

FROM ANALOG TO DIGITAL ARCHIVES: MEMORY PRESERVATION IN EUROPE

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In their history, documents have had many shapes and layouts: ceramic boards, wooden boards, papyrus rolls, single sheets and *codices* have been used to communicate and to store information and history. Nowadays, technology not only helps us to use and study all these kinds of documents: it also allows us to create new ones, whose nature is indeed digital and electronic. Computers, software and modern techniques let document managers digitise analog items in order to create digital copies and to make users surf their texts more easily and deeply than using the original documents. Moreover, the digital version of an item is very useful, since everything is available on our personal computers, without leaving home off to the library or to the archive and avoiding damages to the originals (assuming that their characteristics and importance permit their use).

We want to highlight that, according to these new aspects, there is a big difference in the preservation process of the documents. While the analog ones are stored in libraries and archives, and these two institutions are supposed to deal with their maintenance and usability, the digital-born documents have to be preserved and made available by the producers themselves: they are supposed to preserve the *media*, their contents, their juridic values, and to enhance metadata, in order to save information about the document and to make it usable by the interested or qualified people.

Italy has a clear reference framework concerning digital documents, in particular about those related to Public Administration: from the formation point of view, art. 40 of *Codice dell'Amministrazione Digitale* (Digital Administration Code; from now on: CAD) obliges every public administration to produce digital items, avoiding paper. From a retention point of view, art. 44 CAD states that it is mandatory to store documents in a digital preservation system ensuring authenticity, integrity, liability, readability and availability of documents. Art. 34 establishes that the PAs can store their electronic documents both in their own organizational structure, and outsourcing the responsibility to a trust preservation service provider (*Conservatore accreditato*). To meet these requirements, the legislator issued technical rules on 13th December 2013 (*Regole Tecniche in materia di sistema di conservazione* - Technical

rules on preservation systems) describing the proper implementation of a digital preservation system, the responsible subjects and the preservation process as it should be (in compliance with the ISO standard 14721:2012 - OAIS). By contrast, in Europe, other countries adopt different approaches to this matter.

This abstract aims to show a preliminary comparative analysis through preservation laws and standards in the European countries, outlining the general context and trying to give some specific examples. Our goal is to know which are the law provisions on digital preservation setting rules and requirements for preservation steps, the international and national standards used for digital preservation and possible tools or methodology developed to improve the processes.

Concerning the methods, the pattern we follow contains the main issues to be discussed. These matters have been studied through all kinds of dispositions, from guidelines to law provisions: first of all, our purpose is to find the general rules about electronic documents evidentiary value; then, to find out if there are specific provisions on digital retention. If so, these are intended to be analysed and compared with the Italian ones; if not, the subsequent step is to look for all the articles in the other regulations, to identify the ones related to the digital preservation field. Moreover, the attention is focused on some important document typologies. In particular, our aim is to find out how other European countries manage e-invoices and e-health documents, the format used and if there are particular retention rules, especially concerning privacy issues. Last but not least, one fundamental step is to verify if there are mandatory international or national standards to use, or if their use is suggested.

From a technological point of view, our purpose is to understand the difference between electronic processes and tools (for example, e-signature usage) and the workflows implemented in other countries to guarantee the safest and most operational preservation system and the ones adopted in Italy.

The situation analysed so far is extremely heterogeneous and research showed different approaches. Until now, four countries have been analysed: France, Germany, Austria and Poland.

In France, the rules are very similar compared to Italy. The e-documents evidentiary value is established from the Civil Code and, even if there is not a specific regulation on digital retention, there are several rules on how to preserve particular documents types and it is

recommended to use the international standard ISO 14641 *Electronic document management - Design and operation of an information system for the preservation of electronic documents* ISO 14641 *Electronic document management -Design and operation of an information system for the preservation of electronic documents*, because electronic archival systems compliant with this standard guarantee documents' evidentiary value.

In Germany and Austria, there are no specific provisions about electronic document management. Anyway, some references on digitisation, on how to produce substitute copies, pre-submission phase and digital preservation can be found in the dispositions about the e-government, in the law of administrative procedures, in the Code of Civil Procedure and in the Civil Code. This choice has been made in order to avoid the need to change the rules every time there is a development in the technology, given that innovation is really fast. About the standards, they use in particular their own ones, developed by the Nestor organisation.

We realised a gap analysis scheme, which explains in a simple view all the most important points of this study.

Hence, it is possible to state that in general, compared to these countries, Italy has the most compounded network of dispositions about digital preservation. As stated in the beginning, Italy already has a well-supplied (even too abundant, perhaps) system of rules and guidelines to solve digital retention problems are constantly developed. Despite this, other countries are more flexible to changes and improvements, so, maybe, the best approach would be to fix some basic but straight and strong rules to assure documents the legal value and leave more discretion on the technological side. Anyway, this is only the beginning, so all the other States situations should be analysed.