

The Italian case: legal framework and good practices for digital preservation

Mariella Guercio, Sapienza University of Rome, Digilab

Introductory remarks

On the basis of the legislation approved in 1900 (regio decreto 35/1900) and dedicated to the regulation of records and archives management for public administrations, the Italian legal framework on records management and archival preservation has been always based on a general principle: the public archives are protected since their creation to ensure both the quality of their evidential value and their permanent preservation as accessible and authentic resources. Not only this principle has not been abandoned in the past century, but it has been renewed and reinforced when the ICT innovation has transformed the technological and organizational scenarios and recognized the evidential value of archival records in the digital environment. In this new environment the current records have been considered by the legislator, more than in the past, a strategic tool for the transformation of public administrations and for making the public sector more accountable and efficient.

A new legislation, whose first step was based in 1990 on the Italian Freedom of Information Act (Legge 241/1990), approved in 2000, listed the requirements for the records systems in the public sector (decree 445/2000) and obliged all the government agencies to transform their traditional record management systems into electronic recordkeeping systems. This regulation, updated and integrated in the last ten years, has defined the basic principles and methods for the e-government records:

- the capture and acquisition of the records (both analogue and digital) with a unique and persistent identifier,
- the obligation of filing and aggregating the records at the creation phase on the basis of classification plans articulated on functions and activities,
- the integration of the classification plan and the retention schedule to support the analysis for appraisal and disposition,
- the definition of well defined procedures and directives able to govern the whole chain of creation and preservation.

At the conclusion of a long period of innovations and thanks to a continuing (even if not always consistent) effort for defining a new regulation system, an updated set of directives and detailed rules are in place for the Italian public administrations with the aim of enabling the implementation of integrated electronic records management and keeping systems. Some contradictions still characterize the regulations in place, specifically with reference to the legislation for the digitization and preservation processes, whose last decree has been approved in 2004 by Cnipa, the Centre for information technology in the public administration (regulation n. 11/2004) and whose updated and well defined new

version (*Regole tecniche per il sistema di conservazione dei documenti informatici*) is still waiting for approval after two years of debate and confrontation and in spite of the positive binding advice provided by the institutional stakeholders.

The main critical aspects of this process have been over and over discussed and highlighted by the archival and record managers community. The main element for the delay in the definition of a satisfactory solution concerns the fact that the efforts for approving these regulations have been developed by separate committees instead of being the result of a common, interdisciplinary and cooperative work: the procedures for digitizing the analogue records were delivered by a working group based on IT competencies and did not include any archival competencies, while the rules for the definition of ERM (Electronic Records Management) requirements have been developed with the support of representatives of the main government agencies and the relevant institutional stakeholders, included the National Archives, the Ministry of Justice, the Ministry of Interiors and the experts from the research. The main and relevant consequence of this duplication and lack of convergence has been the lack of consistency for the whole legislative framework.

The effort for avoiding duplication and fragmentation and ensuring continuity, even if only partially achieved, has been continuously played in the last decade by records managers and archivists, whose analysis has been persistently dedicated to identify and implement (sometimes on voluntary basis) the interrelations between the electronic records management international standards and national prescriptions and the rules for digitization and electronic archiving and to support their maintenance in the application profiles. This effort was fruitful in the e-government sector, where archivists and record managers have been active and their role recognized. *With specific reference to the digital preservation* this action has been weak and more uncertain because:

- the concept of preservation was not defined by the legislator and the related terminology was ambiguous and confusing (i.e. digital archiving, digital reproduction and digital preservation have been used as synonymous in the regulations approved in 1998, 2001 and 2004¹),
- the archival conceptual framework and related definitions and methods have been substantially ignored or misunderstood.

The Italian legislation on electronic records management and digital preservation: a recent evolution

More specifically, three parallel and not convergent streams have characterized the Italian legislation processes in the field of electronic records management and digital preservation:

- the electronic records management (ERMS), whose requirements have been cooperatively defined by *IT specialists, archivists/records managers and legal systems experts*: decree of the President of Republic n. 445/2000, part 4 “Electronic Records Management System” and the related applied regulation approved by a decree of 31 October 2000 (still active and successful),
- the creation and legal validation of born digital records, whose requirements have been mainly determined by *IT specialists and jurists*: from the decree of the President of Republic approved in 1997 n. 513/1997 to the Code for digital administration approved in 2005 and updated in 2006, 2008 and 2010 (unstable legal framework, continuously updated, unbalanced and only recently compliant with EU directives),

¹ See M. Guercio, *Conservare il digitale*, Bari, Laterza, 2013, chapter 4.

