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ERPANET

*Legislation, Rules and Policies for the
Preservation of Digital Resources*

A SURVEY

DRAFT

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Preface

By Maria Guercio

1. Conceptual and Methodological Issues

“A *policy* is a formal statement of direction or guidance as to how an organization will carry out its mandate, functions or activities, motivated by determined interests or programs. A *strategy* is the complex of practical means formally articulated by an entity for reaching a specific purpose, that is a plan or a road map for implementing policies. A *standard* is the complex of established norms aiming to make the characteristic of a product, process, or service uniform within or across a sector, a country, or a system.”¹ These general definitions were approved at the conclusion of a three-year research project (InterPARES) and originated from in-depth discussion within an international working-group attentive to the specificity of organizational and juridical contexts. These definitions provide a quite reassuring and sound opening to an analysis that is going to focus on issues, tools and activities that—as repeatedly shown by this study—are actually far from being settled and standardized, having multiple goals and multifaceted characteristics. A comparative analysis has to necessarily take into consideration many existing variables.

Digital heritage preservation has long been—for too long—an open issue for professional and academic communities, which for more than a decade, with continuity and perseverance, have been trying to find answers, but without the help of a clear and established framework. This open

¹ InterPARES, *Strategy Task Force Report*, Vancouver 2001 (available at: <http://www.interpares.org/book/index.htm>. Last accessed: October 10, 2003): 1 n.1. The report is in press.

situation no longer offers advantages and is actually close to causing damage, due to the lack of operational tools, reference points, and tried and shared best practices. The issues' high level of complexity and the lack of guidelines tend to make the qualified public opinion weary of the subject and cause unnecessary aggravation to preservation professionals. It is therefore necessary to take, as soon as possible, a new turn in the programs and efforts of the individuals and organizations that deal with preservation at the national, European and international level. Most of all, besides developing research initiatives and training individuals to become advocates of the issues, it is essential to make available to the interested parties materials and proposals for collaborative work, which may provide a reference point for relevant action at all possible, appropriate and necessary levels.

To me, as co-director of the ERPANET Project for the University of Urbino, and to the director of the Istituto centrale per il catalogo unico delle biblioteche (Italian Union Catalog Central Institute for Libraries) national, regional, and local regulations, guidelines and plans, internal codes, procedure and workflow manuals appeared to be relevant products to focus on at this time. As described above, we are currently at a time when just increasing awareness is no longer enough. It is necessary to promote actual change within conservation institutions, possibly in accordance with a coherent logic within European Union countries and, even more important, within national contexts.

At the beginning of the study described in this report—a survey of legislation, regulations and policies for digital heritage preservation in European and some non European countries—it would have certainly been useful, before actually proceeding with the data collection, to further carry on a phase of preliminary investigation, as the InterPARES Project already did within the archival field. This preliminary work might have included a more in-depth systematic analysis of the conceptual, organizational and juridical issues posed by the different cultural heritage sectors, for example developing a framework that may promote and communicate shared understanding of key concepts, issues and possible solutions.

As it often happens in research, there was not enough time to prolong the preliminary work, especially because the chance of presenting the study results at a European conference specifically dedicated to the preservation of digital heritage was not to be missed. It was even more important to participate because of the support given by European Union bodies (DG INFSO-E5, Preservation and Enhancement of Cultural Heritage) to the creation of a European working group able to focus, with continuity and effectiveness, on the issue of digital preservation. This group would provide an overview, although incomplete, of the current situation of national regulations and of internal policy development in digital cultural and scientific heritage conservation institutions. Although within the current constraints, the group would also design an operational plan (priorities, timeframe and initiatives) for developing a substantial European intervention in this field.

This report presents the results of a survey that was conducted over a short period of time, but still was very fruitful. The survey covered the production of regulations in European countries and in some particularly relevant international instances. One of the main limitations of the report is exactly the lack of those well-defined, both general and sectoral, principles and criteria that in other instances—actually not those many—have allowed the development of a solid framework. Such a framework would enable to compare the effectiveness of national regulations and single institutions' guidelines and to measure how far away they still are from reaching the goals of an adequate preservation policy, which nowadays should be a priority for a successful and farsighted European action.

