

The Utility of Standards and Good Practice Guidelines for Records Professionals: comparing apples, oranges, and other fruits

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¹The views of expressed herein are mine and should not be attributed to my current or any of my previous employers



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- Lessons from the Information Technology Domain
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1. Introduction

- Computational archival science offers records professionals a platform to explore emerging methods and technologies, as well as new forms of analysis that support historical, social, scientific, and cultural research engagements [1].
- One of the challenges that require analysis relates to the multitude of obstacles faced by records professionals when fulfilling their responsibilities.
- Records professionals are expected to navigate through an ever-expanding landscape of complex challenges brought about by digital advancements and adapt their approaches accordingly [2].
- To address these challenges, records professionals have often started by formulating basic principles developed in response to specific issues. These principles then evolve through repetition into informal standards and guidelines.
- While these informal standards and good practice guidelines (S&GPGs) may be effective within specific contexts and offer valuable guidance, their applicability is limited beyond those contexts.



1. Introduction

- As a result, records professionals have made efforts to elevate these informal S&GPGs to formal standards that can be applied to work across different contexts, ensuring consistent and predictable outcomes [3].
- One of the earliest efforts in standardization was carried out by the International Council on Archives (ICA), which began work on a global standard for archival description in the late 1980s and eventually published it in 1994 [4], [5]. Another significant development was the establishment of a records management standard recognized worldwide under the auspices of the International Organization for Standardization (ISO).
- Global efforts started in the 1990s and ISO 15489 was eventually published in 2001 [6]. National and regional initiatives were also taking place alongside international efforts. For example, the United States Department of Defense formulated a standard for functional requirements for record management systems. This standard, first published in 1997, underwent revisions in both 2002 and 2007 [7].



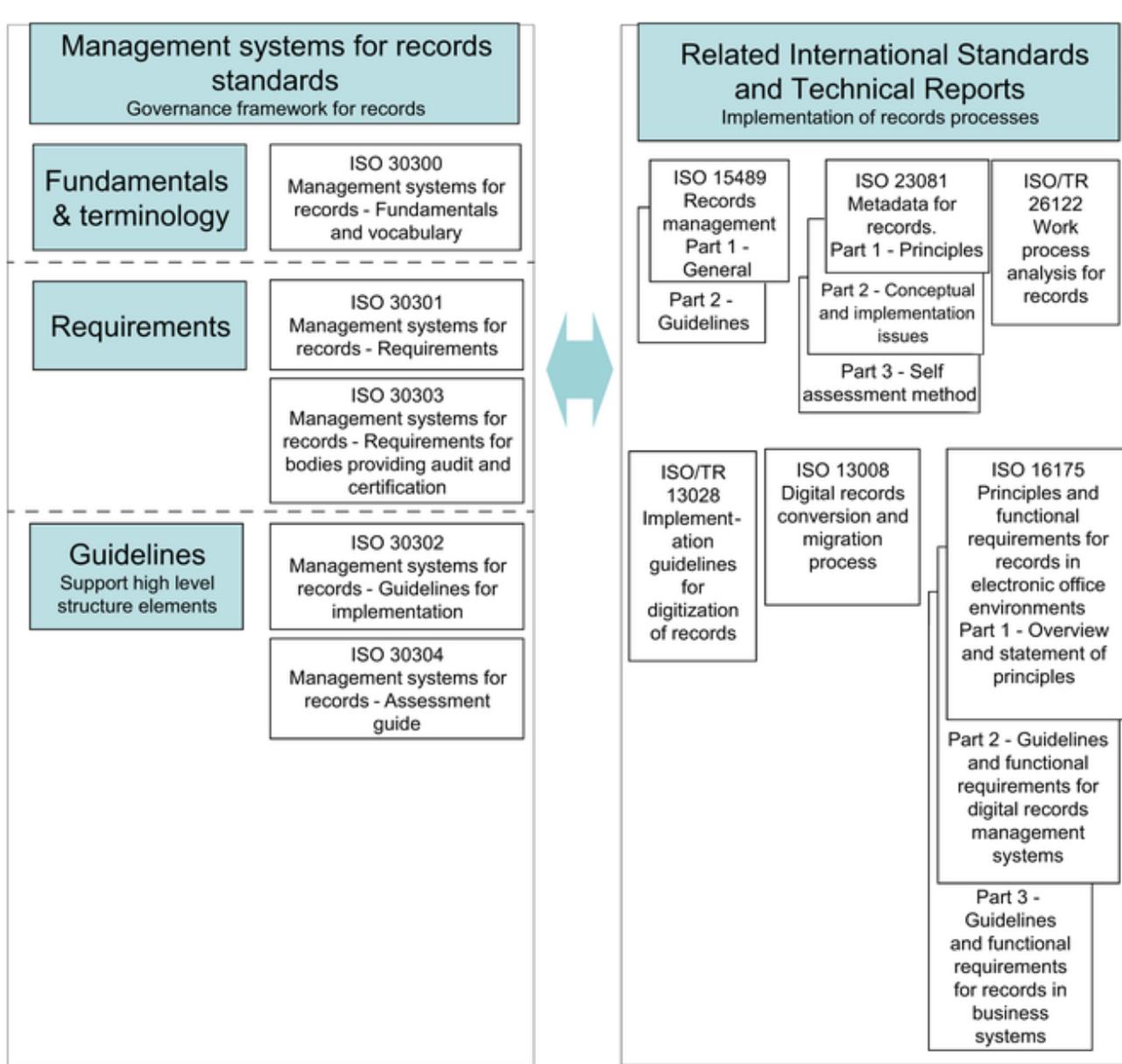
1. Introduction

- There were also efforts during the late 1990s and early 2000s in Europe to develop a regional standard, abbreviated as MoReq, that addressed functional requirements for recordkeeping systems, first published in 2008 and revised in 2010 [8].
- These examples highlight the significant activities related to standards development during the first decade of the 2000s.
- However, there was a significant increase in the production of standards during the 2010s. For instance, ISO Technical Committee 46 Subcommittee 11 (TC46/SC11) developed and published 12 standards between 2000 and 2010, followed by an additional 28 standards from 2011 to 2020 [9], [10].
- While some of these were replacements for existing standards, the overall increase is still significant, especially considering their focus on addressing emerging challenges. Simultaneously, there was a significant number of national and regional S&GPGs generated across the world [11], [12].
- In this regard, there were calls for the development of strategies to monitor and manage these S&GPGs [11]–[14].



