archives by tracing their underlying rationales, and to examine whether the restrictions imposed on personal and family archives are consistent with ethical principles, legal frameworks, and professional standards.*

Method/Approach: *Using a qualitative approach based on document analysis and comparative case studies, the research examines international archival guidelines alongside access practices in five private archives in Turkey to classify restrictions through content analysis.*

Results: *The findings reveal that access restrictions in private archives cluster around three interrelated domains; legal, ethical/privacy-related and operational practices, and that the absence of formal access policies results in inconsistent and opaque implementations.*

Conclusions/Findings: *The study concludes that access restrictions in private archives are multi-layered phenomena and that clearly defined institutional access policies are essential for ensuring transparency, accountability, and alignment with professional and ethical standards.*

Keywords: *Access restrictions; Privacy; Confidentiality; Private archives; Archival ethics*

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1 INTRODUCTION

Archives function as mechanisms through which authority is established, legitimised, and sustained, thereby raising fundamental questions about access to archival materials. Precisely because of this power, archives have historically been targeted during periods of war and invasion. For example, Baş (2019, 43) emphasizes that most documents from the foundation period of the Ottoman Empire were destroyed as a result of Timur's invasion. In a more recent context, commenting on the Russia-Ukraine war, Arolsen Archives Director Azoulay has compared Russia's attempt to erase historical memory to the use of a weapon, emphasizing that history itself is being targeted as a tool of war (Arolsen Archives, 2023).

The circulation of state's official papers as evidence coincided with the emergence of democracy, namely the French Revolution. Although bureaucratic needs accelerated the publicization of access to archives, institutional organization, particularly in European countries did not begin until the 19th century (Duchein, 1983, 3-9). Increased requests for access to state archives led to a noticeable increase in the use of archival material, which was also reflected in historiography. Particularly in the 20th century, with the emergence of historical writing approaches such as the Annales School in France, the use of archives as primary sources became widespread (Hesketh, 2011).

The dynamics have operated differently in the case of private collections. The use of private archives as sources for historiography intersects with feminist, postcolonial, local, and social memory studies. This convergence has also brought access restrictions in private archives into critical scholarly discussion, foregrounding questions of power, representation, and exclusion within ostensibly non-state archival contexts. The private archive materials provide access to a wealth of information about the daily lives, social relationships, environments, habits, and cultural practices of ordinary individuals and these should be evaluated differently from official archives due to their form of creation, content, and manner of transfer to the archives. This is because personal and family archives are of particular importance in terms of privacy, personal data and the confidentiality of third parties. The fact that such sensitivities are directly related to religion, social norms and the sociocultural environment make it difficult for archivists to identify and define these phenomena in archival material. Decisions regarding

access restrictions are often shaped in a manner contrary to the standard-based structure of archiving. Although there are common principles at the international level regarding access to archives, the implementation of these principles varies from country to country and is often incorrectly applied.

The aim of this study is to highlight the visible and invisible rationales underlying access restrictions implemented in archives and to exemplify these rationales through five institutions examined in Turkey. In this regard, the TDV Centre for Islamic Studies (İSAM) Library Archive, Boğaziçi University Library Rare Books and Historical Archives, SALT Research, Koç University Vehbi Koç Ankara Research Application and Research Centre (VEKAM) Archive and Orient-Institut Archive were examined.

Restricting access to certain archival materials constitutes a fundamental component of archival practice, grounded in ethical and legal obligations to protect individuals' privacy. However, the failure to implement such restrictions appropriately can result in significant material and moral harm, including breaches of confidentiality and the erosion of institutional credibility. Although archival procedures are generally shaped by established standards, decisions regarding access restrictions are often made through non-standardised and discretionary practices. In Turkey, the absence of written access policies in institutions that hold archival collections has led to inconsistent practices and widespread misunderstandings concerning access. This lack of formalised policy represents one of the most critical challenges affecting access to private archives.

Based on this problem, the research questions were determined as follows,

1. How is the difference between the concepts of confidentiality and privacy reflected in archival practice?

2.Is there a specific approach in archival practices regarding access to private archives and sensitive materials in private archives?

3.What are the reasons and obstacles that lead to access restrictions on private archive materials?

2 METHODOLOGY

A qualitative research approach was adopted in this study. The research is based on a document analysis of archival association guidelines, international identi-

fication standards, and archival software. The databases of six private archives were examined in line with the concepts of ethics, privacy, and confidentiality. The extent to which these concepts affect access restrictions was analysed. Both comparative analysis and case studies of private archives were utilised. The data obtained was analysed using content analysis, and a comparative assessment was made between international approaches and examples.