In particular, it is necessary to have available parameters that identify and specify:

- typologies of objects to be preserved (archival materials, web-based systems, online publications, research theses and dissertations, audiovisual materials, and more, but also metadata schema and classification systems for format and preservations methods)

- most relevant preservation functions (verification of trustworthiness and access conditions, selection and certification, description of materials, solid documentation over time of management processes)
- responsibilities and roles for every phase
- requirements for digital repositories management, and more.

It is equally important—although this goal is beyond the scope of this report—to identify research areas that, through appropriate funding, make possible to determine and support long-term strategies, such as:

- models for digital materials repositories, software repositories, repositories of formats and metadata schema, peripheral repositories
- development of archival media
- re-engineering of preservation processes in the fields of modeling, automation options, data quality, and scalability
- preservation systems and technologies with a special focus on automatic capture and maintenance of preservation metadata over time
- definition of persistent identifiers.²

The importance of national, regional, and local regulations and internal policies for digital heritage preservation is internationally acknowledged to be an important issue that is going to be present in any research initiative, since otherwise it would not be possible to take a coherent approach toward a complex issue, in an environment where initiatives (even European ones) tend to focus on specific projects rather than create durable services. This issue is even more relevant if we acknowledge the necessity—an actual operational requirement—to provide as soon as possible precise information to the creators of digital materials.

2. *Report Content: National and Local Regulations*

Providing a coherent overview of digital heritage preservation national and local regulations, both current and in development, it is certainly the starting point—and not a simple one—for an ambitious and difficult process that will have to tackle diverse sectors and areas of activity and responsibility, for example:

- government responsibility and accountability
- legal requirements for specific sectors of cultural heritage preservation activities, such as:
 - creation and management of documentary materials (mostly archival) produced through e-government functions;
 - management and preservation of electronic publications, for which some European governments have established a legal deposit requirement, while other governments only offer, and encourage, the possibility of deposit on a voluntary basis. The procedure that requires depositing only one copy creates new scenarios and new risks in regard to issues of authenticity, integrity, and access to the deposited materials. Encryption techniques and access restriction mechanisms might make impossible necessary migration activities: regulations

² On the issue of sectoral research, see, in particular, the up-to-date report compiled by the NSF-DELOS working group, *Invest to Save. Report and Recommendations of the NSF-DELOS Working Group on Digital Archiving and Preservation*, 2003, coordinators Margaret Hedstrom and Seamus Ross.

- that forbid the use of such mechanisms for the deposited copies are an essential condition for digital heritage long-term preservation;
- review and update of cultural heritage preservation regulations, especially in regard to policies governing selection, acquisition, and rules for access, use and duplication;
 - when promulgating regulations, use of the technical expertise of professionals that may be trusted with the creation/management/permanent preservation of cultural heritage;³
 - creation of a balance between intellectual property/copyright protection needs and permanent archival preservation needs: no European Union country has consistent regulations in this sector, which has recently been regulated by the European Union in a way that has only partially taken into account user needs and the complexity of the activities necessary for digital heritage preservation. It has been repeatedly pointed out that the digital environment is going to considerably alter the balance that has been in place for centuries among the activities of acquisition, loan and reproduction of materials. In this area, legislation and regulations—which aim exactly to re-build juridical balance, through the re-definition of reference points for records and information—are very necessary, although they require great effort.

Within countries, there is a fragmented legislation and regulation activity and, at the European level, not enough effort is made towards reconciling the contradictions in the regulatory activity of European Union governing bodies. From all this, the current situation arises, where regulations have too many different levels and contents, and where too many interventions create confusion, working against the need for a strong coordination activity in this area. Some potential regulatory solutions are emerging in specific sectors, such as the *legal deposit of on-line and off-line electronic publications* and the regulations for *ERMS systems* (Electronic Records Management Systems), which in some countries are extremely detailed, especially in regard to the need for acknowledging and maintaining the over time validity of electronic records and of the so-called “surrogate records” created through digitization programs. Divergent solutions emerge when it comes to tackling acquisition and management of new dynamic materials, still in the experimental phase. Webarchiving is nowadays a new research front as exciting as, in my opinion, disheartening, at least in regard to the technological, organizational and juridical framework and tools currently available to us.⁴ The increasing amount of web documents is going to create new areas of concern and action for legislators. Regulations promulgated in this area often disrupt the activity of professionals who work towards enabling and increasing long-term access to digital online materials, as Andrew Charlesworth pointed out in his presentation at the workshop organized by ERPANET on the topic, in May 2003 in Kerkira.