2. Strategies for Classifying S&GPGs

- A fundamental challenge that arises from the abundance of S&GPGs is not only determining which to use to address specific challenges encountered by records practitioners, but also how to navigate those originating from other fields, particularly information technology [11].
- This can have serious implications related to meeting highly technical requirements for digital tools or systems used for management or preservation purposes.
- Any inconsistencies in design requirements or terminology amongst the S&GPGs could potentially lead to system failures with disastrous consequences [15], [16].
- Initial efforts to monitor S&GPGs entailed creating basic inventories. For instance, in the early 2000s, the UK National Archives developed a Framework of Standards that complied with S&GPGs in records storage, cataloguing, indexing, conservation, and preservation. This compilation served as a comprehensive reference point for archival institutions [12], [17].
- However, simple lists would not work in the 2010s due to a significant increase in the number of generated S&GPGs, surpassing two dozen. For this reason, there arose a need to devise ways for categorizing them. In 2011, ISO TC46/SC11 published the first categorization framework within one of its standards, ISO 30301, as shown in Figure 1.



The 2011 framework provided initial assistance to professionals. However, by the end of the decade, the number of ISO standards had increased, necessitating a revised framework that included new categories (see Figure 2).

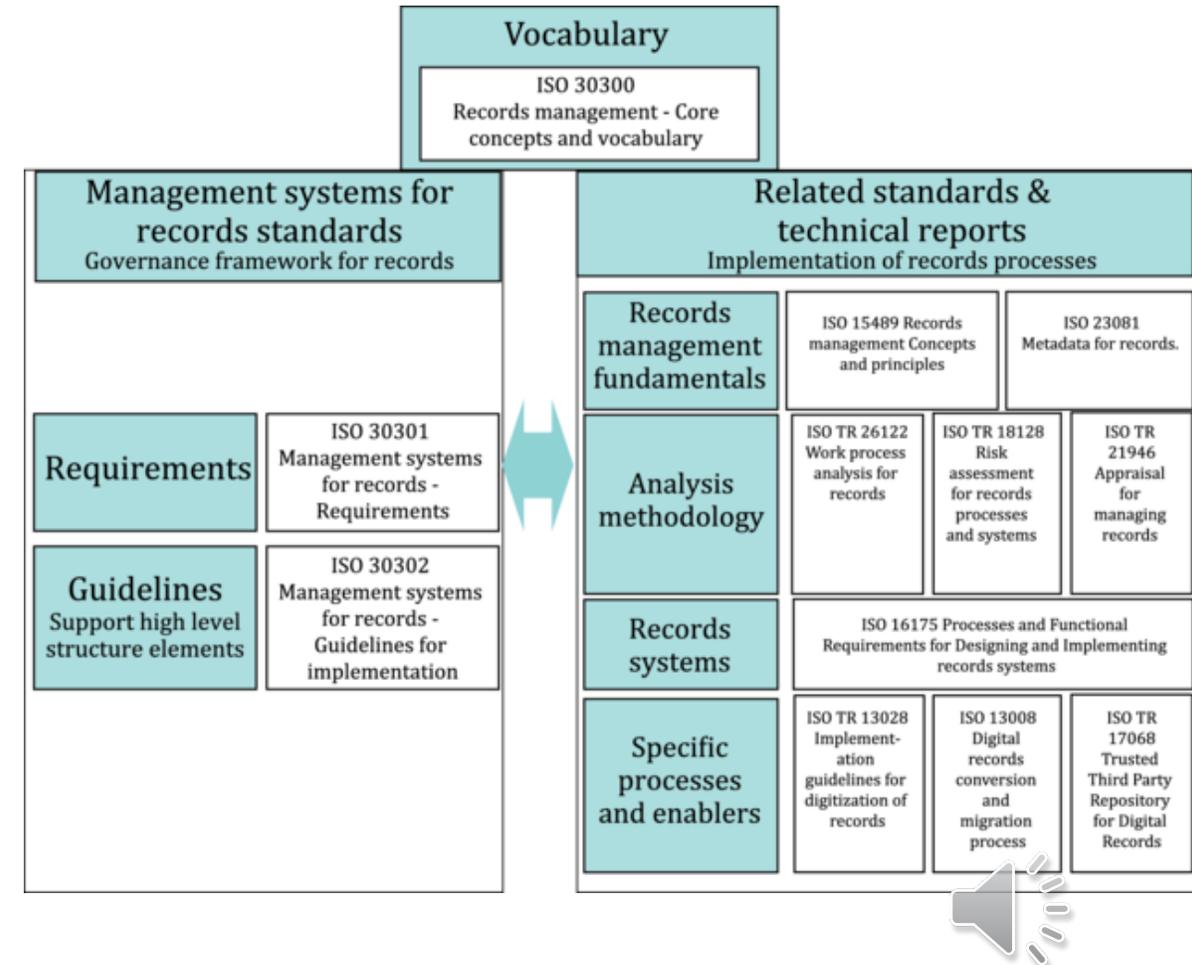


Fig. 1. ISO 30301: 2011 Governance vs Implementation aspects of management of systems for records. Source: [18] This information is taken from ISO 30301:2011 and is reproduced with the permission of the International Organization for Standardization, ISO. Copyright remains with ISO

Fig. 2. ISO 30301: 2019 - Governance vs Implementation aspects of management of systems for records Source [19] This information is taken from ISO 30301:2019 and is reproduced with the permission of the International Organization for Standardization, ISO. Copyright remains with ISO.

2. Strategies for Classifying S&GPGs

- A revised edition of the framework was released in January 2023, encompassing ISO standards that had been published by 2022 (see Figure 3).
- The evolution of the ISO 30301 framework demonstrates the advancements in standards within TC46/SC11 and highlights how records professionals were expected to utilize these guidelines to address professional challenges.