3 LITERATURE REVIEW

The issue of access to archives was first discussed in the literature in the 1920s in the context of historians' demands for access to public archives and has since evolved, gaining a more complex, multi-layered and critical approach with concepts such as individual privacy, post-colonial approaches and radical empathy (Geselbracht, 1986; Lawrence, 2016; Bauer, 2023). There are numerous publications by Elena S. Danielson, Michelle Caswell, Menzi L Behrnd-Klodt, Richard J. Cox and others on professional ethics in archiving, the balance between access and privacy in archives, and their legal dimensions.

3.1 THEORETICAL AND ETHICAL FRAMEWORK

The creation of private archival records in the course of everyday activities inevitably generates concerns related to confidentiality and privacy. Among private archives, personal and family archives hold a special place, as they have the power to reflect the individual's unfiltered and uncensored self. Determining the level of confidentiality, along with selection of the relevant access restriction type, can complicate archivists' decision-making and archival processes. For example, love letters exchanged between a married couple and those related to a secret extramarital relationship may require different archival access practices, as the consent of third parties may be involved. Ethical guidelines have been developed to guide archivists in such dilemmas.

The ICA Code of Ethics, published in 1996, was prepared to provide guidance on matters such as the control, maintenance, preservation, ownership and management of archives. However, since the concepts of confidentiality and privacy may vary across societies and legal systems, national professional guidelines issued by national archival associations are also necessary in addition to international

codes of ethics. It is evident that the Code of Ethics of The Archives & Records Association (ARA, 2024) is among the most up-to-date and comprehensive.

On the other hand, since issues of confidentiality require case-by-case evaluation within their specific contexts, case studies are particularly important in providing guidance to professionals who may encounter similar situations (see Benedict, 2003). The case studies mostly focus on issues that create dilemmas, such as decision-making authority, access to and use of documents, donor-user conflicts and archivist impartiality, which archivists face in the course of their duties.

3.2 GUIDES AND MANUALS

The literature also includes guides, manuals, and recommendations on archival access issued by archival organisations. Among the most important of these are Principles of Access to Archives (ICA, 2012), Technical Guidance on Managing Archives with Restriction (ICA, 2014), ACRL/RBMS-SAA Guidelines on Access to Research Materials in Archives and Special Collections Libraries (ALA, 2006), and Code of Ethics for Special Collections Librarians (ACRL, 2020). There have been criticisms that the relevant publications and guidelines do not provide sufficient guidance on the application of ethical rules (Cox, 2013; Poole, 2020).

In the 2000 recommendation on access to public archives, the Council of Europe stated that private archives should be organised in line with public archives wherever possible (Council of Europe, 2000). The comparison of the surveys conducted in 2003 and 2023 reveals (Friedewald et. al., 2024) that there has been no substantial progress across Europe in supporting access to private archives; despite two decades of technological and scholarly advancement, a shared and sustained momentum toward improving access to private archives has yet to emerge.

3.3 ACCESS IN TERMS OF STANDARDS, SOFTWARE AND TERMINOLOGY

In the international standards for archival description examined, it is seen that until 2000, information on type of access to materials was reduced to the ‘Notes’ field and used optionally; after 2000, a separate description/metadata field titled ‘Access’ was created, which was detailed over time and became a mandatory description field (Özbay, 2025). Among those examined, DACS, which has the most comprehensive description/metadata fields related to access to archival material, differs

from other standards by providing physical deterioration affecting access under the heading 'Physical Access' and technological obsolescence under the heading 'Technical Access' (SAA, 2022). DACS emphasises that the researcher must be able to see not only what the archivist knows but also what they do not know.

Following the metadata/description field, the terms used in this field should also be carefully reviewed. The field of archival studies lacks a standardised terminology for concepts related to access restrictions, and although English largely functions as a common professional language, the use of different terms to describe similar levels of restriction hinders the development of union catalogues, institutional collaboration, and comparative analyses. To address this gap, the Online Computer Library Centre (OCLC), Confederation of Open Access Repositories (COAR), National Archives and Records Administration (NARA) have developed access classifications that clearly state the type, reason, and duration of the restriction. The STAR (Standardised Terminology for Access Restriction) terms developed by OCLC and COAR's controlled access word lists define open access levels such as unrestricted online access, authorised online access, metadata-only access and embargoed access (OCLC, 2007; COAR, 2022). On the other hand, NARA (2024) classifies access restrictions based on legal, physical, and technical grounds. All these examples demonstrate that access classifications must clearly express not only the level of restriction but also the reason for and duration of the restriction.