3. *Report Content: Internal Policies and Plans of Digital Heritage Preservation Institutions*

The need to regulate a system of digital repositories management rules and

³ Recent electronic records management regulations in Italy prescribe, for example, that public administrations put in charge of their records management services (both traditional and electronic), for the entire life cycle of the records, professionals who received an adequate technical-archival preparation at the university level (dpr 445/2000 on public administration records).

⁴ On this issue, see, on the ERPANET web-site (www.erpanet.org), the materials created for the workshop “Preserving the Web” (Kerkira, May 23-25, 2003).

procedural models is not usually perceived as a priority. But our survey showed that some countries already have regulations in place that require, at the national or local level, to approve internal policies for the management of digital repositories. This happens especially for sectors already under strong control, such as public documentary heritage. In particular, Sweden and Italy have, at least in the archival field, approved specific regulations in this area over the past few years. Italy (dpcm October 31, 2000, a set of operational rules for electronic records management) requires that by the end of 2004 all public administrations (not just State Archives or sections that house historical records produced by public administrations or by private entities of recognized relevance) approve a records management manual. This manual should include a specific part on permanent preservation (transfer procedures, which also identify standard formats and require the deposit of research and classification tools originally used by records creators for production, management and retrieval of digital materials), as well as rules conforming to security procedures manuals.

It is relevant to point out that preservation policy development may only arise from the implementation of best practices in routine activities, such as:

- establishment of “official publications repositories” in libraries, and research and documentation centers to which national or local regulations assign such function, sometimes also in agreement with voluntary initiatives taken by private publishers,
- e-government programs, which so far, though, have overlooked (with some exceptions) the preservation issue,
- need to develop systems for the acquisition/certification/univocal and persistent registration of some digital materials typologies (electronic publications, audiovisual materials, web resources, and more) and of related retrieval systems. Many institutions have started to develop formats for gathering and transferring materials and, most of all, metadata and digital data, in their repositories, following a standardized methodology, which has usually identified as a consistent reference point—at least in the library world—the ISO standard Open Archival Information System (OAIS) Reference Model.⁵

As showed by this brief discussion, the issue is so complex that the development of policies and internal documentary procedural systems always implies not only a regulatory activity, but also the technical-scientific skill to merge together solid principles and rigorous methods in everyday practice. As shown by the information gathered through the survey, almost all conservation institutions, in the various sectors identified, share the goal to anticipate the transfer of materials in a certified and trusted repository, and to secure as soon as possible the implementation of adequate requirements and conditions for their preservation, recognizing and identifying the early responsibility of content and heritage creators.

The policy tool is still new and has to be very flexible in order to accommodate the needs of each sector, the characteristics of the materials, and the diversity of national and local regulations in place. All this makes it difficult to combine the components of a digital heritage preservation policy in a logical and rational structure. European traditional practices do not usually have internal written procedures that are formal and official, and they tend not to acknowledge technical responsibilities in this area. There are some exceptions in the English-speaking world, which often, though, does not have specific regulations, but only a general framework. This study, which describes the experiences of the most relevant conservation and research institutions, shows that currently there are only a few specific regulations, especially in regard to record creators (public administrations

⁵ For example, the Central National Library in Florence has adopted the procedures described in the SIP phase of the OAIS model and has developed—in a working group comprising all digital heritage sectors—an XML schema for metadata syntax structure and a namespace that enables to determine in an unambiguous way the terminology in each prescribed metadata format (*MAG Schema*, version 1.0, 2003-05-20, available at: <http://www.bncf.firenze.sbn.it/progetti/mag/>. Last accessed: October 12, 2003).

and companies in relation to their digital repositories, publishers and documentation centers in relation to electronic publications).