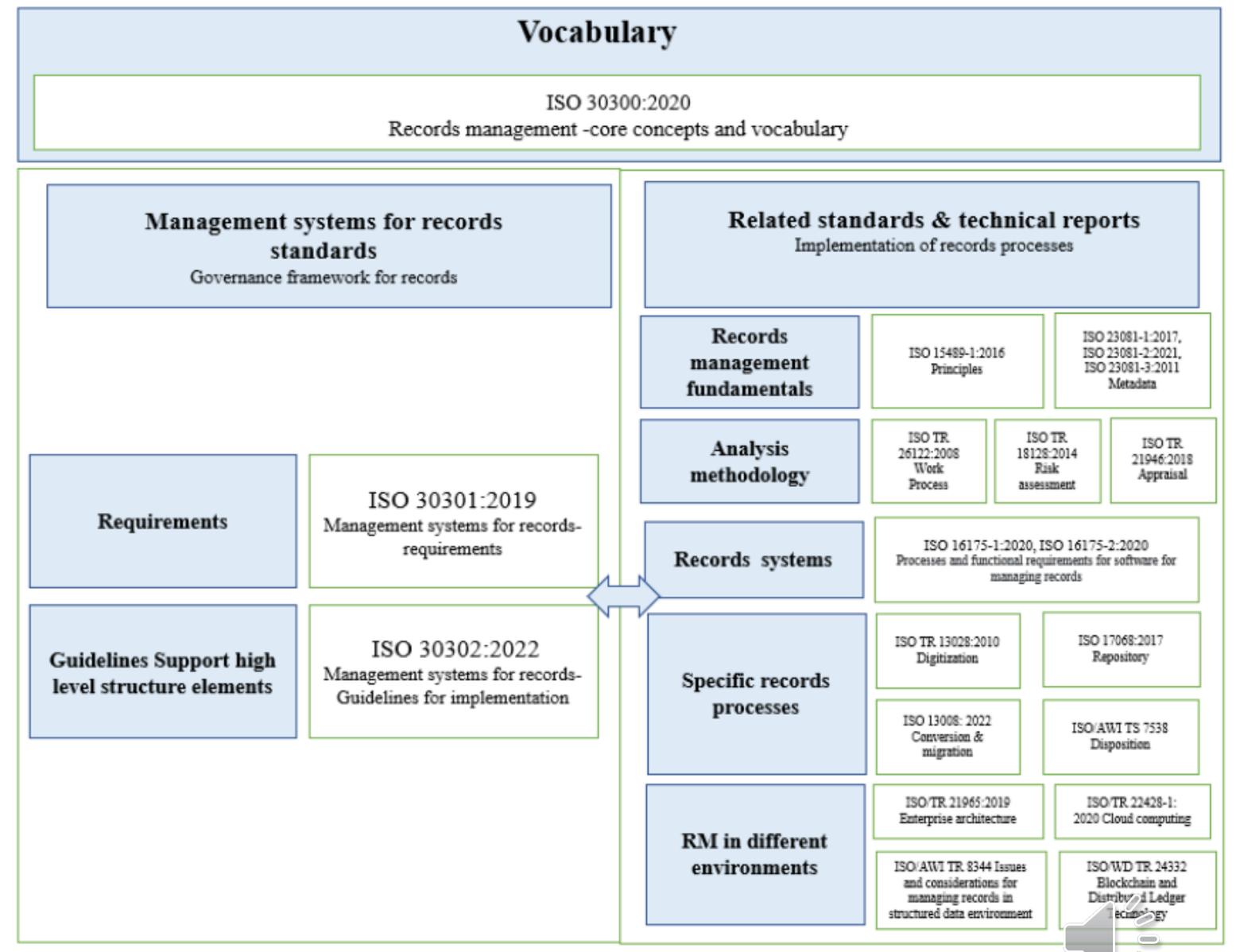


Fig. 3: Governance vs Implementation aspects of management of systems for records Source: [20] This information is taken from a report from ISO Technical Committee 46 Subcommittee 11 and is reproduced with the permission of the International Organization for Standardization, ISO. Copyright remains with ISO.

2. Strategies for Classifying S&GPGs

- However, the framework does not include many standards outside the specific technical committee. To overcome this limitation, a more comprehensive approach could involve exploring ontological representation. This would involve describing concepts within a specific subject domain, their attributes, and relationships [21], [22].
- For records professionals, employing ontological representations enables the analysis of functions carried out at every stage of the records lifecycle—from creation to long-term preservation [23].
- By embracing this approach, records professionals can map out options to address challenges not just through theoretical analysis but also with practical solutions [24], [25].



2. Strategies for Classifying S&GPGs

- A notable example of an ontological representation is the information governance implementation model (IGIM), developed by ARMA International, an association for records professionals primarily in North America. The model aims to facilitate communication and collaboration among stakeholders involved in information governance [26].
- Its latest edition, published in 2022, outlines eight critical areas for implementing an effective information governance program: (1) establishing a steering committee; (2-3) defining authorities and supports; (4) creating a procedural framework; (5) developing capabilities; (6) managing the information lifecycle effectively; (7) designing appropriate architecture; and (8) ensuring robust infrastructure [27] (see Figure 4).