- the definition of rules on “legal digital archiving and preservation” and digitization of analogue records, defined by *IT specialists*: many rules since 1993 to 2009 but more specifically the rule approved by Cnipa n. 11/2004 (highly unstable framework, very complicated in their first versions, only recently revised for a new more consistent regulation developed in 2011 with a multidisciplinary approach, but still in the form of a draft²).

These new rules on digitization and digital preservation (under approval since August 2011) propose now standardized but also flexible and sustainable solutions both for reproduction processes and for long-term digital preservation, in the form of an integration of the juridical framework in force. The draft (developed with the support of archivists and records managers appointed as representatives of many central and regional administrations, of the National Archives and the Italian ISO Committee for archives and record management) is based on the principle that the creation, the management and the preservation of electronic records require a *systematic approach* and imply the development of a preservation system integrated as soon as possible with the ERMS.

These interrelations and integrations are carefully detailed in the regulation, specifically with reference to:

- the obligation of *persistent identification of the records* (recognized under the category of *reference* according to the OAIIS Preservation Descriptive Information – PDI) and their contextual interrelations (recognized under the category of *context* according to the OAIIS Preservation Descriptive Information – PDI) which include the classification plan and the aggregation criteria for filing the records and/or creating archival series; this obligation concerns the public sector whose electronic records have to be persistently identified in the registry system, classified and aggregated into business files or records series; the classification plan guides the filing plan and defines the aggregations criteria with the consequences that each electronic record is always interrelated to the others in the business process environment and that these reference codes make explicit the documentary context; all these contextual information are part of the PDI and have to be included in the Submission Information Package when the records are acquired by the repository for digital preservation³;
- the obligation of defining and maintaining the information related to the provenance (both as recognition of the physical person responsible for the record creation and as identification of the producer in term of the organization responsible for it and expressed under the category of *provenance* according to the OAIIS Preservation Descriptive Information – PDI): these information have to be maintained not only in the profile of the records to be submitted for preservation but also with reference to the capacity of verifying the records authenticity (identity, integrity, security); the validation of the record implies the documentation of its integrity (recognized under the category of *fixity* according to the OAIIS Preservation Descriptive Information – PDI).

² The rules are available at the following address: <http://www.digitpa.gov.it/sites/default/files/Bozza%20-%20Regole%20tecniche%20conservazione.pdf>.

³ See the annex 5 related to the metadata for preservation of the draft regulation defined in 2011, <http://www.digitpa.gov.it/sites/default/files/Bozza%20-%20Allegato%205%20-%20Metadati.pdf> and the annex 4 related to the definition of the Archival Information Package (Pacchetto informativo di archiviazione) published at <http://www.digitpa.gov.it/sites/default/files/Bozza%20-%20Allegato%204%20-%20Specifiche%20tecniche%20pacchetto%20archiviazione.pdf>.

The new regulation recognizes the crucial role of the *documentation* both for the electronic records management and the digital preservation processes. The documentation must be qualified and normalized. For this reason the regulations (in 2000 for the RM and in 2011 for digital preservation) define standardized forms and provide guidelines able to ensure completeness and accuracy. More specifically

- the *manual for records management procedures (manuale di gestione)* is an obligatory requirement for all the public administrations (dpcm 30 October 2000, art. 5) and includes rules on the records creation, capture, classification, filing, appraisal, preservation (both in paper and in digital form),
- *submission reports (rapporti di versamento)* are required for transferring digital records to the repository responsible for preservation (2011 draft regulation for digital preservation)
- the *manual for digital preservation (manuale di conservazione)* is a new obligation for the digital repository responsible for preservation of public and/or private records (2011 draft regulation for digital preservation).

The documentation (specifically the reports and the manual for digital preservation) has to be compliant with the international standards (like ISO 15489 on Record Management, ISO 14721-OAIS, ISO 16363 on the auditing for repository certification) even if this compliance is not part of the regulation under approval but only suggested in the annex n. 3 (<http://www.digitpa.gov.it/sites/default/files/Bozza%20-%20Allegato%203%20-%20Standard-Specifiche%20tecniche.pdf>).