Besides the document prepared by the ERPANET project (*Erpatools. Digital Preservation Policy*)⁶ there are not many examples and suggestions for developing digital preservation policies. In the library field, an interesting proposal is the one of the National Library of Australia,⁷ which identifies as essential criteria:

- legal deposit requirements,
- migration formats,
- emulation strategies areas of application,
- documentation of recovery and transfer activities,
- media standard definition,
- description of procedures and structures for software preservation and for technology monitoring,
- a schema for the use, at the national level, of a persistent identification code,
- identification and description of negotiation procedures with the owners/creators of the original digital materials (for example, publishers, in case of limited access to digital materials that have been deposited early),
- definition of criteria for selection and distributed allocation of contents and responsibilities.

The access code of practice, the documentary system management manual (in the Italian model), the procedures and guidelines for digital deposit and for transfer systems (for example, in The Netherlands) are further integrative and partially substitutive tools, which are applied to specific categories of documentary products, but which are still far from being regulated at the national level.

4. *Conclusion: From Projects to Services, From Improvising to Taking Responsibility and Adopting Rules for Digital Preservation*

All the survey participants wished for a transition, in the near future, from the current occasional and temporary projects to continuing, stable and reliable services. This transition cannot be taken for granted, because it requires adequate financial resources and professional expertise, and, most of all, it depends on the official recognition that there is a pressing need for systematic action. The situation is still very uncertain, also because “at this time, technologies frequently are designed and developed more for the benefits of vendors than for users;”⁸ in this uncertain situation, the effort to support cooperation and partnership initiatives between document creators and institutional repositories is indispensable. National regulations and, even more, internal policies, may become essential in prompting creators to take an active role. Everybody identifies this requirement as the first condition for the results, which have been achieved so far through hard work, to become even more relevant in relation to the quality and quantity of materials preserved at a reasonable cost, and in relation to the feasibility of digital heritage management activities.

⁶ The document, compiled by Lucia Lograno, is available on the project’s web-site (www.erpanet.org) and is also published as an appendix to this report.

⁷ Neil Beagrie, *National Digital Preservation Initiatives: An Overview of Developments in Australia, France, The Netherlands, and the United Kingdom and of Related International Activity*, Washington D.C, April 2003.

⁸ Stewart Granger, *Digital Preservation and Deep Infrastructure*, in “D-Lib Magazine” (February 2002) (available at: www.dlib.org/dlib/february02/granger/02granger.html. Last accessed: October 12, 2003).

The author points out that the current environment, ruled by market needs, has created some heavy consequences for preservation: uncontrolled obsolescence of hardware and software, content obsolescence when access is restricted, and excessive data protection.

As Stewart Granger and the cited NSF-DELOS report rightly point out, solutions have to be sought through a higher level of activity in digital communities. These communities should be able to effect significant cultural change and to stimulate the market, through the development of flexible preservation strategies and of regulations attentive to user needs and their representatives (heritage custodians), as well as through the promotion and adoption of standards and open systems. This promotion and adoption activity, though, will have to overcome the obstacles posed by the proliferation of metadata and standards, which, on the one hand, is necessary, but, on the other hand, may actually hinder the process that these tools were born to support.

In a development process that is everything but linear, increasing potentials go together with new contradictions that only a future reference framework will be able to eliminate. The success of some initiatives taken over the past few years, thanks to the mindful and farsighted support activity of the European Union for the information society, shows once again that cooperation is indispensable and requires the adoption of shared regulations. Among the initiatives, are the NEDLIB project, the MoReq (Model Requirements for Electronic Records Management) study, the Minerva and the ERPANET projects, which are both assuming an increasingly relevant role in creating or supporting research and practice communities. These are only a few examples of initiatives that almost invariably choose to develop or adopt technical guidelines and standardization activities.