2. Strategies for Classifying S&GPGs

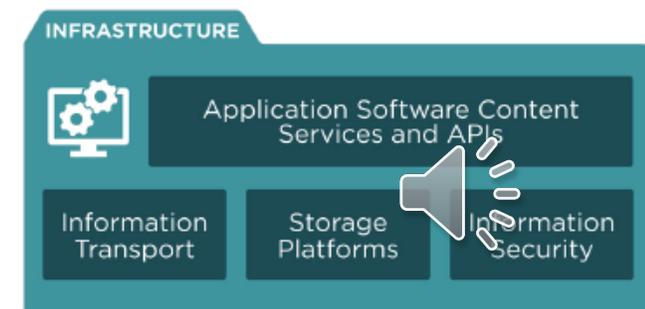
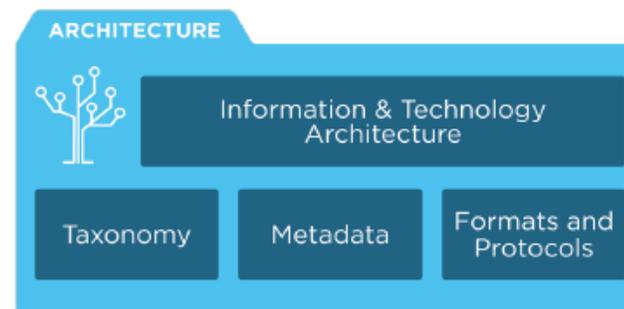
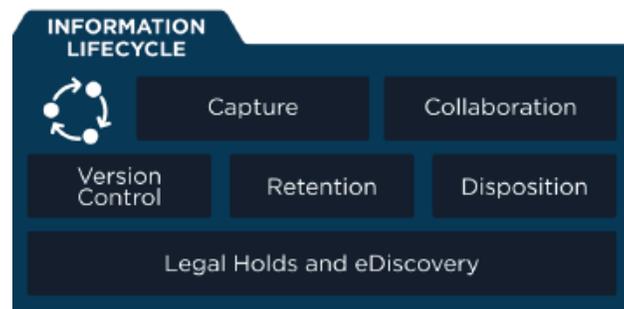
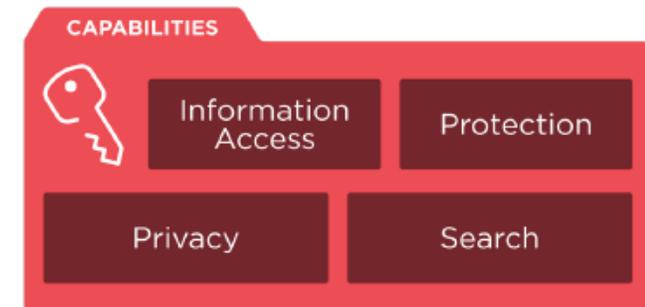
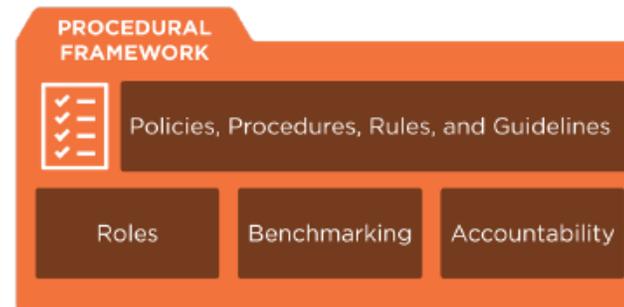


Fig. 4. ARMA's Information Governance Implementation Index (IGIM) domain and components. Source: [26]

2. Strategies for Classifying S&GPGs

- Another notable effort was undertaken by the InterPARES Trust research initiative, attempting to create an ontological representation of functions and activities in archival systems [23].
- This effort incorporated ISO standards and frameworks from professional associations like ARMA International and the Society of American Archivists. Figure 5 depicts the top-level ontology developed within this project.
- In their research project, Michetti and Haufeck [23] created a comprehensive framework, visually representing the hierarchies, sub-functions, and activities related to records management and archives.

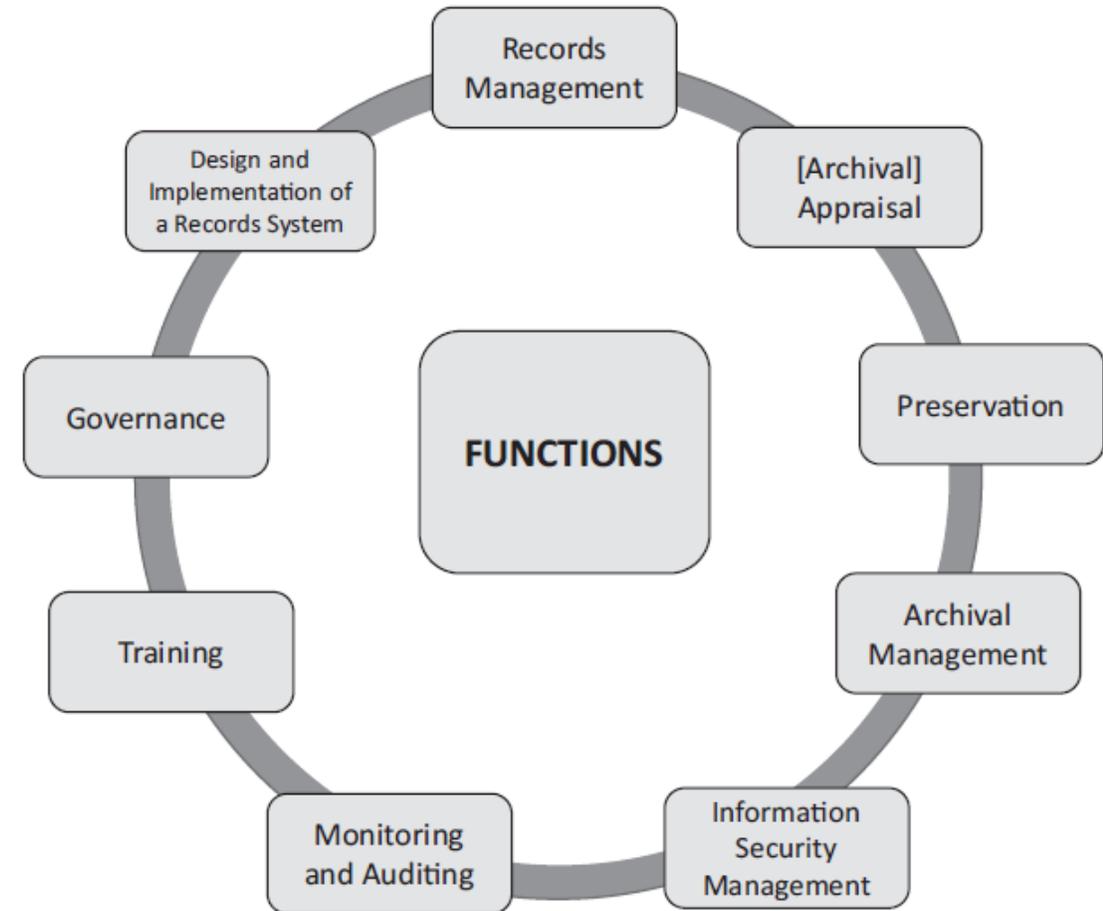


Fig. 5. Top level ontology
Source: [23]



2. Strategies for Classifying S&GPGs

- These visual representations aimed to highlight potential inconsistencies, uncertainties, mistakes, and overlaps within international S&GPGs.
- To address these issues, Michetti and Haufek [23] developed a mind map as a visual representation of the primary functions associated with information governance in an organization (see Figure 6).

