

# InterPARES Trust Project Report

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## Abstract

This project was aimed at creating an ontology for recordkeeping environments in which current, semi-current and non-current records are managed as a whole in a coherent system. The ontology resulting from the research activities provides a graphical representation of the functions carried out in archival institutions, where the term *archives* along with the related adjective *archival* is meant to cover the lifespan of records from creation to long term preservation. An ontological model in the form of diagrams was created to this aim. The model represents functions and activities as classes connected through a fixed number of relationships. Such a modelling provides a visual representation of the functional dimension of archives and records management. This results in a simple but effective ontology.

# Ontology of functional activities for archival systems

## Research team

Lead Researcher:	Giovanni Michetti
Project Researchers:	Georg Gänsler (July 2016–September 2017) Tristan Triponez (December 2015–December 2016)
Graduate Research Assistants:	Georg Gänsler (September 2017–present)

## Purpose and Scope

This project was aimed at creating an ontology representing the main functions and activities performed in records management and archival environments. The ontology is based on an analysis of the most relevant international standards. The project aims at providing a comprehensive and systematic picture of the functions and activities that are performed throughout a record's life-cycle.

The model is expressed in the form of diagrams where functions and activities are represented as classes connected through a small number of relationships in order to visualize the complex functional perspective on archives and records management. This results in a simple but effective ontological representation. The ontology would serve various purposes:

- increase transparency by providing a comprehensive and systematic picture of the functions and activities that records professionals – in particular, records managers and archivists – perform on records
- support accountability by representing the relationships among functions and activities that in turn are associated to specific professional roles
- provide any stakeholder – including records professionals and users – with a clear image of the functions and activities that need to be implemented and performed in records management and archives
- support records professionals in the analysis and review of their management systems
- support software and system development
- support system auditing and re-engineering.

## Methodology

The research project was organized into three interconnected steps:

- 1) The first step involved the identification of the relevant and most commonly used international standards, such as the ISO 15489 series, the ISO 16175 series, the OAIS Reference Model and the ISO 27000 series, along with other documents (e.g., national standards, technical reports), to cover every aspect from creation to preservation. Due to their relevance to the topic, twenty standards were selected and subsequently analyzed. With the exception of the Society of American Archivists' *Core Archival Functions* and the ARMA International's *Generally Accepted Recordkeeping Principles*, all standards and technical reports used for the ontology are issued by the International Organization for Standardization (ISO). For the ease of reading, the term *standard* in this report includes de-facto standards and technical reports.
- 2) The second step comprised the systematic analysis of the selected sources and the modelling of statements based on the content of the sources. The contents of the selected standards were condensed into "semantic triples". All the diagrams of the ontology are based on these statements (see example below).

Subject	Predicate	Object
Records Management	Involves	Metadata Management [from ISO 16175-2, p. 9; and ISO 23081-1, p. 2 and 4]
Records Management	Involves	basing decisions on analysis and risk assessment of business activities [from ISO 15489-1, p. 3]
Disposition	May involve	destruction of records and metadata [from ISO 15489-1, p. 18]
Appraisal	Aims at	identifying business, legal and other requirements for records, used to specify records creation when work processes and records systems are designed or redesigned [from ISO 15489-1, p. 16]

When modelling these statements, the project team stayed as close as possible to the terms and phrasing used in the standards. However, the final statements are the result of a controlled, unifying interpretation of the sources. Moreover, to clarify that some statements extracted from the standards apply only under specific circumstances, a *qualification* in square brackets is added to the statement (see example below).

Subject	Predicate	Object
Creation	Involves	[in records management systems] capturing evidence of a business activity [from 16175-2, p. 13]

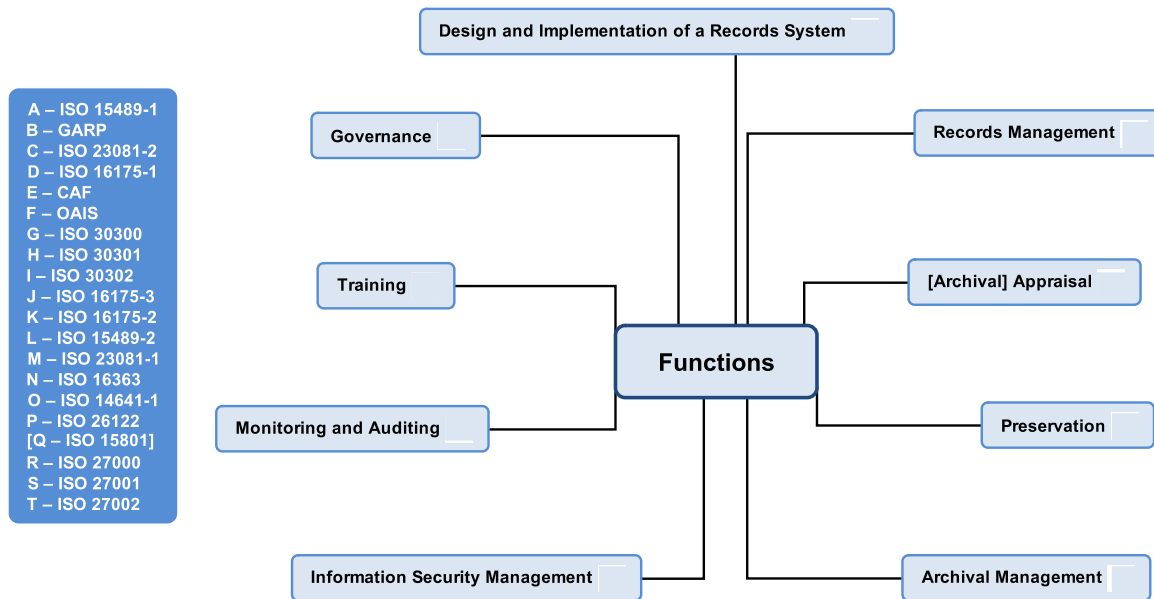
Such qualification is usually based on the introductory clauses describing the standards' scope and purpose. However, whenever a statement making up the ontology results from merging identical or similar statements extracted from different standards, no qualification is added: it has been assumed that – unless specified – a statement occurring in several sources is applicable in the recordkeeping context whatever the circumstances.

- 3) The third step was the development of a visual representation of the results of the analysis by means of a mind-mapping approach. The ontology is expressed in the form of diagrams where functions and activities are represented as classes. The relationships among functions and activities along with their properties are identified and represented on the basis of the statements. The overall result is a graphical representation of the network of relationships that visualizes the complex functional perspective on archives and records management.

## Findings and Products

The graphical representation of the ontology consists of an overview map featuring nine high-level functions. Each of these functions is represented by a high-level map. These high-level functions contain 105 sub-maps in total, representing 105 functions and sub-functions in total. The overview map is the access point to the functions and sub-functions represented in the ontology. The nine high-level functions are:

- **Records Management**
- **[Archival] Appraisal**
- **Preservation**
- **Archival Management**
- **Information Security Management**
- **Monitoring and Auditing**
- **Training**
- **Governance**
- **Design and Implementation of a Records System.**



From the overview map it is possible to drill down to the diagrams containing information about the specific functions and their relationships with other sub-functions.

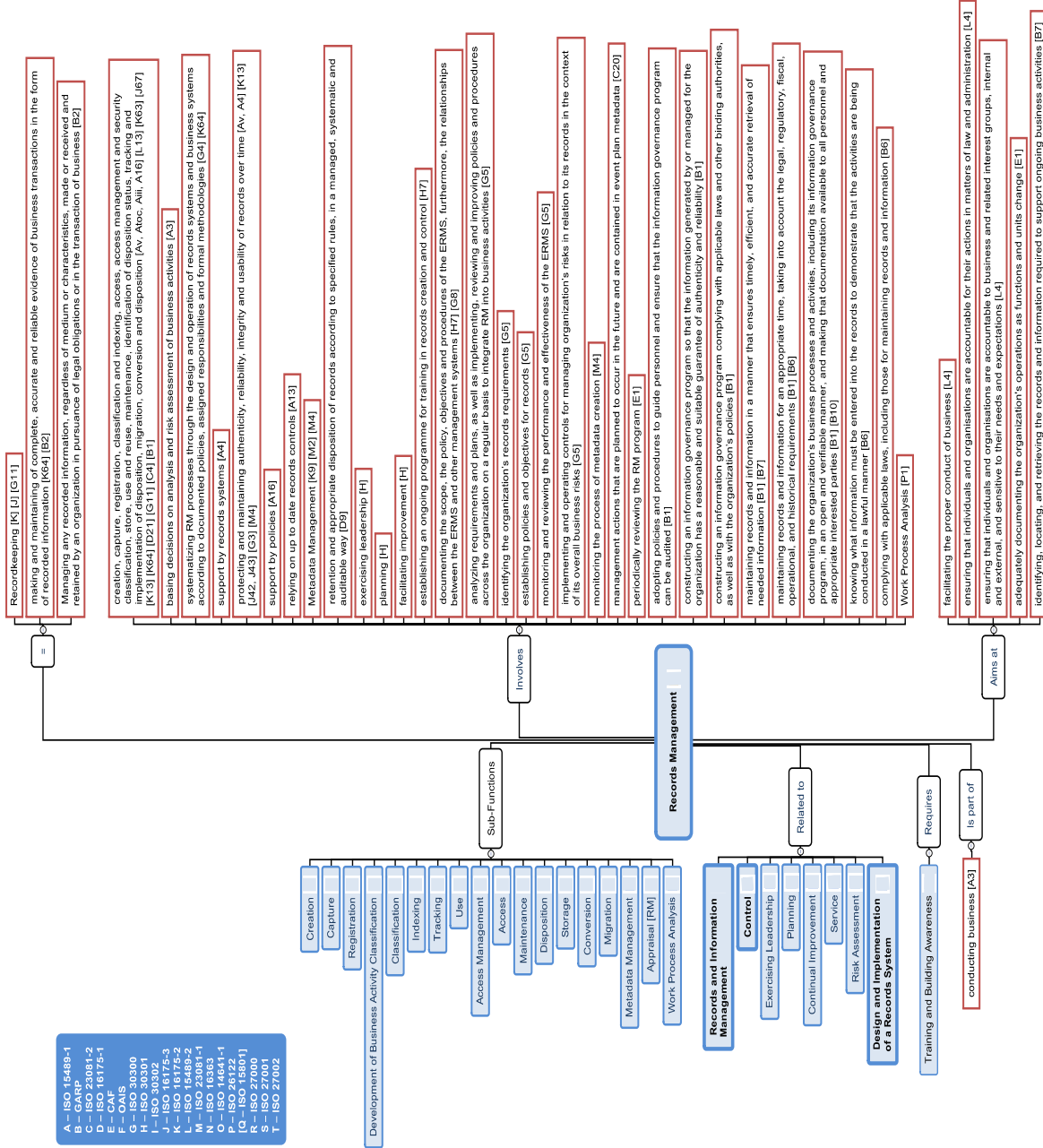
Some inconsistencies and redundancies can be found in the diagrams--international standards frequently refer each other, but often they do not use the same terms and definitions for certain functions and activities. For example, the ontology contains three diagrams all dealing with decision making about which records should be kept (**[Archival] Appraisal**, **Appraisal [RM]** and **Determining Documents to be Captured**).

Certain functions (e.g., **Preservation**) are presented as high-level functions, but they also appear as sub-functions of other functions. This happens because the ontology does not represent the views of the project team—it is the controlled interpretation of the analyzed standards. Therefore, the ontology shows multiple relationships among functions at all levels. The project team decided to keep and represent these inconsistencies in the ontology in order to highlight that standardization needs a more accurate and systematic approach.

In the following pages, the diagrams of the nine high level functions will be illustrated. The diagrams of the high-level functions **Records and Information Management, Control, Determining Documents to be Captured, Digital Object Management** and **Processing** will be presented too. These high-level functions were not included in the overview map since their relative similarity would obscure the usability. Thus, they are represented on the lower level and linked to the other functions with “related to” connections. Finally, the diagrams of the sub-functions **Classification** and **Archival Storage** will be presented in order to show how the ontology works in more depth.