The final study report illustrates the preservation function, also describing new aspects of current activities and making explicit needs that had not been clearly articulated in any of the other studies conducted to date in this area. For example, from the study it emerges the relevant role of new governing bodies and regulatory tools that many governments have created in order to support information society activities. The Authority for Public Administration Informatics (now National Informatics Center) in Italy and the ATICA (Agence pour les technologies de l'information et de la communication dans l'administration) in France are excellent examples of bodies that—in new forms and environments—carry on an actual interdisciplinary action and, through the development of guidelines and technical recommendations, are able to intervene in the complex area of digital heritage creation and management (although not yet preservation).

It is a world that moves cautiously, slowly, too slowly compared to the existing risks and to the loss of materials that occurs every day without us even noticing it; but yet it moves. Along with these transformations, it grows the awareness of the new needs and requirements that have to be identified and supported in order to guarantee the success of current efforts. In particular, the survey—see Section 2.8—has allowed us to identify consensus among technical operators in regard to the need for framework development and for an adequate institutional effort—both at the European Union and at the national level—that may ensure the positive outcome of the indispensable cooperation activity, within a shared operational strategy and with the help of human resources more and more professionally trained and politically aware.

The availability of adequate human resources and of their continuing education, though, is another issue, as important as the other ones discussed here. It will therefore have to be the object of further investigation and consideration, although we can already say that any advanced training project needs the support of a consistent regulatory structure, shared within both single institutions and broader contexts. We already mentioned a recent example, experimented with in Italy, which established the requirement for developing policies for the creation and management/preservation of public records systems, within a flexible, but consistent regulatory framework. This experience is positively revealing its potential for raising awareness and promoting engaging training plans: just in government administrations, more than 1300 employees sought enrollment in intensive training courses organized by Aipa in this area and many enrollment requests could not be fulfilled. Awareness and training may give life to that cultural and organizational change that all survey respondents have identified as an essential component of a meaningful action in the course of the mission—because it actually is a mission—to save a relevant part of our heritage.

INTRODUCTION

1. Goals and Objectives

This study—which is part of the ERPANET Project and has been promoted by the Italian Ministero per i beni e le attività culturali and by the University of Urbino—aims to analyze the legislation, regulations and policies governing the preservation of digital materials currently implemented in the European countries and in some important international institutions. This analysis presents an overview of digital preservation issues that is only one first step in a relatively new, complex, fragmented and constantly evolving field. The report focuses in particular on some specific aspects of the introduction of regulations aiming to define costs and benefits of a normative multi-level system and of the responsibilities linked to its creation and maintenance, as well as of its related necessary monitoring and revision activities.

Among its overall goals, this study attempts to provide—with the inevitable limitations of a project designed and carried out in just a few months (May-September 2003)—an overview of national, regional and local legislation and regulations, and of the related normative systems developed (or in course of development) in the area of digital preservation. Besides, this study also aims to make available to the interested professional communities an educational tool able to provide support to who intends to regulate in a systematic and coherent way the complex activities related to the preservation of digital materials in the various sectors of cultural production.

An additional goal—which is not possible to thoroughly address here—is to identify and describe the reasons that led a specific country or administration to develop preservation policies and regulations, and also to identify the problems encountered at the development and, even more relevant, at the implementation stage. In regard to this goal, it is important to point out that, although professionally advanced sectors are increasingly becoming more aware of the necessity to regulate digital preservation activities, there exist a series of issues that still are major obstacles to a full and comparable development of procedures and workflow for managing the digital memory preservation function. Among these issues are the lack of consensus at the political and top management levels, the lack of relevant successful implementations, the substantial confusion about the appropriate intervention procedures and methods, the inadequacy of a solid conceptual analysis and the lack of resources and of strong models. The report provides a picture that is still uncertain and contradictory. The study results enable us to point out how complex our journey is going to be, and make us wish, as supported by the detailed data analysis, for an initiative providing guide and orientation in this specific sector, taken by the European Commission in the research projects, financial plans and political resolutions of the European Union representative governing bodies.