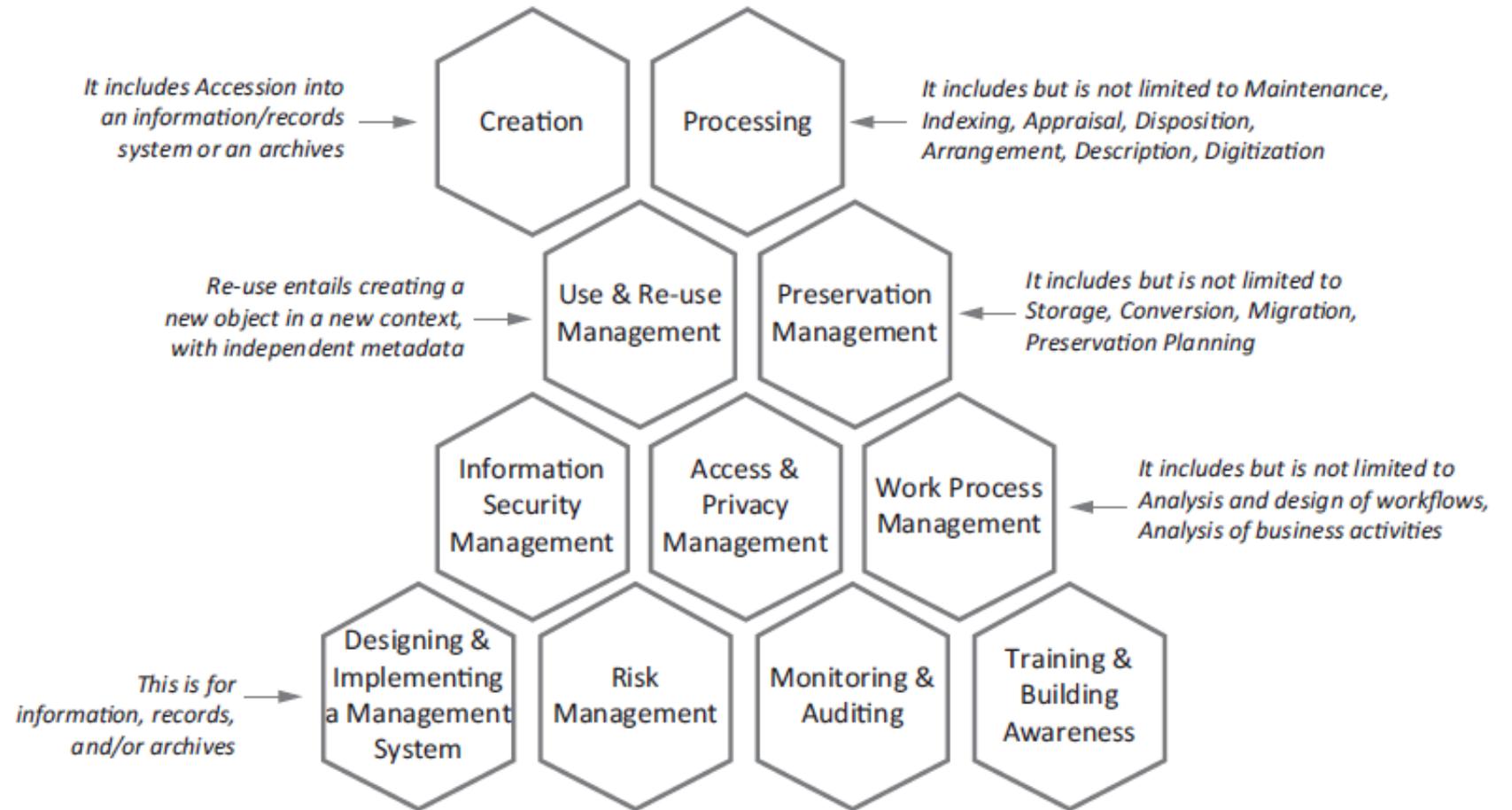


Fig. 6. Mind map of functions to govern information, records, and archives
Source: [23]



2. Strategies for Classifying S&GPGs

- The utility of ontological representation in enhancing overall understanding is often limited to their intended use. To address the diverse range of existing S&GPGs, a comprehensive framework needs to be developed that goes beyond the scope of single standard-setting bodies like ISO, ICA, or ARMA International.
- In addition, the framework should encompass all aspects related to the management of records throughout the lifecycle and recognize the influence of technological advancement.
- Therefore, it is critical to incorporate perspectives from various sub-domains within information technology. This integration has the potential to significantly transform the work of records professionals and foster collaboration with information technology professionals in an enhanced manner.



3. Lessons from the IT Domain

- With the growing prevalence of technology, records professionals face greater challenges in dealing with increasingly complex concepts and platform environments like blockchain technology, cloud computing, enterprise architecture, as well as records managed in structured environments [2], [28]–[34]. Many organizations have implemented these technologies through enterprise systems that support business processes and facilitate internal transactions. Therefore, for records professionals to remain relevant and fulfill recordkeeping responsibilities within these organizations, they need to actively participate in the design phase of such systems rather than rely on post-transaction audits or evaluations [35]–[37].
- To effectively adapt to the digital transformation within their organizations, records professionals must remain proactive and continuously update their knowledge and skills in various information technology domains. This will enable them to stay abreast of emerging trends and be prepared for future challenges [38].
- It is expected that they will work in a cohesive and integrated environment where there is cross-domain understanding and collaboration. In addition to relying on existing expertise outlined in their own formal S&GPGs, records professionals should also draw insights from related information technology domains.
- Technological advancements can be analyzed from various perspectives, including improvements in hardware, software, networking technologies, and the widespread adoption of the internet. Keeping up with these changes can be challenging. However, by referring to S&GPGs that provide insights on technological progress, one can identify key elements and principles that facilitate knowledge enhancement.
- Auth [39] highlighted the substantial evolution in information technology management S&GPGs over the last two decades. This includes approximately 60 established norms, such as Information Technology Infrastructure Library (ITIL), Control Objectives for Information and Related Technologies (COBIT), and IT4IT. Other emerging approaches include agile principles, lean management, and innovation strategies, particularly starting in 2015.