Lastly, the most vital aspect of archival access management lies in the regulation of online access, therefore, archival software systems should likewise be critically assessed within this framework. The software must be evaluated not only in terms of its online presentation functions but also in conjunction with its restriction mechanisms for access management. While international archive-oriented systems such as ArchivesSpace, Archivematica, LOCKSS, ContentDM, and Access to Memory (AtoM) are designed to accommodate archival standards and access controls, DSpace –widely used in Turkey– offers limited functionality for the digital management of archival materials due to its open access–oriented structure. In contrast, AtoM, presently implemented only at İSAM, enables the assignment of differentiated restrictions at the digital object level through PREMIS-compliant access permissions (AtoM, 2025).

3.4 RESEARCH GAP

The literature reveals a significant research gap concerning access restrictions in private archives, particularly regarding their rationales, implementation, and alignment with professional ethics and legal frameworks, both in Turkey and internationally, where in many countries no specific legislation regulates such restrictions. Academic studies have typically addressed access restrictions on a case-by-case basis, leaving the structural factors that shape their implementation, or non-implementation, largely unexplored. This article contributes to the literature by analysing access restrictions through three interrelated dimensions: legal, ethical, and organizational. Although researchers and the public are generally familiar with restrictions imposed due to legal concerns, they are often unaware of ethical and organizational restrictions.

4 CONCEPTUAL FRAMEWORK

The concepts of private and confidential, which constitute the focus of this study, are frequently used interchangeably. Their conceptual boundaries have a direct impact on the access and processing of archival material. Private, at its most fundamental level, denotes ownership and belonging. The word private, defined in Turkish as "*belonging to only one person or thing, special; concerning one person, belonging to the individual rather than the state*" occupies a significant place in archival science (Güncel Türkçe Sözlük, s.d.). A similar framework has been adopted in Turkish archival literature, and the concept of private archives has mostly been defined as non-state archives (Binark, 1980, 10; İcimsoy, 2007, 49). Although these definitions do not directly emphasise confidentiality, it is possible to say that expressions such as private information and private document carry the meaning of restricted access in everyday usage.

The term confidential is used to indicate the level of confidentiality of official documents within or between institutions (Güncel Türkçe Sözlük, s.d.). Moreover, it cannot be denied that confidentiality in Turkish society is also closely intertwined with Islamic religious norms. Confidentiality is most frequently invoked in information and document management in relation to classified documents. These are divided into three levels in the Regulation on Procedures and Principles to be Applied to Classified Documents Law in Turkey; top secret, confiden-

tial, and for official use only (Resmi Gazete, 2022). Terms such as confidential document and confidential archive are also widely used in public discourse and the news media. While these terms describe the document, information or archive as confidential, they imply an illegal act of concealment, creating a negative perception. So pervasive was this perception that, in 2019, Pope Francis replaced the archive's centuries-old name Archivum Secretum Vaticanum (Vatican Secret Archive) with Archivum Apostolicum Vaticanum (Vatican Apostolic Archive). The change was justified on the grounds that the term secret generated public outrage, fostered perceptions that the archive concealed information from society and ultimately undermined the institution's public image, mission, and vision (The Holy See, 2019).

The perception of privacy varies not only between societies but also among individuals, shaped by factors such as religion, culture, social norms, and personal experiences. Warren and Laslett (1977) defined privacy as an area where activities that protect elements valued by society are carried out, withdrawn from public observation and without affecting others. According to them, secrecy is the illegitimate concealment of negative activities that are contrary to social norms and moral values and could lead to the stigmatisation of the individual in society. Guess (2007) addresses the conceptual entanglement among these terms arguing that private is not the sole opposite of public but rather, distinctions between confidential, private, and hidden reveal differing assumptions about intentional concealment, normative access, and the inherent limits of knowability. In a private archive, the privacy of the individuals with whom the archive's creator communicates in social life is also at stake. Therefore, privacy and confidentiality are two phenomena that must always be considered in almost all archival processes, from the donation to its digitisation, otherwise they may lead to legal and moral conflicts.

5 REASONS OF ACCESS RESTRICTIONS ON ARCHIVES

Access restrictions do not always stem solely from concerns related to privacy and confidentiality. In many cases, they are based on direct or indirect reasons of which researchers are often unaware. This study examines these visible and invisible reasons under three main categories: legal, ethical and privacy-related, and organizational. In addition, the study addresses the legal and social problems

that may arise for both archival institutions and donors because of access restrictions that lack reasonable justification, transparency, and proper implementation.