# Records Management



**Records Management:** Most of the standards analyzed deal with the current phase of a records' life, therefore this is the most dense diagram—in fact, it contains the highest number of statements, hence relationships to other sub-functions. The sub-functions of Records Management are derived from the detailed statements, and feature classical functions and activities such as:

- **Capture**
- **Registration**
- **Classification**
- **Access Management**
- **Disposition**

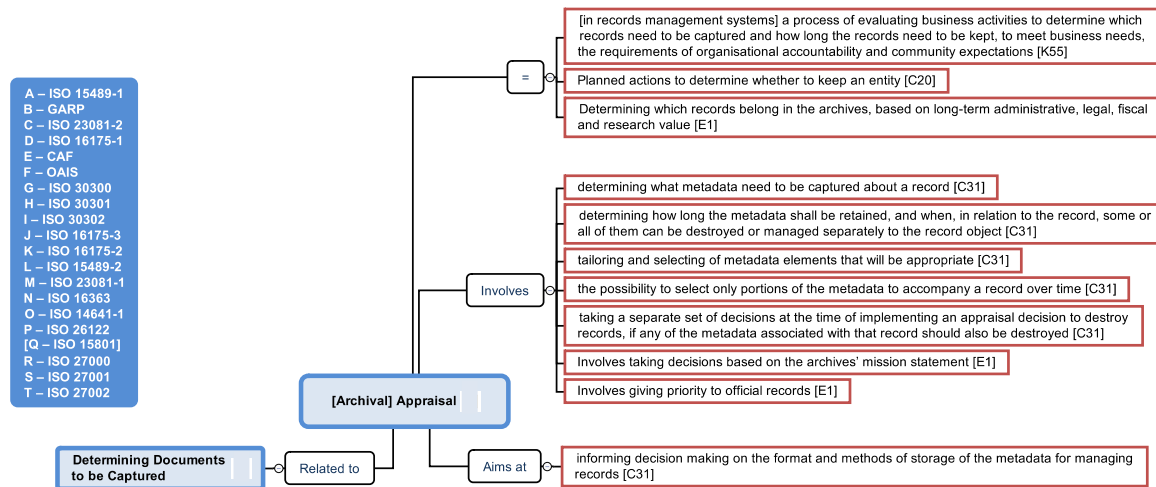
However, due to the changing business environments – with particular reference to requirements for digital records – the Records Management's sub-functions include functions like **Metadata Management** and **Migration**. Similar relationships can be found on all levels throughout the diagrams of the ontology—many statements represented in the ontology deal with specific issues related to the digital environment, so the diagrams somehow represent the technological shift in the records professions.

Records Management is not a stand-alone endeavor, as it results from many statements and related functions such as:

- **Control**
- **Risk Assessment**
- **Design and Implementation of a Records System**
- **Training and Building Awareness**

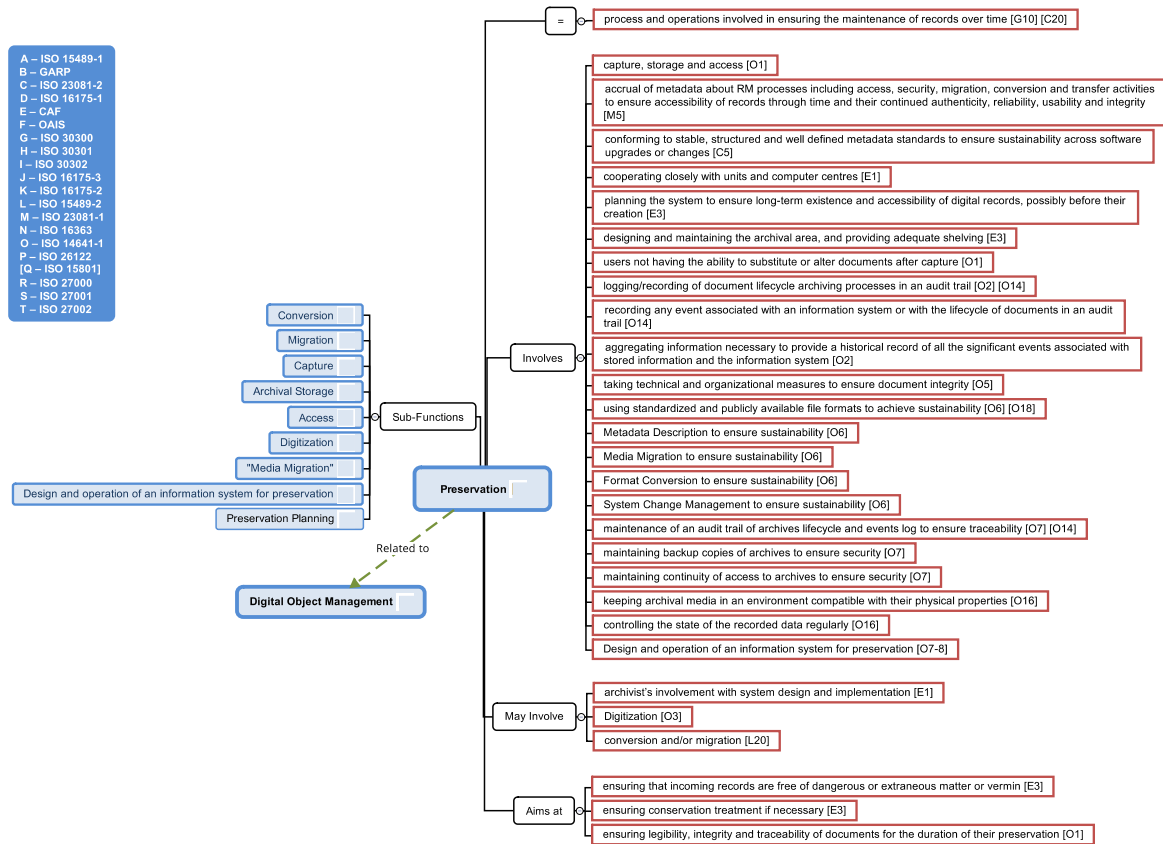
The Records Management function is related to some high-level functions either directly or through one or more sub-functions. For example, the sub-function **Access** is shared by the high-level functions **Records Management**, **Archival Management** and **Preservation**—this makes sense, because **Access**, along with its associated activities and tasks, assumes a relevant role throughout the whole records' life. Therefore, the diagrams in this ontology can be used to point out shared responsibilities of all records professionals whether in the records management phase or in the archives.

## [Archival] Appraisal



**[Archival] Appraisal:** This high-level function deals with decision-making—which records need to be kept for the long-term. Surprisingly, relatively few statements could be found in the international standards about this core archival function. In part, this is due to the project team’s decision to distinguish and handle separately the statements on appraisal taken from ISO 15489-1, because these statements are in stark contrast to the established understanding of appraisal. Appraisal in ISO 15489-1 (see **Appraisal [RM]**) focuses on the evaluation of business needs in order to determine which records “need to be created” rather than kept. It is a different meaning of the same term. However, as a result of the analysis a function was introduced (**Determining Documents to be Captured**) which acts as a bridge between **Appraisal [RM]** and **[Archival] Appraisal**.

## Preservation



**Preservation:** This function along with the statements that are the basis of the diagram deals mainly with long-term digital preservation. This reflects the relevance of this topic in the archival practice and theory. Consequently, **Preservation's** sub-functions are mostly associated with long-term digital preservation:

- **Conversion**
- **Migration**
- **Preservation Planning**
- **Digitization**

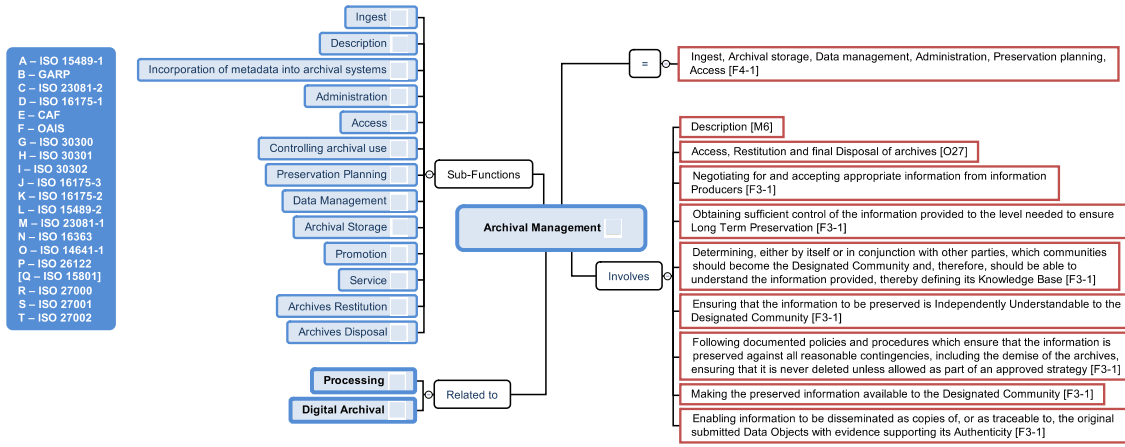
Sub-functions such as **Migration**, **Capture**, **Access** and **Preservation Planning** link the **Preservation** diagram to other diagrams in the ontology (e.g., **Records Management**, **Governance**, **Archival Management**) and thus to the wider context of recordkeeping. The sub-function **Media Migration** stems from ISO 14641-1. However, the project team decided to not create a diagram for it, since its concepts and definitions are largely inconsistent to all other standards.

**Preservation** is related to the function **Digital Object Management**. This function/term derives from ISO 16363, a standard providing concepts and definitions that are explicitly related to the OAIS Reference Model (ISO 14721), hence to the statements extracted from this standard. Please note that while **Preservation** features several statements that apply to both analogue and digital records, **Digital Object Management** deals with digital records only.

**Preservation** is represented as a high-level function, but it also appears as sub-function of **Processing**. It is also a sub-function of **Digital Archival**, a function with a peculiar name described in ISO 14641-1.

The ontology clearly shows that **Preservation** is not an isolated entity—the diagrams and statements related to preservation spans the entire life of a record.

# Archival Management

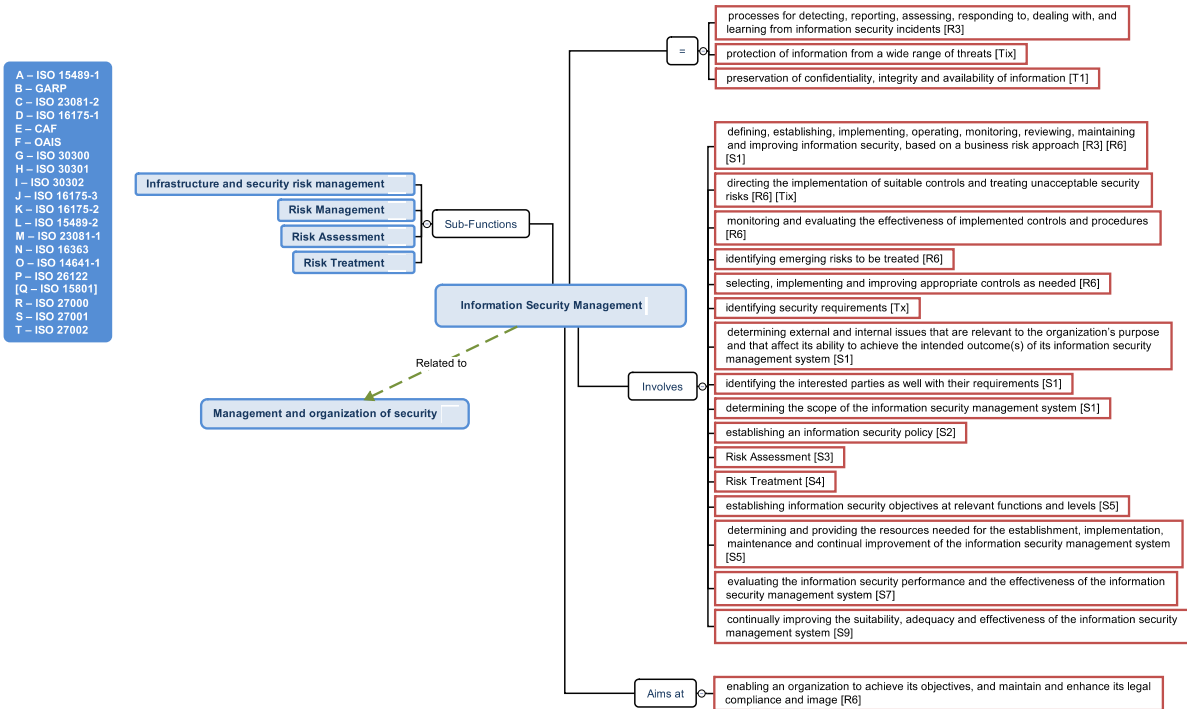


**Archival Management:** Like Records Management, the sub-functions of Archival Management reflect the technological changes in our domain, and the broader responsibilities of archivists. Archival Management includes sub-functions such as:

- Administration
- Access
- Controlling Archival Use
- Promotion

Some sub-functions are associated mostly with the digital environment—see for example **Data Management** or **Incorporation of metadata into archival systems**. **Archival Management** is related to **Processing**, a function that contains the sub-functions **Accession**, **Arrangement** and **Description** usually associated with archives. **Archival Management** is also related to **Digital Archival**, a function derived from ISO 14641. The sub-functions **Archives Restitution** and **Archives Disposal** are stemming from the same standard. **Archival Management** is linked to **Preservation** via both the sub-function **Preservation Planning** and the sub-function **Processing**. **Archival Management** is also linked to **Governance** and **Digital Object Management**.