3. (A) ITIL Framework

- Originally developed by a government agency in the United Kingdom (UK) in the 1980s, the ITIL framework was initially designed to provide standardized guidance for managing information technology within governmental sectors.
- It evolved by incorporating industry best practices, eventually coming under private ownership in 2013 through a joint venture between a corporate entity and the UK Cabinet Office.
- The latest version of the ITIL framework incorporates updates that focus on holistic service management with an emphasis on value creation, while also aligning with Agile, Lean, and DevOps methodologies [40], [41]

TABLE I. ITIL PRACTICES

Source: [42]

General management practices	Service management practices	Technical management practices
Architecture management	Availability management	Deployment management
Continual improvement	Business analysis	Infrastructure and platform management
Information security management	Capacity and performance management	Software development and management
Knowledge management	Change enablement	
Measurement and reporting	Incident management	
Organizational change management	IT asset management	
Portfolio management	Monitoring and event management	
Project management	Problem management	
Relationship management	Release management	
Risk management	Service catalogue management	
Service financial management	Service configuration management	
Strategy management	Service continuity management	
Supplier management	Service design	
Workforce and talent management	Service Desk	
	Service level management	
	Service request management	
	Service validation and testing	



3. (A) ITIL Framework

- Table 1 depicts the ITIL framework, which consists of 34 domain practices categorized into general management practices, service management practices, and technical management practices.
 - The 14 general management practices are derived from general business management principles. They have been adapted to align with service management needs.
 - On the other hand, the 17 service management practices were specifically developed for information technology service management activities.
 - Lastly, the three technical management practices were primarily designed for technology solutions; however, they have been extended to encompass broader applications in overall information technology services [42].
- There are two compelling reasons for records professionals to engage with the ITIL framework.
 - First, ITIL has proven its staying power since it was introduced in the 1980s. After having adapted to changing circumstances, it remains relevant in the face of technological advancements.
 - Second, the framework has evolved into 34 distinct practices for managing information technology services. Their insights would provide valuable guidance for records professionals when collaborating with their counterparts in the information technology field.



3. (B) COBIT Framework

- The COBIT framework started as a standard for conducting information technology audit tasks. First introduced in 1996 by ISACA, a global association of information technology professionals specializing in auditing, risk, and governance, it has undergone several iterations [43].
- Over the years, it has incorporated elements from various domains including service management, project management, enterprise architecture and governance of information technology, including ISO/IEC 38500 standard.
- The latest iteration, COBIT 2019, was released in 2018. It includes a total of 40 objectives categorized into 5 governance objectives and 35 management objectives.
 - The governance objectives focus on addressing the needs of all stakeholders, with an emphasis on strategic orientation and supervision.
 - In contrast, the management objectives cover four domains: (1) overall strategy; (2) solution integration; (3) solution delivery; and (4) performance monitoring, aligned with internal targets [44]. An overview of COBIT 2019's objectives is illustrated in Figure 7.



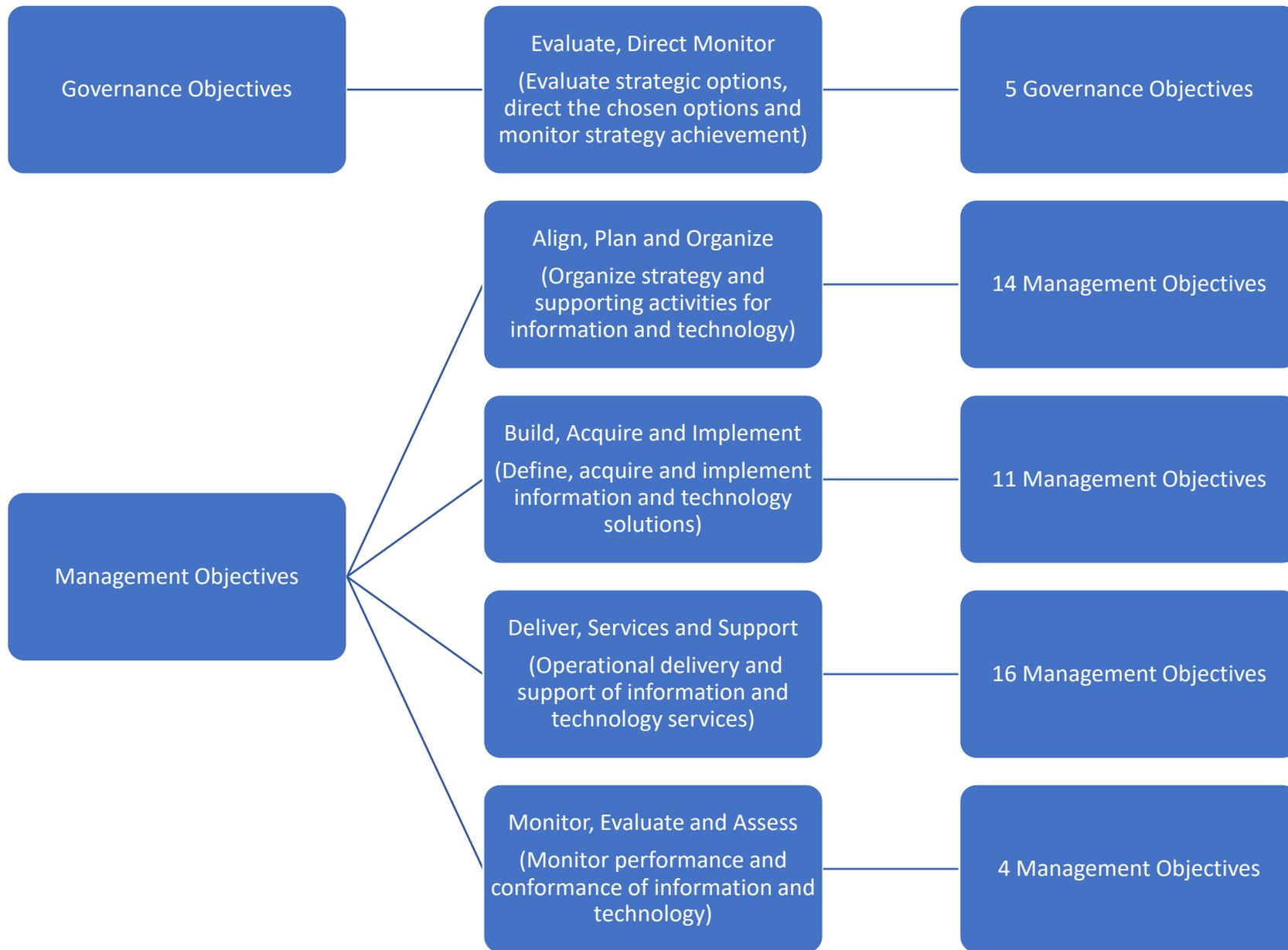


Fig. 7. COBIT 2019: Governance objectives vs Management objectives

Source: adapted from [44]