2. Participating Institutions

As previously mentioned, the main goal of this study is the review and analysis of the current state of the digital materials preservation regulations at the general and local levels, as well as of the internal policies adopted by single organizations in this field. The investigative tool identified as the most effective for a study designed and conducted in a very short time was a questionnaire. Although questionnaires have been somehow abused over time, there are no easy alternatives to them in cases like ours, where researchers are pressed for time. The questionnaire was addressed to the people responsible for the most important national European institutions, as well as for the Australian, Canadian and American ones. The respondents were asked to report about their qualified and already implemented digital preservation initiatives. The questionnaire also aimed to gather data that could provide an integrated and relevant picture of the projects under

way and, even more important, of the results already achieved. The overall goal was to make possible to compare, at an international level, themes that are still highly undefined.

Due to the short time available to conduct the investigation and in order to achieve relevant results the questionnaire distribution and the data collection have followed multiple parallel itineraries, so to obtain in a timely manner the necessary answers from trusted and qualified respondents within a geographic area as wide and representative as possible, at least of the European territory and of some non European countries that have matured years long relevant experiences in the digital preservation sector. Therefore, in the first place, we administered the questionnaire to the cultural sector European government representatives through Minerva, the proven most reliable network— as once again showed by the results of this study—which revealed itself to be an important “dedicated” communication channel mostly able to reach the entire European cultural system. This first group of contacts was subsequently integrated with more respondents identified on the basis of existing lists prepared by the European Commission for recent (March 2002) preservation experts meetings. Of course, the role and presence of the principal research and cultural heritage preservation national institutions were taken into consideration and the institutions were asked to take part in the study. These contacts were facilitated by the European group created a few months ago specifically for the upcoming Florence, Italy, digital preservation European conference that has provided the input for carrying out the investigation.

The questionnaires returned in the time allowed—most of them received just during the last available week—have been 47⁹ total: 9 from Portugal, 7 from Italy, 3 each from Finland, France, Germany and Greece, 2 each from Australia, Canada, Latvia, The Netherlands, Sweden and United States, and 1 each from Austria, Belgium, Denmark, Ireland, Slovenia, Spain and Switzerland. The complete list of participating institutions and countries that made the study possible is published in Appendix B.

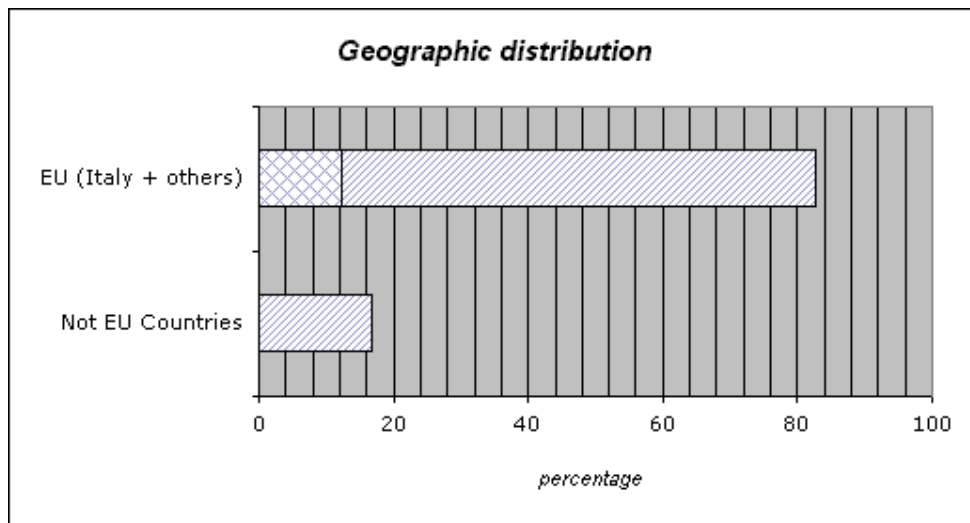


Table 1— Geographical Distribution
(Italy, other European Union countries, non European Union countries)

Portugal stood out for its high percentage of returned questionnaires and, at the same time, gave an essential contribution to the data analysis by providing information on a variety of institution typologies at multiple levels. The Italian responses also made possible a very precise, careful and detailed description of the existing regulations and policies, shedding light on the points