## Information and Security Management

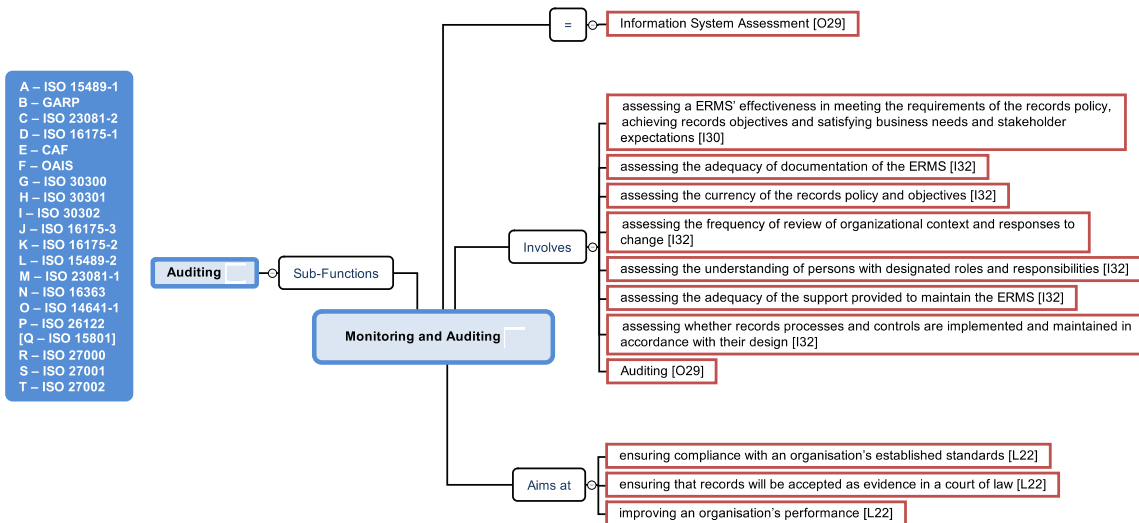


**Information and Security Management:** This diagram illustrates the growing importance of awareness of and protection from information security threats and risks in the digital era. **Information and Security Management** has not been the focus of archivists and records managers' action for a long time. The solid presence of this function in the ontology reflects the developments in records professions. The ontology shows that this function is connected to **Records Management**, **Archival Management** and **Preservation** through its sub-functions. The Information and Security Management diagram contains the following sub-functions:

- **Infrastructure and Security Risk Management**
- **Risk Management**
- **Risk Assessment**
- **Risk Treatment**

The presence of this this function along with a high-level function such as **Governance**, and the many relationships between these two and other functions such as **Records Management**, show the rising relevance of **Information Governance** for the records profession, although it must be noted that ISO has not yet published a standard on Information Governance.

## Monitoring and Auditing

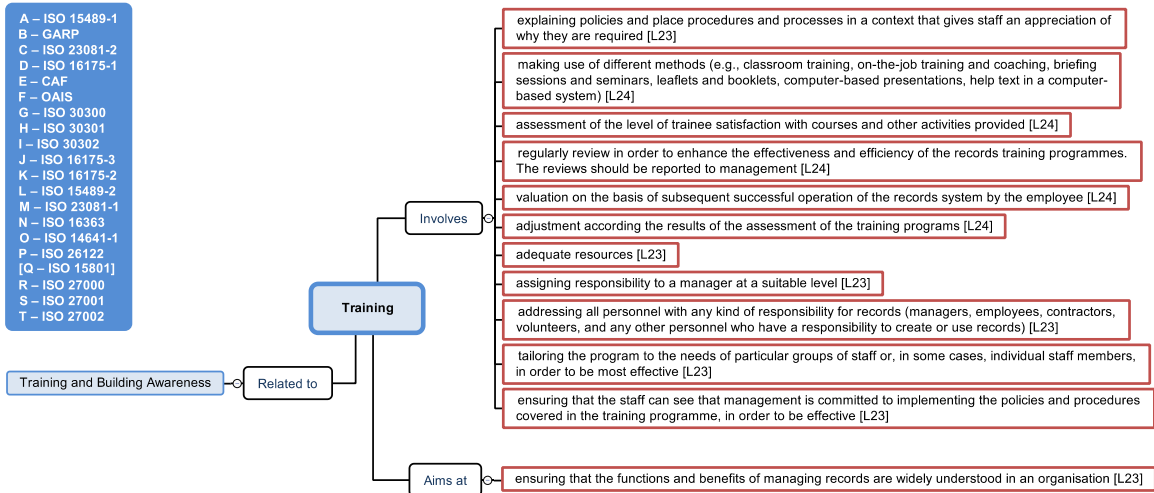


**Monitoring and Auditing:** This diagram, like **Information and Security Management**, is an indicator of the growing importance of Information Governance and its associated functions. The relationships of this function to other functions in the ontology can be found in the statements—they often include the requirement of an auditable and monitored performance or procedure, as well as the requirement of sufficient documentation to allow for Monitoring and Auditing.

This function – according to the analyzed standards – should be performed in part by records managers. It includes activities aimed at ensuring Monitoring and Auditing is possible and supported, and activities that require performing Monitoring and Auditing as part of a records manager's duties. The diagram relates the function to the sub-function **Auditing**, which contains more detailed information on audit functions.

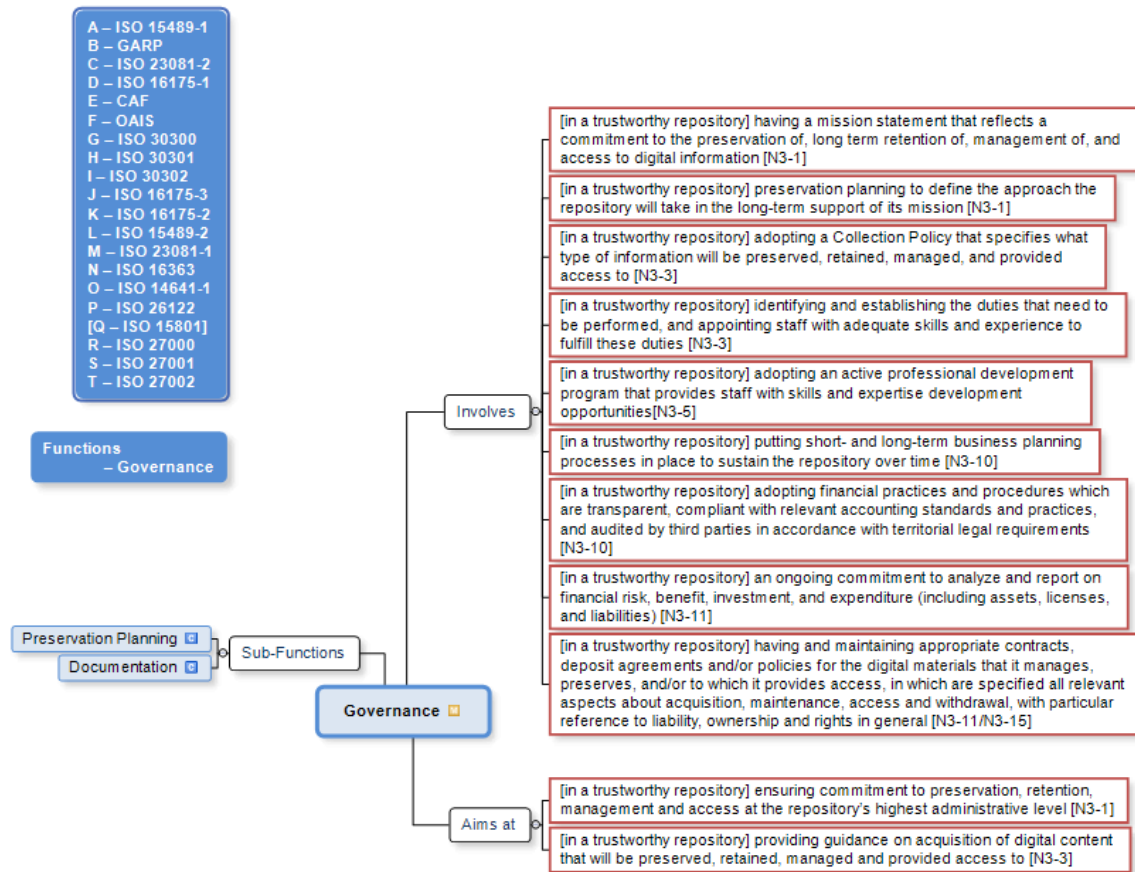


# Training



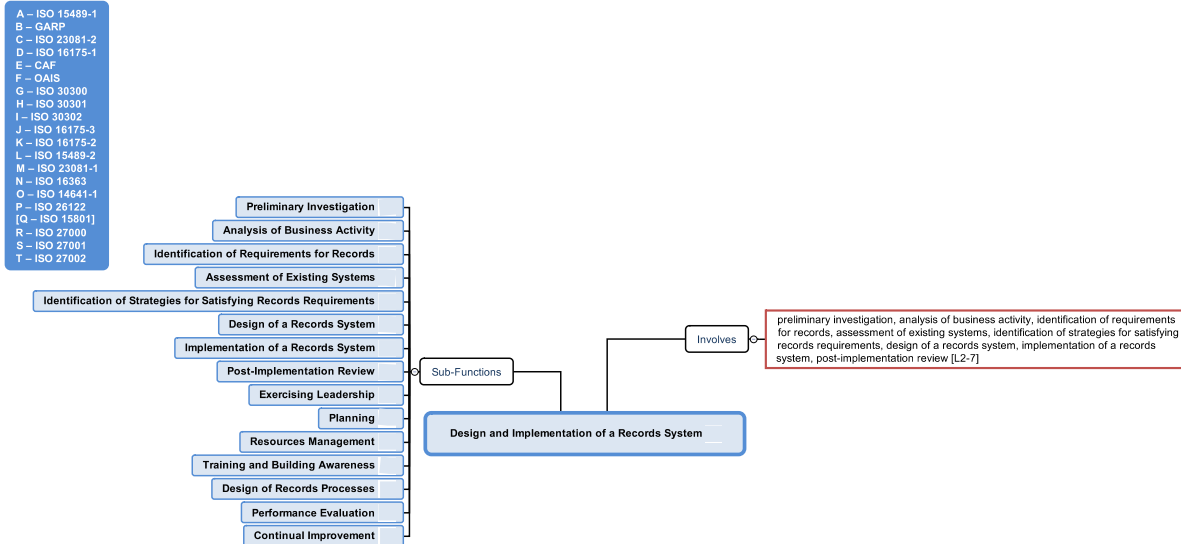
**Training:** Training is a high-level function. At the same time, it is a sub-function of **Information Management**. It is related to **Training and Building Awareness**, a sub-function of **Design and Implementation of a Records System** that is also required by **Records Management**, which shows the relationship between records management and system design and the constant need for training in order to achieve records management goals.

## Governance



**Governance:** This diagram is entirely based on the statements derived from ISO 16363. Given the growing importance of Information Governance, it is surprising that it does not play any role in other standards and technical reports—the research team did consider neither the recent Australian Information Management Standard, which covers some aspects of Information Governance, nor the ARMA Information Governance Maturity Model, since these publications cannot be considered as widely in use. The standard ISO 16363 specifically focuses on Governance to maintain trustworthy repositories, as indicated in the statements’ qualifications. However, the statements cover also activities that can be associated with Information Governance in general. The statements deal with high-level management issues, such as policy making, business planning, and involvement in developing mission statements and long term planning. The ontology shows that records professionals need to fill this standardization gap and to get involved in this field, given the great influence of Information Governance on recordkeeping. The need to govern information at all stages of its life is also shown in the ontology by the connection between **Governance** and **Preservation Planning**, a sub-function related to **Preservation**.

## Design and Implementation of a Records System

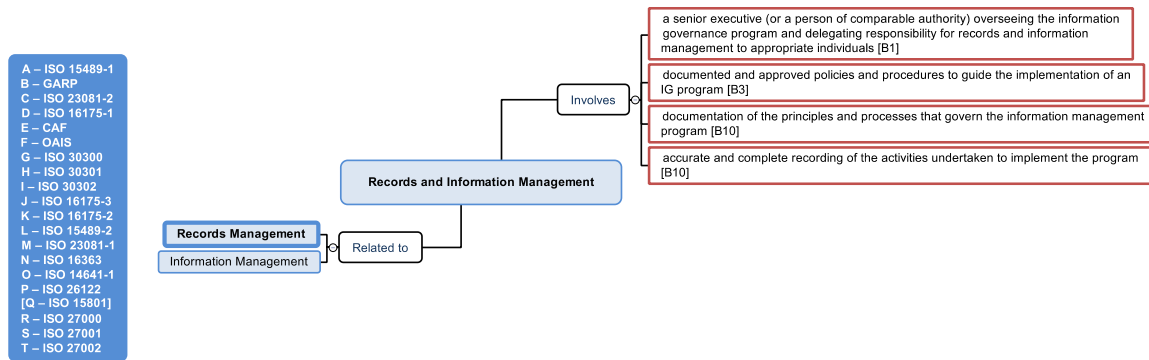


**Design and Implementation of a Records System:** This diagram consists of 15 sub-functions plus a single statement derived from ISO 15489-2. The detailed information about this function is found in its sub-functions. Some sub-functions relate this function straight to **Records Management** and **Training**. The 8 sub-functions from **Preliminary Investigation** to **Post-Implementation Review** are part of a procedure aimed at designing and implementing a records system.