3. Lessons from the Information Technology Domain

- There are at least two compelling reasons for records professionals to consider engaging with the COBIT 2019 framework.
 - First, the framework is a comprehensive guide that encompasses 40 overarching objectives. These objectives are further divided into 231 practices, each consisting of multiple activities aimed at achieving the specified objective. In total, there are 1,202 activities in the framework that support overall governance and management goals. This ensures that it covers all aspects of information and technology governance while also addressing specific needs within each practice.
 - Second, COBIT 2019 has extensively incorporated a variety of S&GPGs from various subject domains. These include:
 - COSO ERM Framework on enterprise risk management [45]
 - ISO 38500 series on information technology governance [46], [47]
 - ISO/IEC 2000:2011 on the framework for information technology enabled services [48]
 - ISO/IEC 27001 series of standards on information technology security [49]–[52]
 - IT4IT version 2.0 on IT service management [53]
 - King IV Report on corporate governance [54]
 - PMBOK Guide Sixth Edition on project management [55]
 - PROSCI 3-Phase Change Management Process on change management [56]
 - TOGAF version 9.2 on enterprise architecture [57]



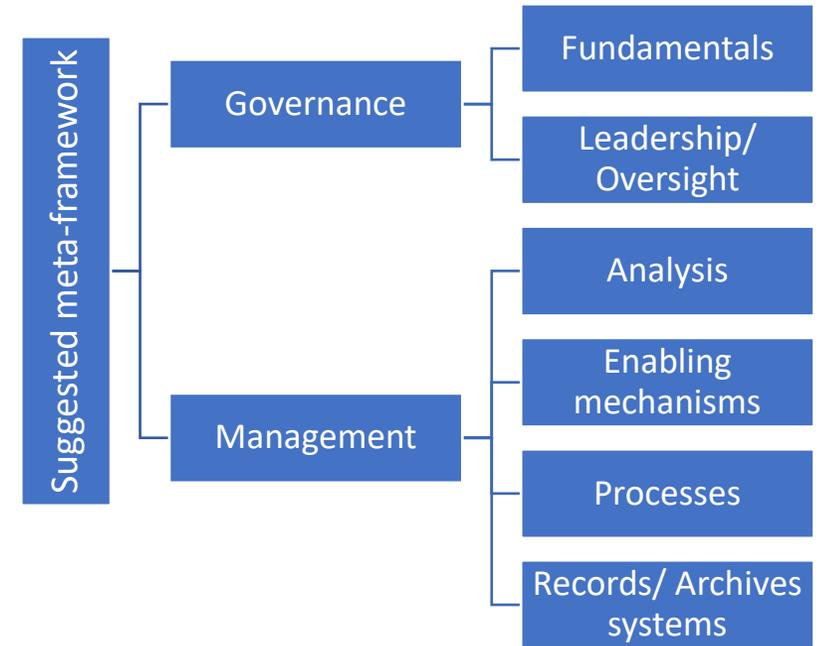
4. Suggested meta-framework

- Several scholars have advocated for a stronger link between records professionals and information technology standards or processes. For example, Eito-Brun and Aliaga [58] emphasized the importance of integrating records management standards into the COBIT framework to ensure effective oversight and governance of information systems. Similarly, Cunningham [37] argued for the incorporation of digital recordkeeping as an integral part of business processes and systems.
- This article proposes a conceptual meta-framework for records professionals that not only includes all aspects of archives and records but also incorporates information technology concepts instead of merely advocating for the integration of records concepts into existing frameworks. The proposed meta-framework would serve as a tool for records professionals to easily access and identify relevant S&GPGs when needed, as well as pinpoint gaps in the current S&GPGs landscape. In addition, it could provide a platform for knowledge exchange with domains like information technology governance (e.g., COBIT framework) or information technology service management (e.g., ITIL framework).



4. Suggested meta-framework

- An initial characteristic of the meta-framework is its division into governance and management components. This structure aligns with the ISO 30301 standard, which provides a governance framework for records and implementation processes [19]. Similarly, COBIT 2019 also has two domains: governance and management [44]. Based on this rationale, the suggested meta-framework has two distinct domains: governance and management.
- Within the realm of governance, there are two aspects to take into account: fundamentals and leadership/oversight. Fundamentals cover key concepts, principles, and terminology. On the other hand, leadership/oversight provides more comprehensive S&GPGs that offer guidance across various subject domains in a broader context.
- The realm of management has four broad categories: (1) analysis; (2) enabling mechanisms; (3) processes; and (4) records/archives systems.
- The analysis category includes S&GPGs that examine a business or specific aspects of a business, identifying their requirements and proposing solutions to meet these needs and resolve any business challenges.



4. Suggested meta-framework

- Enabling mechanisms encompass S&GPGs in various supporting processes, including change management, communication, and organizational culture. Additionally, they involve related disciplines like artificial intelligence, blockchain, cloud computing, information security, information technology service management, privacy protection, project management, and risk management.
- Processes are generally described as a set of interconnected activities that take specific inputs and transform them into desired outputs, following a predetermined sequence of actions. In the context of the meta-framework, this category constitutes S&GPGs related to the records lifecycle grouped in the following categories:
 - Creation and Use
 - Appraisal and Acquisition
 - Arrangement and Description
 - Preservation
 - Digital Conversion/Migration
- Records/Archives systems encompasses S&GPGs that outline the functional requirements for information systems used to manage records or archives. It also addresses the technical aspects involved in managing such systems.