Specific requirements are in place for the manuals and (defined in details in the decree 445/2000, in the decree 31 October 2000 and in the law denominated Code for digital administration approved in 2005 and significantly updated in 2010):

- directives, guidelines and policy for the records creation/acquisition in the current phase, like the manuals for records management, have to be formally approved and preserved with the records,
- the manuals have to describe in detail how the records are captured, classified and filed and have to identify the relevant metadata for any type of electronic records created in the public sector (e-mails included),
- the formats used for the record creation have to be declared and must be compliant to the prescriptions (still in draft) defined in 2011 which require openness and complete documentation⁴.

The positive consequences of a detailed regulation on the archival functions and the last mile for digital preservation

The approval of rules and standards as part of formal legislation has implied many consequences on the Italian records management function. First of all the obligation of formal definition of procedures for RM in each public agency has increased the quality of ERMS tools in place and of related software procurement. The standardization of the documentation relevant for records creation and for preservation processes (manual of preservation, submission reporting, formal delegation of responsibilities) has provided the simultaneous qualification of controls, of professionals and of training and educational profiles and a better definition and distinction of responsibilities for each

⁴ See the annex 2 related to the formats for preservation of the draft regulation defined in 2011, <http://www.digitpa.gov.it/sites/default/files/Bozza%20-%20Allegato%202%20-%20Formati.pdf>.

phase of digital records life cycle. The recognition that the authenticity problems cannot be delegated to technological solutions, like digital signatures and seals, has increased the institutions' awareness for the risks connected to the long-term protection of digital resources and for the need of adequate investments in this area both from the conceptual and organizational points of view:

- a *new scenario* was established based on a coordinated set of instructions and rules which have been designed thanks to the cooperation among working groups of experts, institutions and market suppliers;
- it has been accepted (even if at the moment only in the draft regulation published in 2011 and already mentioned) that the records to be preserved have to be managed in the form of *information packages* (submission, archival and distribution information packages according to the model described by the ISO standard 14721 OAIS);
- the suppliers of private services for digital preservation *have to be certified* and the quality of related processes has to be ensured and verified when they are responsible for preserving public records;
- an *accreditation process* and a certification service are under development (according to the guidelines for auditing digital repositories identified by ISO standard 16363) and will be applied both to the private sector and to public institutions which intend to play as trusted third parties for long-term digital preservation;
- to ensure the *interoperability among different preservation systems*, as already mentioned, a very general and flexible schema for AIP has been defined;
- to ensure the *accessibility*, the preservation system has to be updated in connection with the evolution of the technological context;
- the formal definition for digital preservation has to be always documented through a specific reporting called *plan for digital preservation* which illustrates in details, according to the draft prepared in 2011, the organizational obligations, the overall architecture, the infrastructure, the processes, the security measures and all the information required for the long-term digital preservation system management and its auditing (when appropriate or required); in particular it has to provide:
 - the information about the organization responsible for the preservation function, including the mandate, the functions, the responsibilities and the specific obligations for all the players,
 - the description of the types of preserved objects, including the formats accepted and managed, the metadata to associate to the objects/records profiles,
 - the description of the preservation process, with specific reference to the transfer and the acquisition of submission information packages and the management of the archival information packages,
 - the definition of the access and export processes and the creation of the distribution information packages,

- the description of the preservation system, including the documentation related to the technological, physical and logical components and the procedures for their management and their updating.

Open challenges: when and how to manage responsibilities for preservation

In consideration of the differentiation of the responsibilities involved in the preservation processes (records managers, professionals responsible for digital preservation, professional responsible for privacy and data security and IT systems directors) the regulation implies that these responsibilities have to be coordinated but the coordination has to be sustainable and carefully implemented, not only listed. At the moment three main profiles have been identified by the national legislator:

- *the producer* (not to be confused with the author or the record maker) is responsible for the submission of the records and related PDI to the preservation system; for public administration this profile is the record manager (“responsible for the records management service”);
- *the user* who intends to access the preserved records;
- *the preserver* who defines and carries out all the policies and directives of the preservation system and manages it consistently with the organizational model adopted by the repository, with specific reference to:
 - the verification and acquisition of the transfer/submission information package,
 - the preparation and management of the archival information package according to generally defined procedures (well defined data structure whose fixity is guaranteed by advanced electronic signatures);
 - the preparation for access of distribution information packages;
 - the creation of authentic digital copies of digital records or their digital components and related evidence for authenticity to face the technological obsolescence;
 - the appraisal and related disposition according to the agreed retention schedule for the digital records preserved in the repository.

The preserver is also charged of other organizational responsibilities: he updates the preservation system consistently with the juridical, procedural and technological transformations and takes care of the security measures both from the physical and from the logical points of view.