## Additional high-level functions

As mentioned before, the project team identified additional high-level functions that are not showed in the overview map. This is due partly to usability considerations (i.e., the need to maintain the overview map easily readable) and partly to the fact that these additional functions act as higher-level wrappers that simply gather functions (e.g., Records and Information Management contains Records Management and Information Management). The following paragraphs describe these additional high-level functions (Records and Information Management, Information Management, Control, Determining Documents to be Captured, Digital Object Management, and Processing).

## Records and Information Management

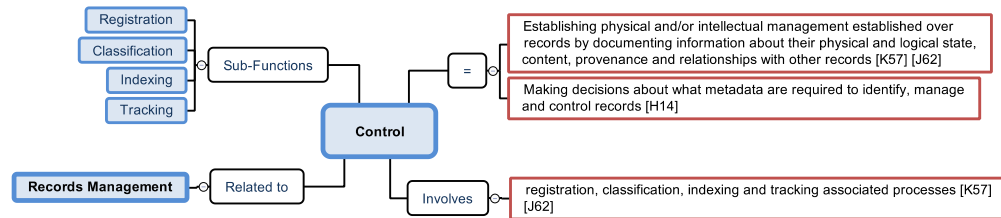


**Records and Information Management:** This diagram consists of statements derived from ARMA International’s GARP—as a matter of fact, among the sources analyzed only GARP uses the term Records and Information Management. This function is obviously related to both **Records Management** and **Information Management**. This latter term appears only in GARP and in ISO 16363, where it seems to be used interchangeably with Records Management. The statements show a certain similarity with those found in **Records Management**, to the point that they are somehow redundant. Such redundancy would have been increased by the implementation (i.e., the graphical, representation in the ontology) of the analysis of ISO/TR 15801:2017 Document management—Electronically stored information—Recommendations for trustworthiness and reliability. Therefore, the project team decided not to represent the analysis of ISO/TR 15801 to avoid redundancy.

**Information Management** is also a sub-function of **Digital Object Management**—this establishes a connection between digital records management and records management. In addition, this relationship once more supports the idea of the ongoing and continuous nature of recordkeeping from creation to preservation.

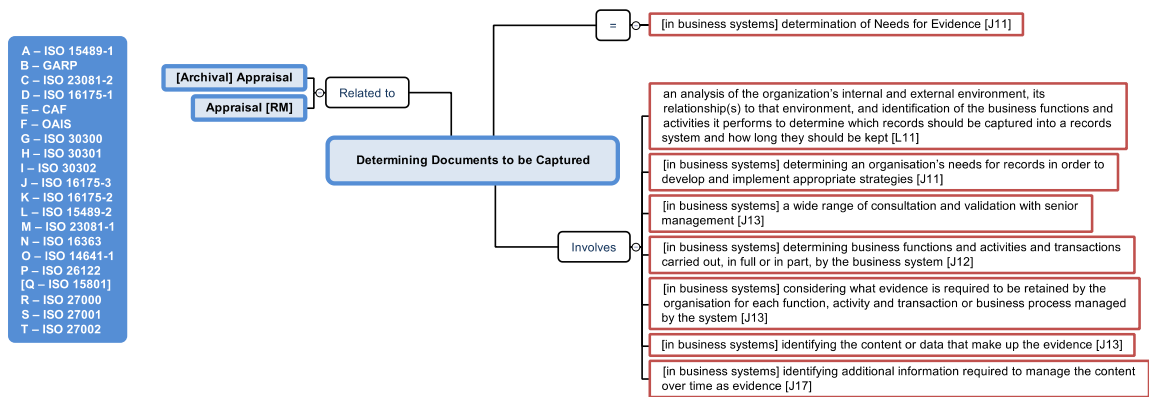
## Control

A – ISO 15489-1  
 B – GARP  
 C – ISO 23081-2  
 D – ISO 16175-1  
 E – CAF  
 F – OAIS  
 G – ISO 30300  
 H – ISO 30301  
 I – ISO 30302  
 J – ISO 16175-3  
 K – ISO 16175-2  
 L – ISO 15489-2  
 M – ISO 23081-1  
 N – ISO 16363  
 O – ISO 14641-1  
 P – ISO 26122  
 [Q – ISO 15801]  
 R – ISO 27000  
 S – ISO 27001  
 T – ISO 27002



**Control:** This diagram shows that **Control** has a connecting function—in fact, it can be seen as an intermediary function that connects the sub-functions **Registration**, **Classification**, **Indexing** and **Tracking**, which are also sub-functions of **Records Management**. These sub-functions aim at exercising control over the records and thus ensure their usability and management. Therefore, in this ontology **Control** is modelled as a high-level function that is directly related to **Records Management**.

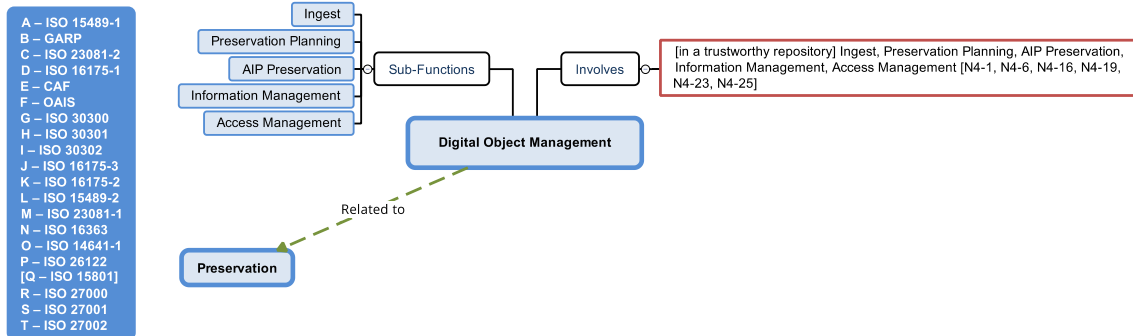
## Determining Documents to be Captured



**Determining Documents to be Captured:** This diagram serves two purposes:

- it represents this specific function and its statements. **Determining Documents to be Captured** is related to **[Archival] Appraisal**: they are similar functions, but present some differences that justify their distinct identification as two different functions;
- it acts as a bridge between **Appraisal [RM]** and **[Archival] Appraisal**. **Appraisal [RM]** is based on the understanding of Appraisal according to ISO 15489 whereas **[Archival] Appraisal** is based on the traditional, archival understanding of Appraisal. **Determining Documents to be Captured** is in between these two concepts.

## Digital Object Management



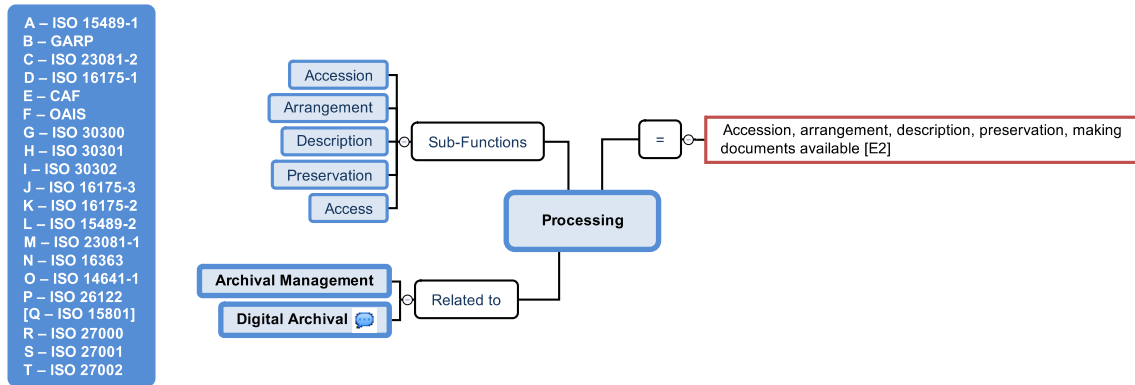
**Digital Object Management:** This high-level function is implicitly related to **Preservation**, which is shown in the diagram by a green dashed line. Such relationship can be deduced simply considering the nature and role of the first three sub-functions:

- **Ingest**
- **Preservation Planning**
- **AIP Preservation**

The diagram shows that **Digital Object Management** focuses on the high-level management of digital long term preservation, whereas the **Preservation** diagram has a more practical focus and features sub-functions that mostly deal with implementing and carrying out preservation activities. Furthermore, the scope of this diagram covers only digital/electronic records.

The **Digital Object Management** diagram serves as a means to incorporate OAIS into the ontology, since the statements extracted from ISO 16363 relate the more general records management standards to the specific terminology of OAIS. **Information Management** and **Access Management** are sub-functions of Digital Object Management, which demonstrates its relationships to **Records Management**—once again, this shows that management of records is an ongoing process.

## Processing



**Processing:** This diagram includes some core archival functions. The diagrams of the sub-functions **Accession**, **Arrangement** and **Description** are derived mostly from CAF. The diagrams of the other two sub-functions, **Preservation** and **Access**, are derived from multiple sources. In particular, these latter two functions link **Processing** to a range of functions, such as **Records Management**. Furthermore, these links show the ongoing nature of the Preservation and Access functions, since they appear throughout records' life cycle.

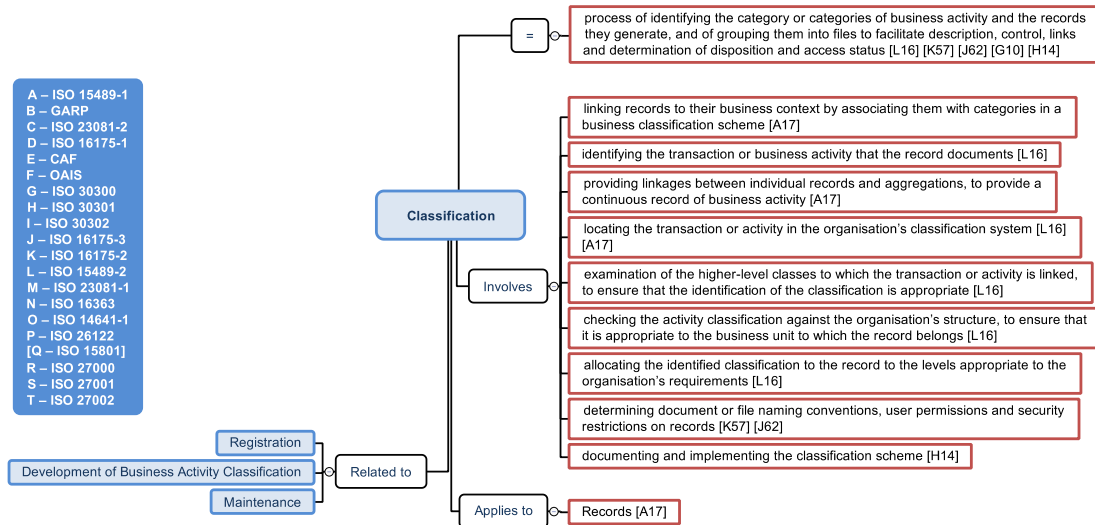
**Processing** is related to **Digital Archival**, but the project team decided not to elaborate on this latter function due to its peculiarity.



## Sub-functions

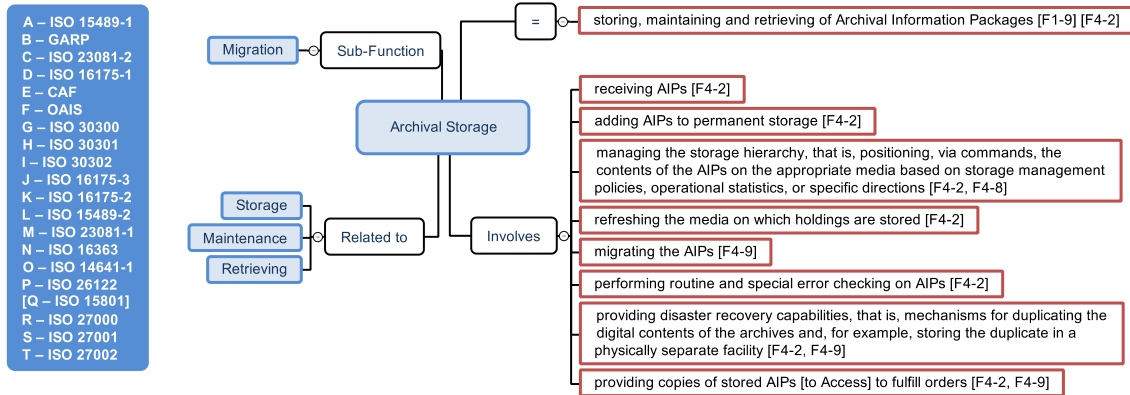
The following two sections describe two selected sub-functions in order to show the functionality of the ontology and provide an in-depth view of the ontology design.