⁹ The questionnaires related to the Nationaal Archief (The Netherlands) and to the Biblioteca nazionale centrale di Firenze (Italy) could not be analysed in detail.

of view of entities that are very diverse because they belong to different sectors and have different missions, such as the conservation institutes at the Archivio centrale dello Stato (Italian Central National Archives) and at the Biblioteca Nazionale Marciana ("Marciana" National Library in Venice) as well as some national central research institutes (Centro nazionale per l'informatica nella pubblica amministrazione/National Center for Public Administration Informatics, Centro di fotoreproduzione, legatoria e restauro degli archivi di Stato/State Archives Photo-reproduction, Binding and Restoration Center, Istituto centrale per il catalogo unico/Union Catalog Central Institute, and Cineca-Consortio Interuniversitario per il Calcolo Automatico dell'Italia Nord Orientale/Northeastern Italy Inter-university Computing Consortium).

France, Sweden and Germany expressed the points of view of archives, libraries and related national administrations; Greece provided information specifically on the university sector. From Finland, responses came from the main institutions preserving cultural heritage in digital form, that is, the country's national library, national archeological museum (Museovirasto) and national archives. Holding a leading position in archival legislation, the Finnish archives provided a detailed picture of relevant national legislation and policy. The Finnish national library presented evolving rules and regulations, paying specific attention to the issue of electronic material legal deposit; the library also described its relevant internal regulation development, necessary for a conservation institute that is rich in digital resources.

Most institutions that answered the questionnaire, especially Section 2, provided a complete and articulate picture of regulations both at the national level and at the institutional level, except for the Danish Ministry of Culture, which answered only the questions on national regulations, because the actual preservation of digital sources is not one of its tasks.

Among the non-European institutions, the San Diego Supercomputer Center in the United States has pointed out its role as advanced research center within the activities of the National Science Foundation (NSF) and its support function to numerous government and research institutions in the area of digital preservation, sharing results especially in regard to the definition of preservation methods and procedures. The Center has also suggested contacting specific preservation institutions in the United States for an analysis of their policies and has listed the California Digital Library (CDL), the University of California, San Diego (UCSD) Library, the Library of Congress, the National Archives and Records Administration (NARA) and the National Historical Publications and Records Commission (NHPRC).

Australia and Canada have provided very detailed information both about national regulations and internal institutional regulations and policies. Slovenia and Switzerland have both presented the point of view of their national archival administrations. These two countries have been so accurate and detailed in their answers that the picture they provided has made available enough elements to allow a meaningful comparison with the situation in the European Union countries.

Finally, it is important to point out the contribution of Latvia, which provided in a single document answers regarding two different institutions (the Ministry of Culture and the National Library).

As it may be seen in Table 2, the participating institutions have mostly been national public administrations (32%), followed by some local/regional archives (30%), local libraries (22%), museums (4%) and, finally, some special collections (2%); another 10% is represented by other types of coordinating and/or research institutions that cannot be easily grouped and clearly defined by disciplinary sectors: the Book and Libraries Portuguese Institute, the University of Patras Information Systems Laboratory, the Companhia Nacional de Bailado in Portugal and the San Diego Supercomputer Center in the United States.