5.1. LEGALLY BASED ACCESS RESTRICTIONS

In most countries, legal restrictions are based on laws concerning the protection of personal data. For example, legal regulations such as Personal Data Protection Law (KVKK) and the European Union's General Data Protection Regulation (GDPR) restrict the sharing of information belonging to an identifiable person without the consent of the person concerned. Considering KVKK, a meticulous evaluation is required to determine whether archival materials–such as diaries, correspondence, agendas, photo albums, and audio or video recordings–constitute personal data. Gaudette (2003, 25) defines 'blind donor' as individuals who are documented within a collection but were not involved in the creation or donation of the materials and therefore emphasizes that their privacy must also be taken into consideration. As a case, the Taha Toros Archive, donated from Istanbul Şehir University to Marmara University, made available online without the signing of a new deed of gift or the implementation of a privacy assessment, has been closed to access since 2023, following lawsuits filed against the university by blind donors whose photographs were included in the archive without their consent (Özbay, 2025). This issue is an important and current example demonstrating how crucial it is to obtain the consent of the blind donors. Another example of restricted access concerns the Tille Höyük Photo Collection in the British Institute at Ankara (BIAA) Archive. Photographs taken during archaeological excavations, depicting a woman washing her child in a stream, were closed to researchers due to privacy concerns, illustrating how visual materials may be subject to access restrictions based on the protection of donors' personal rights (Atalan Çayırezmez and Özger, 2022, 279).

When calculating the duration of access restrictions, the individual's estimated lifespan is taken as a basis. According to the UK National Archives (2021), individuals' lifespans are assumed to be 100 years, and access restrictions are also determined based on this assumption. For identifiable individuals, the known or estimated age is subtracted from this period to determine the restriction length. If the date of birth or death is unknown/unidentifiable, the individual's age is

estimated based on the document's date, content, and context which adults are assumed to be at least 16 years old and children 0. In documents involving multiple individuals, the youngest age should be used for calculation. The nature of the personal data contained in the records may also influence access decisions, as not all personal information carries the same level of sensitivity, and materials related to matters of public interest may be made accessible.

Beyond privacy concerns, copyright can function as a structural limitation on access to private archives. Especially in the case of unpublished writings, correspondence, drawings, and artworks, intellectual property rights may impose long-term constraints on consultation and reproduction. Intellectual and Artistic Works Law (FSEK) emphasises that materials such as letters and memoirs that do not constitute works of art cannot be published without the author's permission, within 10 years of their death, or without the permission of their relatives (FSEK, 1951). As copyright directly affects the use of archival materials, it is essential that users are properly informed. As the only example in Turkey, the policy of the Koç University Suna Kıraç Library states that priority is given to collections without copyright complications. Works whose copyright belongs to the University are accessible both internally and externally; those owned by the author require permission for internal use; and materials with uncertain copyright status are restricted to internal access only (Koç University Suna Kıraç Libraries Digital Collections, s.d.).

Given their legally binding character, deeds of gift constitute one of the primary sources of access restrictions in private archives. Heirs consider various criteria when selecting an institution to which they will donate materials, including institutional proximity, prestige, the quality of care and preservation provided for the materials, the preferences of peer or communities, and public perceptions of trust or distrust toward the institution (Saydam, 2022, 44). Some heirs may be overly cautious about the personal and family archives they donate, requesting unnecessary and inappropriate access restrictions. Sometimes, heirs may not be aware of the contents of the archive and the sensitive, confidential materials it contains (Stein, 2021; İşli, 2017). In both cases, the institution should provide heirs with the necessary information regarding access methods, legal obligations, and the institution's access policy, ensuring the donation is made under the most acces-

sible condition possible. To avoid conflicting with institutional access policies, archival institutions must act in conjunction with ethical and legal counsel during the donation process.

An example of access restrictions imposed for legal reasons in Turkey can be found in the exchange liquidation requests held by the Turkish Presidential State Archives. Documents initially made available publicly online were subsequently closed to access on the grounds that they contained personal data. In Germany, a database containing the identities, addresses, and migration information of tortured and murdered Jews was made available by the Minden Municipal Archives but was later closed to access due to concerns that it could be used for different purposes (Čtvrtník, 2023, 41).