## Classification



**Classification:** This is a sub-function of both **Records Management** and **Control**. The diagram provides a description of the functions and activities involved. The relationships are in part derived from the references in this diagram or in the related diagrams—all relationships are symmetric. The relationship to **Registration** was established due to references in statements in both diagrams; the relationship to **Maintenance** is a result of a reference in the Maintenance diagram only. The relationship to **Development of Business Activity Classification** is mentioned in several statements, such as the “=” statement. As a sub-function of **Control**, **Classification** is strongly connected to other sub-functions such as **Indexing** and **Tracking**.

## Archival Storage



**Archival Storage:** This function is a sub-function of the two high-level functions **Archival Management** and **Preservation**. This diagram is another example of the fact that several archival and records management functions should be understood as responsibilities over the entire life of records. The statements of this diagram are all taken from the OAIS reference model (hence the frequent appearance of AIPs, archival information packages, in the statements). However, there are also many relationships to other standards and functions carried out at different stages of a record's life.

The idea of continuity can be found in the related function **Storage**, described as an ongoing endeavor that starts in the **Records Management** domain. Similarly, **Maintenance** and **Retrieving** are functions that are carried out throughout the records' life.

The sub-function **Migration** links **Archival Storage** back to **Preservation** and other sub-functions.

## Appendix [I-II]

### I ANNOTATED BIBLIOGRAPHY

Short Title	Title	Annotation
A – ISO 15489-1	International Organization for Standardization. ISO 15489-1:2001 Information and documentation—Records management—Part 1: Concepts and principles. Geneva: International Organization for Standardization, 2016	<p>ISO 15489-1:2016 provides guidance on managing records of originating organizations, public or private, for internal and external clients. All the elements outlined are recommended to ensure that adequate records are created, captured and managed. This standard:</p> <ul style="list-style-type: none"> <li>– applies to the management of records, in all formats or media, created or received by any public or private organization in the conduct of its activities, or any individual with a duty to create and maintain records,</li> <li>– provides guidance on determining the responsibilities of organizations for records and records policies, procedures, systems and processes,</li> <li>– provides guidance on records management in support of a quality process framework to comply with ISO 9001 and ISO 14001,</li> <li>– provides guidance on the design and implementation of a records system, but</li> <li>– does not include the management of archival records within archival institutions.</li> </ul>
B – GARP	ARMA International. Generally Accepted Recordkeeping Principles. 2014	<p>GARP establishes a common set of principles that describe the conditions under which business records and related information should be retained. GARP (aka The Principles) is comprehensive in scope, but general in nature. The Principles are not addressed to a specific situation, industry, country, or organization, nor are they intended to set forth a legal rule for compliance that must be strictly adhered to by every organization in every circumstance. They are intended to set forth the characteristics of an effective information governance program, while allowing flexibility based upon the unique circumstances of an organization’s size, sophistication, legal environment, and resources</p>

Short Title	Title	Annotation
C – ISO 23081-2	International Standards Organization. ISO 23081-2:2007 Information and documentation—Records Management Processes—Metadata for Records—Part 2: Conceptual and implementation issues. Geneva, 2007.	ISO/TS 23081-2:2007 establishes a framework for defining metadata elements consistent with the principles and implementation considerations outlined in ISO 23081-1:2006. The purpose of this framework is to enable standardized description of records and critical contextual entities for records; provide common understanding of fixed points of aggregation to enable interoperability of records, and information relevant to records, between organizational systems; enable re-use and standardization of metadata for managing records over time, space and applications.
D – ISO 16175-1	International Organization for Standardization. ISO 16175-1:2010 Information and documentation—Principles and functional requirements for records in electronic office environments—Part 1: Overview and statement of principles. Geneva: International Organization for Standardization, 2010	ISO 16175-1 establishes fundamental principles and functional requirements for software used to create and manage digital records in office environments. It is intended to be used in conjunction with ISO 16175-2 and ISO 16175-3. The objective of the ISO 16175 family of standards is to build upon existing, jurisdiction-specific sources, and define the requirements and guidelines to meet the needs of the international archival community. The Series was originally developed by the ICA.
E – CAF	Society of American Archivists. Core Archival Functions, 2016. <a href="http://www2.archivists.org/node/14804">http://www2.archivists.org/node/14804</a>	
F – OAIS	International Organization for Standardization. Space Data and Information Transfer Systems—Open Archival Information System (OAIS)—Reference Model. ISO 14721:2012. Geneva: International Organization for Standardization, 2012	ISO 14721:2012 defines the reference model for an open archival information system (OAIS). An OAIS is an archive, consisting of an organization of people and systems that has accepted the responsibility to preserve information and make it available for a designated community. It meets a set of such responsibilities as defined in this International Standard, and this allows an OAIS archive to be distinguished from other uses of the term "archive".
G – ISO 30300	International Organization for Standardization. ISO 30300:2011—Information and documentation—	ISO 30300:2011 defines terms and definitions applicable to the standards on management systems

Short Title	Title	Annotation
	Management systems for records— Fundamentals and vocabulary. Geneva: International Organization for Standardization, 2010	for records (MSR) prepared by ISO/TC 46/SC 11. It also establishes the objectives for using a MSR, provides principles for a MSR, describes a process approach and specifies roles for top management. It is applicable to any type of organization that wishes to: 1) establish, implement, maintain and improve a MSR to support its business; 2) assure itself of conformity with its stated records policy; 3) demonstrate conformity with this International Standard.
H – ISO 30301	International Organization for Standardization. ISO 30301:2011— Information and documentation— Management systems for records— Requirements. Geneva: International Organization for Standardization, 2011	ISO 30301:2011 specifies requirements to be met by a management system for records (MSR) in order to support an organization in the achievement of its mandate, mission, strategy and goals. It addresses the development and implementation of a records policy and objectives and gives information on measuring and monitoring performance. It can be implemented with other Management System Standards (MSS). It is especially useful to demonstrate compliance with the documentation and records requirements of other MSS.
I – ISO 30302	International Organization for Standardization. ISO 30302:2011 - Information and documentation -- Management systems for records -- Guidelines for implementation. Geneva: International Organization for Standardization, 2015	ISO 30302:2015 illustrates what is needed to establish and maintain a management system for records (MSR). In particular, this standard provides practical guidance on how to implement an MSR within an organization in accordance with ISO 30301. Therefore, ISO 30302 follows the same structure as ISO 30301, describing the activities to be undertaken to meet the requirements of ISO 30301, and how to document those activities. This standard is applicable to all types of organization (e.g. commercial enterprises, government agencies, non-profit organizations) of all sizes.
J – ISO 16175-3	International Organization for Standardization. ISO 16175-1:2010 Information and documentation— Principles and functional requirements for records in electronic office	ISO 16175-3:2010 provides both the guidelines for identifying and addressing the needs or records, and a set of generic requirements for records management functionality

Short Title	Title	Annotation
	environments—Part 3: Guidelines and functional requirements for records in business systems. Geneva: International Organization for Standardization, 2010	within business systems. This allows for the appropriate identification and management of evidence (records) of business activities transacted through business systems.
K – ISO 16175-2	International Organization for Standardization. ISO 16175-1:2010 Information and documentation—Principles and functional requirements for records in electronic office environments—Part 2: Guidelines and functional requirements for digital records management systems. Geneva: International Organization for Standardization, 2010	ISO 16175-2:2011 is applicable to products that are often termed "electronic records management systems" or "enterprise content management systems". It uses the term digital records management systems for those software applications whose primary function is records management. It does not seek to set requirements for records still in use and held within business systems. Digital objects created by email, word processing, spreadsheet and imaging applications (such as text documents, and still or moving images), where they are identified to be of business value, are managed within digital records management systems which meet the functional requirements established in ISO 16175-2:2011.
L – ISO 15489-2	International Organization for Standardization. ISO/TR 15489-2:2001 Information and documentation—Records management—Part 2: Guidelines. Geneva: International Organization for Standardization, 2001	ISO/TR 15489-2:2001 is an implementation guide to ISO 15489-1 for use by record management professionals and those charged with managing records in their organizations. It provides one methodology that will facilitate the implementation of ISO 15489-1 in all organizations that have a need to manage their records. It gives an overview of the processes and factors to consider in organizations wishing to comply with ISO 15489-1.
M – ISO 23081-1	International Standards Organization. ISO 23081-1:2006 Information and documentation—Records management processes—Metadata for records—Part 1: Principles. Geneva, 2006.	ISO 23081-1:2006 covers the principles that underpin and govern records management metadata. These principles apply through time to records and their metadata; all processes that affect them; any system in which they reside; any organization that is responsible for their management.
N – ISO 16363	International Organization for Standardization. ISO 16363:2012 Space data and information transfer	ISO 16363:2012 defines a recommended practice for assessing the trustworthiness of digital

Short Title	Title	Annotation
	systems—Audit and certification of trustworthy digital repositories. Geneva: International Organization for Standardization, 2013	repositories. It is applicable to the entire range of digital repositories. ISO 16363:2012 can be used as a basis for certification.
O – ISO 14641-1		
P – ISO 26122		
[Q – ISO 15801]		
R – ISO 27000		
S – ISO 27001	International Organization for Standardization. ISO/IEC 27001:2013 Information technology— Security techniques—Information security management systems—Requirements. Geneva: International Organization for Standardization, 2013	ISO/IEC 27001:2013 specifies the requirements for establishing, implementing, maintaining and continually improving an information security management system within the context of an organization. It also includes requirements for the assessment and treatment of information security risks tailored to the needs of the organization. The requirements set out in ISO/IEC 27001:2013 are generic and are intended to be applicable to all organizations, regardless of type, size or nature.
T – ISO 27002	International Organization for Standardization. ISO/IEC 27002:2013 Information technology—Security techniques—Code of practice for information security controls. Geneva: International Organization for Standardization, 2013	ISO/IEC 27002:2013 gives guidelines for organizational information security standards and information security management practices including the selection, implementation and management of controls taking into consideration the organization's information security risk environments. It is designed to be used by organizations that intend to: 1) select controls within the process of implementing an Information Security Management System based on ISO/IEC 27001; 2) implement commonly accepted information security controls; 3) develop their own information security management guidelines.
ISO 27003	International Organization for Standardization. ISO/IEC 27003:2010— Information technology—Security techniques—Information security management system implementation guidance. Geneva: International Organization for Standardization, 2013	ISO/IEC 27003:2010 focuses on the critical aspects needed for successful design and implementation of an Information Security Management System (ISMS) in accordance with ISO/IEC 27001:2005. It describes the process of ISMS specification and design from inception to the production of implementation plans. It describes the process of obtaining

Short Title	Title	Annotation
		management approval to implement an ISMS, defines a project to implement an ISMS, and provides guidance on how to plan the ISMS project, resulting in a final ISMS project implementation plan.