Even if clearly and detailed illustrated, the model for preservation approved (or under approval) by the Italian government leaves many questions still open and many challenges unsolved, like those here simply listed:

- how to handle the risks of contradictory or non integrated analyses and implementations in case of outsourcing?
- how to define priorities specifically when the financial resources are limited and the strategies are not sufficiently detailed?

- in case of more institutional officers involved in the sector (ICT profiles, record managers) how to handle the coordination of responsibilities for digital preservation, specifically when the choices imply a costs/benefits analysis and strategic plans to evaluate the need for accreditation and auditing of preservation services?
- when and how the digitization is required and has a juridical value (not only as a surrogate for originals) if the resources are analogue? at the records creation? when the case file is closed and/or the archival aggregations are at least defined on a logical or chronological basis (i.e. the annual series of the invoices)?
- how early the submission has to be implemented?
- is the distinction of the traditional phases (active/semi-active/inactive) in the records management, keeping and preservation still useful and sustainable in the digital environment according to this new scenario? how to support it in the application environment?
- how to ensure the neutrality of the preservation in the future?
- which level of granularity has to be applied in the preservation processes (as part of PDI) and in the description and dissemination (Info Description and DIS)?
- which criteria have to be followed for packaging the sets of records and related metadata in the archival packages (AIP/AIC)?
- which criteria and how many scenarios can/has to be identified for accessibility?
- how to cope with the hybrid environment (in which countries the analogues originals are destroyed after the digitization process? who has the authority to face the legal issues by destroying the originals if paper based?)
- how and what to appraise and select in digital environment (specifically in case of chronological accumulation of records at the registration phase when the aggregations are not available and managed)? how many times the appraisal will take place? are the professionals and the available applications able to document all these steps and actions according to a standardized approach and ensure interoperable evidence for authenticity assessment?⁵

Strategies and sustainable models identified on the basis of concrete experiences are required to answer to these crucial questions. Because of their complexity, it is also necessary to define and develop a bottom up cooperation:

- among researchers and educators at any level (universities, academic and no-academic environments),

⁵ See the proposal of APARSEN on “ Authenticity Management in Long Term Digital Preservation”, http://aparsen.digitalpreservation.eu/pub/Main/ApanDeliverables/APARSEN-DEL-D24_1-01-2_3.pdf.

- among the various degrees of national responsibilities for preservation (i.e. National Archives, Regions, archival programs within each administration),
- among the stakeholders and professionals already active and available both at public and private sector.

The first step, as testified by other successful experiences like the network Nestor in Germany or the Digital Preservation Coalition in UK, is the creation of a national *community of practices* for digital preservation: a sustainable and persistent cooperation can/has to be developed in the form of an informal organization, made by the voluntary accumulation of materials, initiatives, events that each producer/preserver/educator has already created and implemented as part of its own mandate and mission. It can include:

- a *monitoring tool/service* to make available and assessable good practices and an updated framework of legal requirements (for example in the form of annual reports),
- *open exchanges of opinions* (as part of a facilitated environment for face to face meetings, web confrontation and interactive forum),
- ‘preservation’ and dissemination of know-how in the *form of technical or scientific documentation* able to collectively represent the state of art of our sectors also in connection with the main international and European projects (like the APARSEN Virtual Center of Excellence at European level or the already mentioned Nestor in German speaking countries),
- a *coordinated* network of links of main initiatives available for high education, training and dissemination.

Thanks to the definition of an integrated set of rules and of a promising experience developed by regional repositories on digital preservation in Florence, in Bologna and now also in Ancona and in Trento, it is possible and it is time for the Italian community of professionals, institutions and stakeholders already facing (on a qualified basis) with the digital preservation challenges to share their capacity, to show their traditional creativity and generosity and to cooperate for a better digital memory, for increasing the awareness in this sector and for supporting young professionals to achieve the required high level capacities the digital future implies. The initial and encouraging form could have the nature of a network of practices supported by a group of institutions like the University of Rome Sapienza, the regional repositories of Florence (DAX project) and Bologna (Pa-RER), the National Archives but also by municipalities and small agencies (like Comune di Parma) and by association like Fondazione Rinascimento digitale.

The national juridical framework, even if not completely approved and in spite of the long list of open questions, has already the capacity to offer the basis for a digital ‘ecosystem’ able to support reliable and accurate digital records management systems and provide preservation models based on international standards but also on flexible and

sustainable principles.