5.2 ETHICAL AND PRIVACY-BASED ACCESS RESTRICTIONS

Personal and family archives demand the highest level of privacy consideration, especially when they were not originally produced with the anticipation of public disclosure. Making an individual's or family's life public imposes both ethical and legal responsibilities on the archive as an institution and on the archivist as a professional. Documents in such archives that are deemed unsuitable for disclosure include those relating to informal relationships and children; documents concerning inheritance and property; documents relating to health status; uncensored letters and diaries; photographs taken as family memories; records reflecting an individual's political, religious, or philosophical views; materials that may be related to sexual orientation; documents related to political party, association, or foundation memberships; content indicating physical and mental health; materials revealing criminal matters such as serious or minor, shameful crimes can be considered confidential (Danielson, 2010, 184). Uncontrolled or unwitting access to materials containing such sensitive information may lead to the violation of individuals' rights and freedoms and result in legal sanctions. Restrictions on such materials must be decided in advance to properly regulate access. As this process can be costly in terms of budget and personnel, Greene and Meissner (2005) state that examining the collection at the material level wastes the archivist's time and that access restrictions are absurdly overcautious. They argued that the More Product, Less Process method should be used to make the largest amount

of material available for research as quickly as possible. This minimal processing approach has been criticised in various sources on the grounds that sensitive information may be overlooked and legal issues may arise (Cox, 2010; Stein, 2021).

Some privacy-driven access conflicts stem from the blurred boundaries of authorship and the implicit presumption that all produced documents possess potential literary or intellectual value. In this context, it is possible to say that the archive that has attracted the most attention and caused the most controversy in Turkey belongs to Ahmet Hamdi Tanpınar. Disregarding the potential harm to Tanpınar's posthumous reputation, private expressions preserved in his archives, such as erotic reflections and references to cocaine use in his diaries and correspondence, have been subject to sensationalism. While Akbal (1977) deemed the publication of these documents unnecessary, İnci (2017) emphasises that such archives are important for academic research. Perhaps anticipating such conflicts and seeking to safeguard his privacy, Thomas Mann destroyed part of his personal archive and entrusted the remainder to his family, leaving a note that the materials had "no literary value" and stipulating in his will that they be opened twenty years after his death (Danielson, 1989, 55). The heirs' concerns about making the personal documents of family members into the public domain are understandable. For example, as in the well-known case of the Sigmund Freud Archives, heirs may manipulate archival sources, and consequently the historical narrative itself, to protect the reputation of their relatives. Drawing a clear line between the archiving of public figures' public activities and their private lives is, however, another highly challenging task for archivists.

Another concept that should be addressed in the context of ethics and privacy are radical empathy. Radical empathy in archiving means that the archivist approaches the material not neutrally, but with common sense, feeling emotional responsibility towards the subjects covered by the archive, the creator of the document, and the users of the document. When dealing with topics such as ethnic minorities, different religious and belief groups, marginalised communities, and the history of women rendered invisible within patriarchal social structures, archivists are expected to base their evaluation process not on their own cultural values, but on the cultural context of the archive's creators. From this perspective, the question archivists should ask regarding access is: Is the way I preserve and pro-

vide access to this record consistent with the culture of the community in which this document originated? As a case, a suicide note donated to the South Asian American Digital Archive with the words "No one should read this" written on it has been kept inaccessible on the grounds of respect for privacy, even though 85 years have passed since the death and the heirs have given their consent (Caswell and Cifor, 2021, 39). Birrell and Windon (2026) suggest a flexible and customizable communication model that can be applied across all donor relationships, aiming to reduce barriers and cultivate a more compassionate archival practice.

5.2.1 RESTRICTIONS AND BARRIERS FOR POLITICAL REASONS

Restrictions that may be imposed due to political conflicts require specific and separate consideration. There are many private archives possessed by the families or foundations of figures who were active during the early republican period in Turkey. The Latife Uşşakî Archive exemplifies how access to private archives from early Republican period can be shaped by political sensitivities. Latife Uşşakî, who was married to Mustafa Kemal Atatürk, the founder of the Turkish Republic, for 2.5 years and was at the forefront during the most important years of the country (Çalışlar, 2011). Her heirs donated her diaries, letters, and documents to the Türk Tarih Kurumu (Turkish Historical Society) in 1979 under a twenty-five-year closure condition. However, as the restriction period approached its expiration in 2005, the heirs decided to convert the temporary restriction into an indefinite one, effectively reasserting control over the archive in the name of reputational protection (T.B.M.M Tutanak Dergisi, 2005). Given Latife Uşşakî's position, opening her archive to access involves political sensitivities beyond a woman's privacy.