## II ANALYSIS EXAMPLES

### ISO-15489 Series – A and L Functions

<b>Records Management</b>	<i>Involves</i> creation, capture, registration, classification and indexing, access, access control and security classification, store, use and reuse, maintenance, identification of disposition status, tracking and implementation of disposition, migration, conversion and disposition [Av, Atoc, Aiii, A16] [L13]
<b>Records Management</b>	<i>Is part of</i> conducting business [A3]
<b>Records Management</b>	<i>Involves basing decisions on</i> analysis and risk assessment of business activities [A3]
<b>Records Management</b>	<i>Involves support by</i> records systems [A4]
<b>Records Management</b>	<i>Involves</i> protecting authenticity, reliability, integrity and usability of records over time [Av, A4]
<b>Records Management</b>	<i>Involves support by</i> policies [A16]
<b>Records Management</b>	<i>Involves relying on</i> up to date records controls [A13]
<b>Records Management</b>	<i>Aims at facilitating</i> the proper conduct of business [L4]
<b>Records Management</b>	<i>Aims at ensuring</i> that individuals and organisations are accountable for their actions in matters of law and administration [L4]
<b>Records Management</b>	<i>Aims at ensuring</i> that individuals and organisations are accountable to business and related interest groups, internal and external, and sensitive to their needs and expectations [L4]
<b>Risk Assessment</b>	= Assessment of an organisation's exposure to risk, if records are not created and kept [L4]
<b>Risk Management</b>	<i>Involves</i> development of a disaster recovery plan that defines an organized and prioritized response to the disaster, planning for the continuance of regular business operations during the disaster and making appropriate plans for recovery after the disaster [L18]
<b>Maintenance</b>	= Classification, Indexing, Access Control, Store, Migration, Conversion [A3]
<b>Creation</b>	<i>Involves</i> the creation of content and metadata that document the circumstances of their creation [A16]
<b>Capture</b>	= Receipt [A3]
<b>Capture</b>	<i>Involves</i> an intention to store a record [L18]
<b>Capture</b>	<i>Is done</i> when appraisal indicates that it is necessary to keep and manage certain records over time [A16]
<b>Capture</b>	<i>Involves</i> deciding what documents are captured, which in turn implies decisions about who may have access to those documents and generally how long they are to be retained [L14]
<b>Capture</b>	<i>Involves analysing</i> the organisation's business and accountabilities [L14]
<b>Capture</b>	<i>Involves</i> at a minimum a) assignment of a unique identifier, b) capture or generation of metadata about the record at the point of capture, and c) creation of relationships between the record and other records, agents or business [A16] [L14]
<b>Registration</b>	<i>Aims at providing</i> evidence that a record has been created or captured in a records system [L15]
<b>Registration</b>	<i>Involves</i> recording brief descriptive information about the record in a register, and assigning the record a unique identifier [L15]
<b>Classification</b>	= Process of identifying the category or categories of business activity and the records they generate, and of grouping them into files to facilitate description, control, links and determination of disposition and access status [L16]
<b>Classification</b>	<i>Involves linking</i> records to their business context by associating them with

	categories in a business classification scheme [A17]
<b>Classification</b>	<i>Involves</i> identifying the transaction or business activity that the record documents [L16]
<b>Classification</b>	<i>Involves</i> providing linkages between individual records and aggregations, to provide a continuous record of business activity [A17]
<b>Classification</b>	<i>Involves</i> locating the transaction or activity in the organisation's classification system [L16] [A17]
<b>Classification</b>	<i>Involves</i> examination of the higher-level classes to which the transaction or activity is linked, to ensure that the identification of the classification is appropriate [L16]
<b>Classification</b>	<i>Involves</i> checking the activity classification against the organisation's structure, to ensure that it is appropriate to the business unit to which the record belongs [L16]
<b>Classification</b>	<i>Involves</i> allocating the identified classification to the record to the levels appropriate to the organisation's requirements [L16]
<b>Classification</b>	<i>Applies to</i> records [A17]
<b>Access Management</b>	<i>May involve</i> using authorized processes to manage access [A17]
<b>Access control</b>	<i>Involves</i> recording the instances of access to records, depending on the records requirements identified for the business activity and the risk associated with the business activity [A17]
<b>Access control</b>	<i>Involves developing</i> a set of rules identifying rights of access and the regime of permissions and restrictions applicable to records [A15]
<b>Access control</b>	<i>Involves developing</i> categories of access and permissions rules that are applicable to records on the basis of the results of appraisal, in particular on the identification of agents and the determination of records requirements [A15]
<b>Access control</b>	<i>Involves</i> Access and Security Classification [L17]
<b>Access and Security Classification</b>	<i>Involves</i> identifying the transaction or business activity that the record documents (step 1) [L17]
<b>Access and Security Classification</b>	<i>Involves</i> identifying the business unit to which the records belong (step2) [L17]
<b>Access and Security Classification</b>	<i>Involves</i> checking the access and security classifications to establish whether the activity and the business area are identified as areas of risk, or have security considerations and/or legally required restrictions (step 3) [L17]
<b>Access and Security Classification</b>	<i>Involves</i> allocating the appropriate level of access or restriction to the record and specify appropriate control mechanisms for handling (step 4) [L17]
<b>Access and Security Classification</b>	<i>Involves</i> recording the access or security status of the record in the records system to signal the need for additional control measures (step 5) [L17]
<b>Storage</b>	<i>Involves</i> appropriate storage environments and media [A17]
<b>Store</b>	<i>Involves</i> use of protective materials and special handling procedures where necessary [A17]
<b>Store</b>	<i>Involves</i> routine protection and monitoring of physical and information security [A17]
<b>Store</b>	<i>Involves</i> the development and testing of authorized disaster planning and recovery procedures and the training of relevant personnel in these [A17]
<b>Store</b>	<i>Involves</i> routinely monitoring and evaluating the process in order to identify any risks to the records' accessibility or integrity [A18]
<b>Store</b>	<i>Aims at ensuring</i> that records are protected, accessible and managed in a cost-effective manner [L18]
<b>Use</b>	<i>Involves</i> applying and maintaining appropriate metadata about a record's technical dependencies [A18]

<b>Use</b>	<i>Involves</i> preparing a plan to ensure continued access and useability of records in the event of a disaster affecting records systems or storage areas [A18]
<b>Use</b>	<i>Involves</i> creating additional copies of records or converting them into alternative formats [A18]
<b>Use</b>	<i>Involves</i> migrating records [A18]
<b>Use</b>	<i>Involves</i> establishing routine monitoring of storage conditions [A18]
<b>Use</b>	<i>Involves making</i> decisions about record formats at creation, migration or conversion taking into consideration the benefits for useability [A18]
<b>Use</b>	= Records management transaction that may need to be captured by the system to form part of the metadata [L19]
<b>Use</b>	<i>May affect</i> a record's access and disposition status [L19]
<b>Use</b>	<i>Involves</i> Managing Use [L19]
<b>Use</b>	<i>Involves</i> Tracking Usage [L19]
<b>Managing Use</b>	<i>Involves</i> identifying the records system user permissions associated with individuals and their positions within the organization [L19]
<b>Managing Use</b>	<i>Involves</i> identifying the access and security status of records [L19]
<b>Managing Use</b>	<i>Involves</i> identifying the access rights for people external to the organization [L19]
<b>Managing Use</b>	<i>Involves</i> ensuring that only individuals with the appropriate user classification or security rights have access to records with restricted status [L19]
<b>Managing Use</b>	<i>Involves</i> tracking the movement of the record to identify those who have or have had custody of it [L19]
<b>Managing Use</b>	<i>Involves</i> ensuring that all use of the records is recorded to an appropriate level of detail [L19]
<b>Managing Use</b>	<i>Involves</i> reviewing the access classifications of records to ensure that they are current and still applicable [L19]
<b>Tracking usage</b>	= security measure for organizations [L19]
<b>Tracking usage</b>	<i>Aims at ensuring</i> that only users with appropriate permissions are performing records tasks for which they have been authorized [L19]
<b>Reuse</b>	<i>Involves creating</i> a new record in a new context, with independent metadata about its point of capture and management processes [A18]
<b>Preservation</b>	<i>May involve conversion and/or migration</i> [L20]
<b>Migration</b>	= Moving records from a sw/hw configuration to another without changing the format [A2]
<b>Migration</b>	<i>Aims at coping</i> with hardware and/or software obsolescence [L20]
<b>Migration</b>	<i>Involves</i> periodically transfer of digital material from one hardware/software configuration to another, or from one generation of technology to another [L20]
<b>Migration</b>	<i>May occur</i> when hardware and/or software becomes obsolete [L20]
<b>Migration</b>	<i>May be used</i> to move electronic records from one file format to another [L20]
<b>Migration</b>	<i>Involves planning, documenting and communicating the process</i> to internal and external stakeholders [A18]
<b>Migration</b>	<i>Involves retaining</i> all record content and its associated metadata in the originating system or format until the process is finished and the integrity and reliability of the destination system or format have been controlled and secured [A18]
<b>Migration</b>	<i>May involve</i> auditing, authorization or certification by an external authority [A18]
<b>Migration</b>	<i>Aims at preserving</i> the integrity of the records and retaining the ability for clients to retrieve, display and use them [L20]
<b>Conversion</b>	= Changing records from one format to another [A2]

<b>Conversion</b>	<i>Involves</i> a change of format of the record but ensures that the record retains the identical primary information (content) [L20]
<b>Conversion</b>	<i>Involves planning, documenting and communicating the process</i> to internal and external stakeholders [A18]
<b>Conversion</b>	<i>Involves retaining</i> all record content and its associated metadata in the originating system or format until the process is finished and the integrity and reliability of the destination system or format have been controlled and secured [A18]
<b>Conversion</b>	<i>May involve</i> auditing, authorization or certification by an external authority [A18]
<b>Disposition</b>	= Process associated with implementing records retention, destruction or transfer decisions documented in disposition authorities or other instruments [A2]
<b>Disposition</b>	<i>Involves</i> authorization, when it follows a migration or conversion process [A18]
<b>Disposition</b>	<i>Involves</i> conformance with rules in authorized and current disposition authorities [A18]
<b>Disposition</b>	<i>Involves</i> implementing the disposition actions specified in the disposition authorities [A18]
<b>Disposition</b>	<i>May involve</i> destruction of records and metadata [A18]
<b>Disposition</b>	<i>May involve</i> transferring control of records and metadata to an organization that has assumed responsibility for the business activity through restructure, sale, privatization or other business change [A19]
<b>Disposition</b>	<i>May involve</i> transferring control of records and metadata to an institutional or external archive for permanent retention [A19]
<b>Disposition</b>	<i>Involves</i> reviewing the disposition actions prior to implementation to ensure requirements for the records have not changed [A19]
<b>Disposition</b>	<i>Involves</i> documenting the process [A19]
<b>Identification of Disposition Status</b>	<i>Involves</i> identifying the disposition status and retention period of the record at the point of capture and registration [L17]
<b>Identification of Disposition Status</b>	<i>May involve linking</i> to activity-based classification and automated as part of system design [L17]
<b>Identification of Disposition Status</b>	<i>Involves</i> referencing a disposition authority of a more or less formal nature depending on the size and nature of the organization and its accountabilities [L17]
<b>Identification of Disposition Status</b>	<i>Involves</i> identifying the transaction or business activity documented by the record (step 1) [L17]
<b>Identification of Disposition Status</b>	<i>Involves</i> locating the transaction and records in the appropriate records class in the disposition authority (step 2) [L17]
<b>Identification of Disposition Status</b>	<i>Involves</i> allocating the relevant retention period and identifying the anticipated disposition action (step 3) [L17]
<b>Identification of Disposition Status</b>	<i>Involves</i> recording the retention period and future disposition action in the records system (step 4) [L17]
<b>Identification of Disposition Status</b>	<i>Involves</i> determining the extent to which it is necessary to retain metadata about records that have been transferred to an external storage service provider or to an archives, or that have been destroyed (step 5) [L17]
<b>Destruction</b>	= Eliminating or deleting a record beyond any possible reconstruction [A2]
<b>Destruction</b>	<i>Involves</i> authorization [A19]
<b>Destruction</b>	<i>Should not be carried out</i> if the records pertain to pending or actual litigation or legal action or investigation [A19]
<b>Destruction</b>	<i>Aims at</i> ensuring complete destruction which complies with any security or access restrictions on the record [A19]