Governance

- Fundamentals i.e., core concepts, principles, terminology, and vocabulary
- Leadership/ Oversight

Management

- Analysis - including work processes management as well as enterprise and information architecture
- **Monitoring - including assessments and checklists**
- Enabling mechanisms -
 - supporting processes e.g. change management, **communication**, organizational culture etc.
 - related disciplines e.g., information security, IT service management, privacy protection, project management, risk management etc.
- Processes
 - Creation and Use
 - Appraisal and Acquisition
 - Arrangement & Description
 - Retention
 - Preservation
 - Digital conversion/ Migration
 - **Reference and Access**
- Record/Archives systems
 - Requirements for Records/Archives
 - Technical management for systems (including IT change management, software development, infrastructure and platform management)

Fig. 8. An overview of the proposed meta-framework
Source: developed by author

4. Suggested meta-framework

- Figure 8 illustrates the structure of the meta-framework's components. However, being a conceptual proposal, it is neither comprehensive nor complete, and certain categories may emerge or disappear through ongoing refinement. For instance, there is a theoretical expectation that at least three categories should exist: one addressing the monitoring aspects of S&GPGs, another addressing communication, and a third covering reference and access processes as highlighted in yellow in the illustration. However, suitable S&GPGs have not been identified for these categories.
- The proposed version of the meta-framework is presented in Tables 2 through 6 of the published article, providing a compilation of S&GPGs that align with each respective category. Although many of those listed are ISO-based standards, there are also notable contributions from industry best practices and professional associations. It should be noted that this selection of S&GPGs is not exhaustive or definitive; rather, it serves as an illustrative example highlighting the potential diversity and inclusion to be found within such a framework.



TABLE II. META-FRAMEWORK: GOVERNANCE

Governance		Standards
	Fundamentals	<ul style="list-style-type: none"> ▪ ISO 15489 standard outlines fundamental principles for effective records management [71] ▪ ISO 22739 standard offers a vocabulary specifically designed for blockchain and distributed ledger technologies [72] ▪ ISO 22989 standard provides a comprehensive understanding of artificial intelligence concepts and terminology [73] ▪ ISO 27000 standard offers an overview and vocabulary for information security management systems [74] ▪ ISO 30300 standard provides fundamentals and vocabulary for management systems for records [75]
	Leadership/ Oversight	<ul style="list-style-type: none"> • COBIT is a framework that offers guidance on enterprise governance for information and technology [76] • ISO 22310 standard offers guidance on records management requirements to standard drafters in other fields [77] • ISO 23635 standard provides governance guidelines for blockchain and distributed ledger technologies [78] • ISO 30301 standard outlines the requirements for a management system for records in an organization [19] • ISO 30302 standard offers guidelines for implementing a management system for records in accordance with ISO 30301 [79] • ISO 38500 series of standards provide guidance regarding governance of IT in organizations [46], [47], [80]–[86]

TABLE III. META-FRAMEWORK: MANAGEMENT - ANALYSIS

Management		Standards
	Analysis	<ul style="list-style-type: none"> ▪ ISO 10244 standard specifies activities related to documenting business processes [87] ▪ ISO 21965 standard addresses aspects of records management in enterprise architecture [88] ▪ ISO 26122 standard provides guidance on work process analysis for records [89] ▪ TOGAF offers a comprehensive enterprise architecture framework [57]



TABLE VI. META-FRAMEWORK: MANAGEMENT – RECORDS/ARCHIVES SYSTEMS

Management			Standards
	Records/ Archives systems	Requirements for Records/ Archives system	<ul style="list-style-type: none"> ▪ ISO 14641 standard provides a set of technical specifications and organizational policies to be implemented for the capture, storage and access of electronic records [145] ▪ ISO 15801 standard describes the implementation and operation of information management systems that store electronic information in a trustworthy manner [146] ▪ ISO 16175 series of standards offer system requirements to manage records [147], [148] ▪ ISO 18759 standard provides the functional, technology neutral requirements for trustworthy storage systems [149] ▪ ISO 19475 that provides requirements in electronic document management systems [150] ▪ ISO 22957 standard supports the implementation of enterprise content management systems [151]
		Technical management for systems	<ul style="list-style-type: none"> • ISO 24748 series of standards that provide for guidelines on software engineering lifecycle management [152]–[155] • ISO 29119 series of standards that provide for concepts processes and guidelines for software testing [156]–[158]



5. Concluding remarks

- The issue of implementing S&GPGs is often seen by records professionals as ambiguous and overwhelming [59]. The numerous options available can lead to confusion, and even when suitable S&GPGs are selected, their direct benefits may not always be immediately apparent and could limit professional autonomy in certain situations. Comparing all the S&GPGs on offer can be challenging, analogous to comparing dissimilar things like apples, oranges, and other fruits. Additionally, the constant evolution of these standards poses a difficulty for records professionals trying to stay up-to-date with the latest developments.
- To address these challenge, this article proposes a conceptual meta-framework that provides insight into how S&GPGs can be applied within the broader practical context for records professionals [60]. Although there are some existing frameworks, they tend to have limitations. For example, the existing ISO framework for records management inadequately addresses archives management requirements [61]. Hence, there remains a necessity for an all-encompassing framework.
- Developing a comprehensive framework may be perceived as overly ambitious or misguided. However, similar aspirations have been influential in the creation of S&GPGs . The suggested meta-framework strives to emulate successful global frameworks like COBIT by organizing itself into two domains: governance and management. Moreover, it introduces four broad categories, including an analysis for requirement identification, enabling mechanisms that encompass supporting processes and related disciplines, different aspects of the records lifecycle under processes, and records/archives systems.



5. Concluding remarks

- The use of S&GPGs has the potential to enhance professional practice, but it is important to acknowledge the time and effort put into their development and prioritize their accessibility and relevance for records professionals. The suggested meta-framework serves as a starting point in improving awareness of how different S&GPGs are interconnected. It can be integrated into a variety of innovative educational approaches [62]–[65]. This includes computational thinking frameworks in projects at institutions like the University of Maryland's College of Information Studies [1], [66] as well as in the field of blockchain technology within the Blockchain@UBC project, a multidisciplinary research cluster at the University of British Columbia [67]. Similarly, Landano, a Canadian startup, is working toward transforming land record-keeping in Africa through the use of blockchain technology while adhering to ISO-compliant standards [68]. These initiatives demonstrate the potential to engage with blockchain standards and contribute to the development of common S&GPGs for recordkeeping within the technological context.
- In the field of artificial intelligence, a notable project is InterPARES Trust AI, an interdisciplinary research effort focused on designing, developing, and leveraging AI to support ongoing availability and accessibility of trustworthy public records. The project has conducted more than 40 case studies proving significant opportunities to influence ISO standards through its official collaboration with TC46/SC11, the primary ISO technical committee responsible for creating records management standards [69], [70].
- The benefit of employing a meta-framework in such instances would be to increase recognition and understanding of specific S&GPGs in areas that may not be easily identified or establish connections that were previously unrecognized. However, as previously mentioned, the meta-framework is still a conceptual proposal in its early stages and is shared in order to welcome peer review.