5.3 ORGANISATIONALLY BASED ACCESS RESTRICTIONS

Restrictions on access to materials may also be imposed for operational reasons such as staff and infrastructure shortages and these reasons are usually beyond the user's knowledge. Unlike library materials, the unique nature of archival documents requires archival processes to be carried out more carefully and slowly. Therefore, the lack of sufficient budget and personnel in archival institutions leads to a slowdown in all processes and sometimes prevents archives from being accessible for years. Due to the increased workload resulting from the uncontrolled donation of archive, it can take a long time for collections to be processed

(Saydam, 2022, 31). At this stage, the most appropriate approach is to share a public announcement explaining that the collection has been transferred to the institution, its access status, and its general content, even if the archiving process has not been completed.

In addition to the requirement for the institution to have competent and sufficient staff, it is expected to have the appropriate physical and digital infrastructure to make archival material available for research and to manage access. For example, not allocating a separate area from the reading room for the examination of restricted materials is a serious shortcoming that limits physical access. Considering users' requests for remote/online access to collections, it has become a fundamental and indispensable part of archival services. The institution must have software that supports these processes to ensure that digital copies and metadata of materials subject to access restrictions can be managed appropriately.

6 ACCESS PRACTICES OF PRIVATE ARCHIVES IN TURKEY[3]

This study examines the access restrictions applied, or not applied, to personal archives held in five information centres[4]. In addition, it was investigated whether the institutions had an access policy for their archive and each case was evaluated as an example from a different perspective.

6.1 TDV CENTER FOR ISLAMIC STUDIES (İSAM) LIBRARY ARCHIVES: ORHAN ŞAIK GÖKYAY PAPERS[5]

The Special Collections of İSAM are described in accordance with ISAD(G) and managed through AtoM. In this case, it was observed that the archives had not undergone a systematic privacy assessment and that inconsistencies existed in the access and use conditions description fields across collections. In the Orhan Şaik Gökyay Papers, only selected materials digitised upon user request are made available; however, this distinction is not reflected in the descriptive fields, nor is there evidence of consent from the authors of correspondence. Except in one instance (identified during this research) the author of a letter successfully re-

3 For a detailed analysis and evaluation of these cases, see Özbay (2025)
4 This concept is an umbrella term whose usage has increased in Turkey since the 2000s and is used in academic literature to refer collectively to libraries, archives, and documentation centres.
5 See https://arsiv.isam.org.tr/index.php/orhan-saik-gokyay-evraki

quested the removal of its digital copy from online access. Such practices risk infringing personal privacy and could potentially give rise to legal proceedings. While the Access and Use Conditions field is absent in the Gökyay Papers, it is fully articulated in the Ebüziyya Family Papers.

6.2 BOĞAZIÇI UNIVERSITY LIBRARY: RARE BOOKS AND HISTORICAL ARCHIVES JALE INAN ARCHIVE[6]

Boğaziçi University Library uses Dublin Core, and DSpace as software. The digitisation and online access practices of the Jale İnan Collection illustrate common ethical and privacy issues in personal archives. This case demonstrates how archival description can provide contextual information about materials subject to access restrictions due to personal data and privacy concerns, without disclosing their sensitive content. For example, in a document with restricted access to its digital surrogate dc.rights metadata field is marked as 'Limited Access' and the statement "The resentment between Jale Ogan and her family and the resentful letter she wrote" included in the dc.description field provides the user with implicit information suggesting that the letter may contain content concerning individuals who could still be alive. Despite shortcomings such as the absence of copyright metadata and DSpace's limited access management capabilities, these content-based descriptions enhance the contextual depth and user-oriented services.

6.3 SALT RESEARCH ARCHIVE: SAINTS PIERRE AND PAUL CHURCH COLLECTION AND SAATLERI AYARLAMA ENSTITÜSÜ (KUTLUĞ ATAMAN) COLLECTION[7]

The SALT Research Archive presents a multi-layered example of how access restrictions to religious materials held in private archives may be implemented. The Archive has three different types of access: open, local, and permission-based (Gülmez Saydam, 2018, 12). In the Saints Pierre and Paul Church Collection, while metadata is openly available, access to digital copies is conditional upon institutional approval due to the presence of personal data, a condition partially indicated in the dc. rights field but lacking systematic metadata on restriction rationale, copyright, and rights holders. Similarly, although the Saatleri Ayarla-

6 See buarchives.bogazici.edu.tr/en/jale-inan-archive
7 See https://archives.saltresearch.org/handle/123456789/2572 and https://archives.saltresearch.org/handle/123456789/984.

ma Enstitüsü (Kutluğ Ataman) Collection distinguishes between open and local access due to copyright concerns, the absence of explanatory metadata for these restrictions highlights that, despite transparency in access types, insufficient contextualisation at the metadata level may create uncertainty for users.