<b>Destruction</b>	= A disposition action [A19]
<b>Destruction</b>	<i>Involves</i> documenting the process [A19]
<b>Destruction/Physical destruction of records</b>	<i>May involve documentation</i> through an auditable trail maintained by the organization [L21]
<b>Destruction/Physical destruction of media</b>	= an appropriate alternative to Physical destruction of records, especially if deletion, reformatting or rewriting are either not applicable or are unsafe methods [L21]
<b>Transfer of Custody</b>	<i>Involves</i> transfer of records out of the custody or ownership of the organization or business unit that created them in certain circumstances [L21]
<b>Transfer of Custody</b>	<i>Involves</i> transfer to other organisations with responsibilities for the records [L21]
<b>Transfer of Custody</b>	<i>Involves</i> transfer to outsourced or contractor organisations [L21]
<b>Transfer of Custody</b>	<i>Involves</i> transfer to a storage facility [L21]
<b>Transfer of Custody</b>	<i>Involves</i> transfer to an archive [L21]
<b>Appraisal</b>	= Process of evaluating business activities to determine which records need to be created and captured and how long the records need to be kept [A10]
<b>Appraisal</b>	<i>Involves</i> analysis of business context, business activities and risk [A10]
<b>Appraisal</b>	<i>Aims at identifying</i> business, legal and other requirements for records, used to specify records creation when work processes and records systems are designed or redesigned [A16]
<b>Design and Implementation of a Records System</b>	<i>Involves</i> preliminary investigation, analysis of business activity, identification of requirements for records, assessment of existing systems, identification of strategies for satisfying records requirements, design of a records system, implementation of a records system, post-implementation review [L2-7]
<b>Preliminary Investigation</b>	<i>Aims at providing</i> the organisation with an understanding of the administrative, legal, business and social contexts in which it operates so it can identify the major factors that influence its need to create and maintain records [L3]
<b>Preliminary Investigation</b>	<i>Aims at providing</i> a general appreciation of an organisation's strengths and weaknesses in managing its records [L3]
<b>Preliminary Investigation</b>	<i>Aims at</i> making effective decisions about an organisation's records system [L3]
<b>Analysis of Business Activity</b>	<i>Aims at providing</i> an understanding of the relationships between the organisation's business and its records [L4]
<b>Analysis of Business Activity</b>	<i>Aims at providing</i> the basis for developing records management tools (such as a thesaurus of terms to control language or a disposition authority) [L4]
<b>Analysis of Business Activity</b>	<i>Aims at helping to</i> identify and implement appropriate metadata strategies and formally assigning responsibilities for keeping records [L4]
<b>Identification of Requirements for Records</b>	<i>Aims at identifying</i> an organisation's requirements to create, receive and keep records of its business activities [L4]
<b>Identification of Requirements for Records</b>	<i>Involves</i> analysis of business needs, legal and regulatory obligations and any broader responsibilities to the community [L4]
<b>Assessment of Existing Systems</b>	<i>Involves surveying</i> an organisation's existing systems for records and any other information systems to measure the extent to which they capture and maintain records of business activities [L4]
<b>Assessment of Existing Systems</b>	<i>Aims at providing</i> the basis for developing new systems or redesigning existing systems to meet the need for records [L4]
<b>Identification of Strategies for Satisfying Records</b>	<i>Aims at determining</i> the most appropriate policies, procedures, standards, tools and other tactics that an organisation should adopt to ensure that it makes and keeps the necessary records of its business activities [L5]

<b>Requirements</b>	
<b>Design of a Records System</b>	<i>Involves</i> designing changes to current systems, processes and practices [L5]
<b>Design of a Records System</b>	<i>Involves</i> adapting or integrating technological solutions [L5]
<b>Design of a Records System</b>	<i>Involves</i> determining how best to incorporate these changes to improve the management of records across an organisation [L5]
<b>Design of a Records System</b>	<i>Involves</i> record management professionals and other experts working with users to produce specifications that best meet the requirements for records [L5]
<b>Implementation of a Records System</b>	<i>Involves</i> systematically identifying and putting in place an appropriate mix of strategies to implement the plan for a records system [L6]
<b>Implementation of a Records System</b>	<i>Involves</i> carefully planning and documenting the implementation process to minimize risks [L6]
<b>Post-Implementation Review</b>	<i>Involves measuring</i> the effectiveness of a records system, to evaluate the system development process so that deficiencies can be remedied, and to establish a monitoring regime for the duration of the system [L7]
<b>Post-Implementation Review</b>	<i>Involves</i> analysing whether records have been created and organised according to the necessities of the business activities and are appropriately interrelated to the business processes they are part of [L7]
<b>Post-Implementation Review</b>	<i>Involves</i> interviewing management, staff and other stakeholders and conducting surveys [L7]
<b>Post-Implementation Review</b>	<i>Involves</i> examining documentation developed during the earlier phases of the systems development project [L7]
<b>Post-Implementation Review</b>	<i>Involves</i> observing and randomly checking operations [L7]
<b>Post-Implementation Review</b>	<i>Aims at</i> minimizing the organization's exposure to risk through system failure, and, over time, will anticipate significant changes in the requirements for records and organizational needs that necessitate a new developmental cycle [L7]
<b>Development of Business Activity Classification</b>	<i>Involves</i> identifying and analysing the goals and strategies of an organisation [L8]
<b>Development of Business Activity Classification</b>	<i>Involves</i> identifying and analysing the functions of an organisation [L8]
<b>Development of Business Activity Classification</b>	<i>Involves</i> identifying and analysing the activities of an organisation [L8]
<b>Development of Business Activity Classification</b>	<i>Involves</i> identifying and analysing the work processes performed to carry out specific activities and transactions [L8]
<b>Development of Business Activity Classification</b>	<i>Involves</i> identifying and analysing existing records of an organisation [L8]
<b>Determining Documents to be Captured</b>	<i>Involves</i> an analysis of the organization's internal and external environment, its relationship(s) to that environment, and identification of the business functions and activities it performs to determine which records should be captured into a records system and how long they should be kept [L11]
<b>Determining how long to Retain Records</b>	<i>Involves</i> determination of the legal or administrative requirements for maintaining records within the system [L11]
<b>Determining how long</b>	<i>Involves</i> determination of the uses of the records within the system [L11]

<b>to Retain Records</b>	
<b>Determining how long to Retain Records</b>	<i>Involves</i> determination of links to other systems [L11]
<b>Determining how long to Retain Records</b>	<i>Involves</i> consideration of the broad range of uses of the records, which means identifying all stakeholders, assessing the risks associated with the destruction of records, planning for business continuity, assessing the gains from retention of records after organizational use, and balancing pros and cons of an extended retention [L12]
<b>Determining how long to Retain Records</b>	<i>Involves</i> allocating retention periods to the records on the basis of the total system evaluation [L12]
<b>Development of Security and Access Classification</b>	<i>Involves analysing</i> the organisation's regulatory framework, business activity and risk assessment [L12]
<b>Development of Security and Access Classification</b>	<i>Involves</i> identifying the legally-enforceable rights of, and restrictions on, access to records and organizational information; identifying the areas of risks for privacy and confidentiality; identifying the security issues of the organization; ranking the risks; mapping the risks and security issues to the business activities of the organization; identifying the levels of restriction; allocating the levels of restriction to classes of records; linking the restrictions to instruments (e.g., an activity classification systems, thesauri) [L12-13]
<b>Monitoring and Auditing</b>	<i>Aims at ensuring</i> compliance with an organisation's established standards [L22]
<b>Monitoring and Auditing</b>	<i>Aims at ensuring</i> that records will be accepted as evidence in a court of law [L22]
<b>Monitoring and Auditing</b>	<i>Aims at improving</i> an organisation's performance [L22]
<b>Training</b>	<i>Aims at ensuring</i> that the functions and benefits of managing records are widely understood in an organisation [L23]
<b>Training</b>	<i>Involves explaining</i> policies and place procedures and processes in a context that gives staff an appreciation of why they are required [L23]
<b>Training</b>	<i>Involves</i> tailoring the program to the needs of particular groups of staff or, in some cases, individual staff members, in order to be most effective [L23]
<b>Training</b>	<i>Involves</i> adequate <i>resources</i> [L23]
<b>Training</b>	<i>Involves</i> assigning responsibility to a manager at a suitable level [L23]
<b>Training</b>	<i>Involves</i> ensuring that the staff can see that management is committed to implementing the policies and procedures covered in the training programme, in order to be effective [L23]
<b>Training</b>	<i>Involves</i> addressing all personnel with any kind of responsibility for records (managers, employees, contractors, volunteers, and any other personnel who have a responsibility to create or use records) [L23]
<b>Training</b>	<i>Involves making use</i> of different methods (e.g., classroom training, on-the-job training and coaching , briefing sessions and seminars, leaflets and booklets, computer-based presentations, help text in a computer-based system) [L24]
<b>Training</b>	<i>Involves</i> assessment of the level of trainee satisfaction with courses and other activities provided [L24]
<b>Training</b>	<i>Involves</i> regularly review in order to enhance the effectiveness and efficiency of the records training programmes. The reviews should be reported to management [L24]
<b>Training</b>	<i>Involves evaluation</i> on the basis of subsequent successful operation of the records system by the employee [L24]
<b>Training</b>	<i>Involves adjustment</i> according the results of the assessment of the training programs [L24]

## ISO 16175 Series – D, K and J Functions

<b>Access</b>	Aims at ensuring the right, opportunity and means of finding, using or retrieving information [K55] [J61]
<b>Access</b>	<i>Involves</i> [in records management systems] limiting access to records and aggregations to specific users and/or user groups [K33]
<b>Appraisal</b>	= [in records management systems] Process of evaluating business activities to determine which records need to be captured and how long the records need to be kept, to meet business needs, the requirements of organisational accountability and community expectations [K55]
<b>Capture</b>	= Process of lodging a document or digital object into a recordkeeping system and assigning metadata to describe the record and place it in context, thus allowing the appropriate management of the record over time [K57] [J62]
<b>Capture</b>	= [in records management systems] Process of fixing the content, structure and context of a record to ensure that it is a reliable and authentic representation of the business activities or transactions in which it was created or transmitted [K57]
<b>Capture</b>	<i>Involves</i> [in records management systems] preventing users from being able to alter the content, structure and context of a record, once captured within an electronic records management system [K24, K57]
<b>Capture</b>	<i>Involves</i> [in business systems] capturing metadata for records to link records to the context of their creation and use [J36]
<b>Capture</b>	= [in business systems] Associating records with metadata about the business context [J36]
<b>Classification</b>	= Systematically identifying and arranging business activities and/or records into categories according to logically structured conventions, methods and procedural rules [K57] [J62]
<b>Classification</b>	<i>Involves</i> determining document or file naming conventions, user permissions and security restrictions on records [K57] [J62]
<b>Control</b>	= Establishing physical and/or intellectual management established over records by documenting information about their physical and logical state, content, provenance and relationships with other records [K57] [J62]
<b>Control</b>	<i>Involves</i> registration, classification, indexing and tracking associated processes [K57] [J62]
<b>Control</b>	= An IT term for the process of eliminating a record from a system in such a way that the record may still be retrieved if necessary [K57] [Note: apparently the term is not used with this meaning anywhere in the document]
<b>Creation</b>	<i>Aims at</i> [in business systems] ensuring that the business system is capable of creating those records that have been identified to serve as evidence of a business process [J36]
<b>Creation</b>	<i>Involves</i> [in records management systems] capturing evidence of a business activity [K13]
<b>Creation</b>	<i>Involves</i> [in records management systems] augmenting content information with additional data (i.e., metadata) that places it in the context of the business operations and computing environment in which it was created [K13]
<b>Creation</b>	<i>Involves</i> [in records management systems] generating a new record or the recorded augmentation/versioning of an existing record if any further processes happen to it after its creation [K14]
<b>Creation</b>	<i>Involves</i> [in business systems] identifying existing digital objects that are to be managed as records [J36]
<b>Creation</b>	<i>Involves</i> [in business systems] configuring the system to ensure that transactions are



	recorded and not overwritten [J36]
<b>Creation</b>	= [in business systems] Making a fixed record [J37]
<b>Creation</b>	<i>Involves</i> [in business systems] identifying certain fields that can be 'set aside' as the record of a particular event [J36]
<b>Maintenance</b>	= Necessary action for operational viability and accountability of an organisation [D9] [K13]
<b>Maintenance</b>	<i>Involves</i> identifying a set of electronic information that will serve as the evidential record [D9]
<b>Maintenance</b>	<i>Involves</i> [in records management systems] retaining records for a period of time that is in accordance with authorised legislative and jurisdictional requirements [K13]
<b>Maintenance</b>	<i>Aims at</i> [in records management systems] ensuring continued accessibility of records [K21]
<b>Maintenance</b>	<i>Involves</i> [in records management systems] establishing appropriate security controls, building in disposal outcomes and enabling the management of hybrid records [K21]
<b>RM</b>	= Field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records, including processes for capturing and maintaining evidence of, and information about, business activities and transactions in the form of records [K63] [J67]
<b>RM</b>	<i>Involves</i> [in records management systems] management of metadata [K9]
<b>RM</b>	<i>Involves</i> maintaining records' authenticity, reliability, integrity and usability [K13] [J42, J43]
<b>RM</b>	<i>Involves</i> capturing and maintaining evidence of, and information about, business activities and transactions in the form of records [K13] [J67]
<b>RM</b>	= Recordkeeping [K] [J]
<b>Recordkeeping</b>	<i>Involves</i> [in records management systems] the management of records used in business (traditionally regarded as the domain of records management) and as archives (traditionally regarded as the domain of archives administration) [K64]
<b>Recordkeeping</b>	= [in records management systems] Making and maintaining of complete, accurate and reliable evidence of business transactions in the form of recorded information [K64]
<b>Recordkeeping</b>	<i>Involves</i> [in records management systems] the creation of records in the course of business activity [K64]
<b>Recordkeeping</b>	<i>Involves</i> [in records management systems] the means to ensure the creation of adequate records [K64]
<b>Recordkeeping</b>	<i>Involves</i> [in records management systems] the design, establishment and operation of recordkeeping systems [K64]
<b>Recordkeeping</b>	<i>Involves</i> retention and appropriate disposition of records according to specified rules, in a managed, systematic and auditable way [D9]
<b>Recordkeeping</b>	= Systematic creation, use, maintenance and disposition of records to meet administrative, legal, financial and societal needs and responsibilities [D21]
<b>Document Management</b>	<i>Involves</i> [in records management systems] the provision of access, collaborative working and version control of documents, rather than the management of authenticity, reliability, integrity and usability over time [K8]
<b>Redaction</b>	= [in records management systems] Process of masking or deleting information in a record [K64]
<b>Registration</b>	= [in records management systems] Act of giving a record or file a unique identity in a recordkeeping system to provide evidence that it was created or captured [K64]
<b>Registration</b>	<i>Involves</i> [in records management systems] recording brief descriptive information about the context of the record and its relation to other records [K64]
<b>Rendering</b>	= [in records management systems] Production of a human-readable representation of a record, usually to a visual display screen or in hardcopy [K22, K64]
<b>Retrieving</b>	= [in records management systems] Process of preparing the located records for