6.4 KOÇ UNIVERSITY VEHBİ KOÇ ANKARA STUDIES RESEARCH CENTER (VEKAM) ARCHIVES: VEHBİ KOÇ COLLECTION[8]

In the Vehbi Koç Collection, accessed through the Koç University Digital Collections network, is supported by a user guide prepared in accordance with DACS. VEKAM (and Koç University Digital Collections) is one of two solid example that has a policy on its website and prepares a collection-specific finding aid. Comprehensive explanations are provided on issues such as digital and physical access, as well as rights and citation information, in language that avoids complex archival jargon. While some records, such as correspondence, provide only metadata with restricted digital access, the specific reasons for these restrictions (donation agreement, legal regulation etc.) are not indicated at the metadata level. The access restriction statements and the Suna Kıraç Libraries Digitization Policy constitute an exemplary practice for the development of user-oriented, transparent, and sustainable access services.

6.5 ORIENT-INSTITUT ISTANBUL: TRAUGOTT FUCHS ARCHIVE[9]

The Traugott Fuchs Archive, initially processed at Boğaziçi University and later transferred to the Orient-Institut Istanbul following a new deed of gift with the heir. As the archive has not been digitised, materials are accessible only on site, with access conditions defined in a written and publicly available online policy addressing copyright, personality rights, physical condition, consent of living persons, and research needs. Although all parts of the collection are open in principle, records are reviewed only upon request and are made accessible provided that no restrictions specified in the written access conditions apply. As highlighted within the framework of organisational restrictions, this case shows that even with limited staff, large-scale archival collections can be processed efficiently, rather than being held under prolonged and overly cautious privacy restrictions.

8 See https://librarydigitalcollections.ku.edu.tr/collection/vehbi-koc-koleksiyonu/.
9 See https://kalliope-verbund.info/de/findingaid?fa.id=DE-611-BF-77526&fa.enum=1&lastparam=true#1.

7 CONCLUSION

This study examines how the concepts of confidentiality and privacy are handled within access practices in private archives in Turkey, focusing on the rationales, modalities, and regulatory frameworks governing access restrictions through international standards and archival software. In this study, access restrictions are examined under three analytical categories: legal, ethical/ privacy-based, and organisational, reflecting their multi-layered nature. However, international guidelines, codes of ethics, and technical infrastructures alone prove insufficient in the absence of transparent, accountable, and user-oriented approaches. Moreover, the influence of social, organisational, and political pressures on access decisions suggests that access management frequently operates according to institutional culture and networks rather than technical and ethical standards, underscoring the necessity of written, policy-based frameworks grounded in national legislation and informed by international professional practice, as democratic access cannot be secured through digitisation alone without ethical grounding and accountability. A comparative evaluation of the case studies further demonstrates that access restriction practices remain inconsistent across collections and are rarely embedded within coherent institutional frameworks, while a limited number of examples provide clear, user-oriented explanations of restriction types and rationales, most institutions rely on vague or absent descriptive statements. This study reveals that such fields are frequently omitted or inaccurately completed, thereby obscuring both the existence and justification of restrictions for users. The findings also indicate that institutions holding private archives in Turkey largely lack written and publicly available access policies, leading to ad hoc practices shaped not by professional principles but by donor intervention, administrative limitations, and institutional preferences.

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ATLANTI+
GUIDELINES FOR AUTHORS

1. GENERAL INFORMATION ABOUT ATLANTI+

ATLANTI+ is an international scientific journal for modern archival theory and practice with an international editorial board, jointly published by the International Institute of Archival Science Trieste – Maribor (hereinafter MIAZ) and Alma Mater Europaea – European Centre Maribor.

The journal ATLANTI + is a peer-reviewed journal that publishes only original scientific articles and is published twice a year.

2. LANGUAGE

ATLANTI+ publishes scientific articles in English only.

3. FORM AND LENGTH OF THE CONTRIBUTIONS

The author should use Times New Roman font size 12.

The length of the article should not be shorter than 8 typed pages (or 15,000 characters with spaces) and should not exceed 16 typed pages (or 30,000 characters with spaces) including tables, figures, and a list of references.

4. STRUCTURE

The article should contain an abstract and keywords in English and in the author's native language (if the article is written in the author's native language).

Information about the author of the article should be provided before the title of the article. It shall include the first and the last of the author. Also needed are any academic and professional titles, the institution where the author works or is studying, the address and the email address at which the author can be reached by the editors and readers of the journal. The author should also include a short biography.

If there are several authors, they should come to an agreement and determine the order.

- **the title (subtitle)** should be short, concise, and informative, accurately defining the content of the article. Any subtitle must be separated from the title by a comma. The title and subtitle should use words that are suitable for indexing and searching.

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  Example:

  Abstract

  Purpose: Archival science and Museum science in museums are working in close cooperation. In the process of…

  Method/approach: The method used in our article is case study, with which we demonstrated the usefulness of archival science in museums in practice…

  Results: Description of archival records has an important role in museum archives and storage rooms, since it allows employees to…

  Conclusions/findings: Museum and Archival science work closely together in museums and they need each other… Due to this, it is possible for the archivist and curator documentarist to look for common solutions in the field of record/documentation management and storage.

  Keywords: *archival science, museum science, museum, museum storage room.*

- **The text of the article** should contain a minimum of 15,000 and a maximum of 30,000 characters with spaces. The text should be written in Times New Roman, font size 12. The level of paragraphs should reflect the organization of the article. The chapters of the contribution can be divided into subsections, the numbering should be in accordance with the SIST ISO 2145 and SIST ISO 690 standards (eg. 1, 1.1, 1.1.1, etc.).
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5. FOOTNOTES

As a rule, footnotes are written below the line at the bottom of the page and numbered with Arabic numerals from the beginning to the end of the text of the article. **Footnotes are used for additional explanations of the text (author's comments) and are not intended to list and cite bibliographic references (the author can only indicate them).**

If the footnote refers to an entire sentence or paragraph, it should be placed after the end of the sentence punctuation mark. If the note refers to only part of the sentence, it should be placed before the final punctuation mark.

6. PICTORIAL AND GRAPHIC MATERIAL

The contribution may contain pictorial and graphic material and tables.

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Every table, spreadsheet, figure, graph must have a title. Titles of tables, charts and graphs should be written above it. Appropriate explanations (legend) should be added to the tables. The titles of the pictures should be written below the picture.

If the pictorial and graphic material is not the result of the author's work, the source from which the data was obtained must be indicated. Images must be scanned in a suitable resolution (at least 300 dpi) in .jpg, .tiff or .png format. **These sources should also be listed in the bibliography.**

7. CITATIONS AND REFERENCE LIST

Authors should use the APA Style and in-text citation for citing sources. More detailed examples are shown in the table in Annex 1

Key citation guidelines:

- Only publicly available sources should be cited.
- When citing in the text, the **last** name **of the author(s), the year of the source and the page number(s)**, separated by a comma, must be given
  (Carruci, 2006); Semlič Rajh (2018, 43) thinks...
- Sources, cited as the example, shall be cited as below.
  (see Klasinc, 1999 or Ratti, 2001), (for more, see Johnsonn, 2006)

- To cite secondary sources, the author(s) and the year of the primary source are cited, followed by the author(s) and year of the secondary sources.
  (Line, 1979, as cited in Mihalič, 1984)
- When the source has no author or editor, the title of the source is given, followed by the year of publication.
  (*Merriam-Webster's*, 2003).
- Verbatim citations should be marked with quotation marks (“ “) and page numbers, and the text should be in italics.
  In this case, this newly created material also becomes heritage, because *“similarly to analogue cultural heritage, it goes through the processes of creation, evaluation, collection, documentation, communication and permanent preservation”* (Šojat-Bikić, 2013, 151).

Key guidelines for citing sources in the “References” chapter

- The **Reference** chapter should only contain sources that are used and cited in the text. All information should be provided in the original language, unless provided in Cyrillic. In this case, the author should indicate the source in parentheses, also in Latin).
- If the sources used are from the same author and published in the same year, they are separated by the letters a, b, c... They should also be cited in the text in this way.
  (Novak, 2002a, 2002b), Novak (2002a, 2002b) presents . . .
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- **content**: general interest of the content, innovation...,
- **methodology**: adequacy of used methods, sampling, confirmation/rejection of hypotheses and assumptions...,
- **the structure and form of the contribution**,
- **consistent citation and citing of sources, notes, pictorial and graphic sources**...

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Anonymity of authors and reviewers during the review process is guaranteed. Articles will only be published if they have received a positive evaluation during the review process.

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a) May be published as submitted to the editors,
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1.03 Short scientific article
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