	rendering and viewing [K22]
<b>Searching</b>	= [in records management systems] Process of identifying records or aggregations through user-defined parameters so that the records, aggregations and/or their associated records management metadata can be retrieved [K22]
<b>Action Tracking</b>	= [in records management systems] Process of monitoring and imposing limits on those conducting the business [K55]
<b>Tracking</b>	= Creating, capturing and maintaining information about the movement and uses of records [K65] [J68]
<b>Transfer</b>	= [in business systems] A disposition process [J69]
<b>Transfer</b>	= Process of exporting electronic records and metadata, followed by their destruction within the exporting business system [K66] [J69]
<b>Transfer</b>	<i>Involves</i> [in records management systems] transferring records from one organisation to another following administrative change, from an organisation to archival custody, from an organisation to a service provider, from the government to the private sector or from one government to another [K66]
<b>Transfer</b>	<i>Involves</i> [in records management systems] transferring records and aggregations from one storage medium or location to another (for example, migration), as their activity decreases and/or their use changes [K34]
<b>Transfer</b>	<i>Involves</i> [in records management systems] considering any existing records management metadata and point of capture metadata at the same time as the records to which they relate [K22]
<b>Transfer (custody)</b>	= [in records management systems] Change of custody, ownership and/or responsibility for records [K66]
<b>Business process analysis</b>	= Process that ideally precedes any IT deployment [D12]
<b>Business process analysis</b>	<i>Involves</i> identifying, articulating and potentially reallocating roles and responsibilities [D12]
<b>Project management</b>	= Planning and monitoring across a series of discrete stages [D12]
<b>Project management</b>	<i>Aims at providing</i> temporal and fiscal accountability for the actions related to any IT deployment [D12]
<b>Risk management</b>	= Analysing risks associated with an analysis of alternatives that are formulated as part of the business case [D12]
<b>Risk Assessment</b>	<i>Aims at</i> [in business systems] informing about the level of evidence required and how stringent recordkeeping controls need to be [J23]
<b>Risk Assessment</b>	<i>Aims at</i> [in business systems] informing business decisions of how rigorous the controls need be [J43]
<b>Disposal</b>	= [in records management systems] Assigning a period before authorised destruction can be considered [K22]
<b>Disposition</b>	= Range of processes associated with implementing retention, destruction or transfer decisions which are documented in disposition or other instruments [D20] [K59] [J64]
<b>Disposition</b>	<i>Involves</i> [in records management systems] destruction, transfer, permanent archive and reassessment of the retention period [K41]
<b>Disposition</b>	<i>Involves</i> [in business systems] determining how long the records should be kept to account for legal obligations, business needs and community expectations [J52]
<b>Disposition</b>	<i>Involves</i> [in business systems] authorising retention decisions in accordance with jurisdictional requirements [J52]
<b>Disposition</b>	<i>Involves</i> [in business systems] reviewing records ready for disposition prior to taking any disposition action [J53]
<b>Disposition</b>	<i>Involves</i> [in business systems] retaining metadata of destroyed records as evidence of

	the implementation of disposition actions [J53]
<b>Disposition</b>	<i>Involves</i> [in business systems] reporting on the disposition activity [J53]
<b>Disposition</b>	Involves [in records management systems] documenting the disposition action in a disposition authority indicating the minimum retention period for a record and the event from which the disposal date should be calculated [K59]
<b>Migration</b>	= Moving records from one system to another, while maintaining the records' authenticity, integrity, reliability and usability [D21] [K62] [J66]
<b>Migration</b>	<i>Involves</i> organised tasks designed to periodically transfer digital material from one hardware/software configuration to another, or from one generation of technology to another [K62] [D21] [J66]
<b>Reformat</b>	= Creating a copy with a format or structure different from the original, especially for preservation or access [D21]
<b>Conversion</b>	= Process of changing records from one medium to another or from one format to another [K58] [J62]
<b>Conversion</b>	<i>Involves</i> a change of the format of the record while ensuring that the record retains the identical primary information (content) [K58] [J62]
<b>Deletion</b>	= Process of removing, erasing or obliterating recorded information from a medium outside the disposition process [K58] [J63]
<b>Destruction</b>	= Process of eliminating or deleting records, beyond any possible reconstruction [K58] [J63; J58]
<b>Destruction</b>	= Disposal process whereby digital records, record plan entities and their metadata are permanently removed, erased or obliterated as authorised and approved by a disposition authority schedule [K58] [J63]
<b>Destruction</b>	<i>Involves</i> [in records management systems] considering any existing records management metadata and point of capture metadata at the same time as the records to which they relate [K22]
<b>Use</b>	<i>Involves</i> [in records management systems] searching for, retrieving and rendering records maintained in an electronic records management system [K22]
<b>Disseminate</b>	= Use
<b>Encryption</b>	= Process of converting data into a secure code, through the use of an encryption algorithm, for transmission over a public network [K60] [J65]
<b>Export</b>	= Process of passing copies of an electronic record and metadata from one system to another [K60] [J65]
<b>Export</b>	= [in business systems] a Disposition process [J65]
<b>Export</b>	<i>Involves</i> [in records management systems] passing on only a copy of a digital record, while the original remains in the first system [K60]
<b>Identification</b>	= Process of persistently linking a record or aggregation with a unique identifier to provide evidence that it was created and captured [K62] [J66]
<b>Identification</b>	<i>Aims at</i> [in records management systems] allowing the user to locate records [K19]
<b>Identification</b>	<i>Aims at</i> [in records management systems] helping users to distinguish between the versions of a record [K19]
<b>Identification</b>	<i>Involves</i> [in business systems] recording descriptive information about the context and relationships to other records [J66]
<b>Indexing</b>	= [in records management systems] Process of establishing access points to facilitate retrieval of records and/or information [K62]
<b>Import</b>	= receiving digital records and associated metadata into one system from another, either within the organization or elsewhere [K62] [J66]

<b>Inheritance</b>	= Taking on a metadata attribute from a parent entity [K62] [J66]
<b>Authentication</b>	= [in business systems] Process of testing an assertion to establish a level of confidence in the assertion's reliability [J61]
<b>Authentication</b>	= [in records management systems] Process of establishing that the sender of a message is who they claim to be [K56]
<b>Determination of Needs for Evidence</b>	<i>Involves</i> [in business systems] determining an organisation's needs for records in order to develop and implement appropriate strategies [J11]
<b>Determination of Needs for Evidence</b>	= [in business systems] Determining business functions and activities and transactions carried out, in full or in part, by the business system [J12]
<b>Determination of Needs for Evidence</b>	= [in business systems] Considering what evidence is required to be retained by the organisation for each function, activity and transaction or business process managed by the system [J13]
<b>Determination of Needs for Evidence</b>	<i>Involves</i> [in business systems] a wide range of consultation and validation with senior management [J13]
<b>Determination of Needs for Evidence</b>	= [in business systems] Identifying the content or data that make up the evidence [J13]
<b>Determination of Needs for Evidence</b>	= [in business systems] Identifying additional information required to manage the content over time as evidence [J17]

## ISO 27000 Series – R, S and T Functions

<b>Access</b>	= ensuring that access to assets is authorized and restricted based on business and security requirements [R1]
<b>Authentication</b>	= providing assurance that a claimed characteristic of an entity is correct [R2]
<b>Information Security Management</b>	= processes for detecting, reporting, assessing, responding to, dealing with, and learning from information security incidents [R3]
<b>Information Security Management</b>	Involves defining, establishing, implementing, operating, monitoring, reviewing, maintaining and improving information security, based on a business risk approach [R3] [R6] [S1]
<b>Information Security Management</b>	Aims at enabling an organization to achieve its objectives, and maintain and enhance its legal compliance and image [R6]
<b>Information Security Management</b>	Involves directing the implementation of suitable controls and treating unacceptable security risks [R6] [Tix]
<b>Information Security Management</b>	Involves monitoring and evaluating the effectiveness of implemented controls and procedures [R6]
<b>Information Security Management</b>	Involves identifying emerging risks to be treated [R6]
<b>Information Security Management</b>	Involves selecting, implementing and improving appropriate controls as needed [R6]
<b>Information Security Management</b>	Involves identifying security requirements [Tx]
<b>Information Security Management</b>	= protection of information from a wide range of threats [Tix]
<b>Information Security Management</b>	Involves determining external and internal issues that are relevant to the organization's purpose and that affect its ability to achieve the intended outcome(s) of its information security management system [S1]
<b>Information Security Management</b>	Involves identifying the interested parties as well with their requirements [S1]
<b>Information Security Management</b>	Involves determining the scope of the information security management system [S1]
<b>Information Security Management</b>	Involves establishing an information security policy [S2]
<b>Information Security Management</b>	Involves Risk Assessment [S3]
<b>Information Security Management</b>	Involves Risk Treatment [S4]
<b>Information</b>	Involves establishing information security objectives at relevant functions and levels

<b>Security Management</b>	[S5]
<b>Information Security Management</b>	Involves determining and providing the resources needed for the establishment, implementation, maintenance and continual improvement of the information security management system [S5]
<b>Information Security Management</b>	Involves evaluating the information security performance and the effectiveness of the information security management system [S7]
<b>Information Security Management</b>	Involves continually improving the suitability, adequacy and effectiveness of the information security management system [S9]
<b>Information Security Management</b>	= preservation of confidentiality, integrity and availability of information [T1]
<b>Risk Analysis</b>	= systematic use of information to identify sources and to estimate risk [R5] [T2]
<b>Risk Analysis</b>	= basis for Risk evaluation, Risk treatment and Risk acceptance [R5]
<b>Risk Assessment</b>	= Risk Analysis and Risk Evaluation [R5] [T2] [T5] [S4]
<b>Risk Assessment</b>	= identifying security requirements by a methodical assessment of security risks [Tx]
<b>Risk Assessment</b>	Aims at guiding and determining the appropriate management action and priorities for managing information security risks, and for implementing controls selected to protect against these risks [Tx] [T5]
<b>Risk Assessment</b>	Involves identifying, quantifying, and prioritizing risks against criteria for risk acceptance and objectives relevant to the organization [T5] [S4]
<b>Risk Assessment</b>	Involves establishing and maintaining information security risk criteria [S3]
<b>Risk Assessment</b>	Aims at producing consistent, valid and comparable results [S3]
<b>Risk Evaluation</b>	= comparing the estimated risk against the given risk criteria to determine the significance of the risk [R5] [T2]
<b>Risk Management</b>	= coordinated activities to direct and control an organization with regard to risk [R5] [T2]
<b>Risk Management</b>	Involves Risk Assessment, Risk Treatment, Risk Acceptance, Risk Communication, Risk Monitoring and Risk Review [R5] [T2]
<b>Risk Management</b>	Involves deciding criteria for determining whether or not risks can be accepted before considering the treatment of a risk [T5]
<b>Risk Management</b>	Involves making a risk treatment decision for each of the risks identified following the risk assessment [T5]
<b>Risk Communication</b>	= exchange or sharing of information about risk between the decision makers and other stakeholders [R5]
<b>Risk Estimation</b>	= assigning values to the probability and consequences of a risk [R5]
<b>Risk Treatment</b>	= selecting and implementing measures to modify risk [R5] [T2]
<b>Risk Treatment</b>	May involve applying appropriate controls to reduce the risks [T5]
<b>Risk Treatment</b>	May involve knowingly and objectively accepting risks [T5]
<b>Risk Treatment</b>	May involve avoiding risks by not allowing actions that would cause the risks to occur [T5]
<b>Risk Treatment</b>	May involve transferring the associated risks to other parties [T5]
<b>Risk Treatment</b>	Involves selecting appropriate risk treatment options, taking account of the risk assessment results [S4]
<b>Risk Treatment</b>	Involves determining all controls that are necessary to implement the information

	security risk treatment [S4]
<b>Risk Treatment</b>	Involves formulating and implementing an information security risk treatment plan [S4, S7]
<b>Risk Treatment</b>	Involves obtaining risk owners' approval of the information security risk treatment plan and acceptance of the residual information security risks [S4]