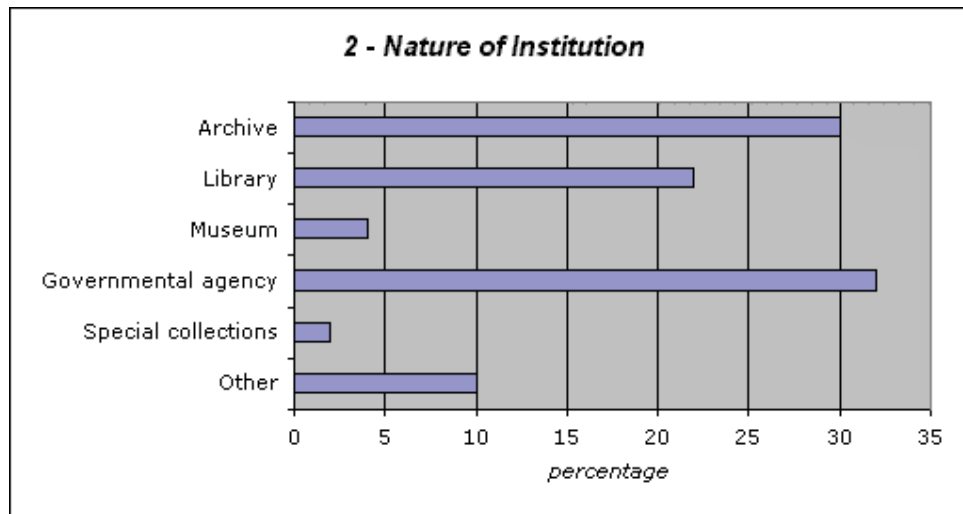


Table 2 —Types of Institutions

The high number of national and state administrations (90%) has provided qualified and trustable information in regard to Section 2 of the questionnaire, which covers national/regional/local regulations and legislation.

3. Research Methodology

The questionnaire (Appendix A) has been designed as an operational tool to gather specific and up-to-date information on the examined topic and it has been sent via e-mail in the months of June and July 2003. The questionnaire has a three-section structure:

1. General Questions
2. National/Local Rules
3. Digital Plan and Policy at Institutional Level

Section 3 is addressed to every institution preserving digital materials and specifically examines some aspects, principles and criteria related to the development of digital preservation regulations and policies: costs, requirements, roles and responsibilities, monitoring and revision activities.

Exceeding the most optimistic initial expectations, 48 responses came in, as mentioned above, representing all European Union countries, as well as Australia, Canada, Latvia, Slovenia, Switzerland and the United States. Such a positive result has also been achieved thanks to the help of the digital preservation working group created with support from the European Commission for the upcoming European Conference in Florence, Italy. The responses underwent an accurate analysis and preliminary comparative data processing. What emerged from the data analysis, as it will be discussed later in this report, is the difficulty of comparing and evaluating situations that differ greatly among each other, both in their sector typology (library, archival, audiovisual and museum heritage) and in their organizational and juridical contexts. Although detailed and exhaustive, the answers did not always take the same approach when discussing the same themes. This different take on the answers is due to a series of specific critical issues inherent to the investigated topic and also to the investigative tool. Regulatory interventions are fragmented (especially in regard to technical regulations within each sector) and tackle digital preservation recommendations from the standpoint of initiatives that have very diverse goals, as it happens, for example, with the regulations governing e-government and ERMS (Electronic Records

Management Systems). In some areas, such as legal deposit and copyright, the regulations apply to more countries at the same time and therefore may be comparatively evaluated more precisely and with less room for misunderstanding. The analysis of the data provided by the third section has been even more complicated, due to the specific links that the data have with the particular organizational and functional structure of each repository and institution. In these cases, the data analysis has been cautious and a description of the quality of regulations has been chosen over a quantitative analysis.

PART I. REGULATIONS AT NATIONAL/REGIONAL/LOCAL LEVEL

Introduction

All the legislative and regulatory initiatives currently in place, and specifically aimed at digital preservation, are often based on the will and the intention of each country to develop clear conceptual structures, to outline standards, procedures and responsibilities, and, finally, to support institutions—at the national, regional and local level—in the development of their preservation plans and strategies. The issue of digital preservation, though, is still so new that many countries still do not have legislation and regulations to refer to.

As shown in Table 3, the study results show that digital preservation regulations at the national level exist in 46% of the countries that participated in the study (Australia, Denmark, Finland, France, Germany, Greece, Italy, Latvia, Portugal, Slovenia, Sweden, Switzerland and United States), while regional and local regulations have not yet been developed in 38% of the cases examined.

As a sign of the extent of the preservation problem, it has to be pointed out that not every institution has been able to fully describe the specific regulations existing at the national level.

It is also important to point out that such difficulty in the inquiry may also arise from the fact that the existing regulations are quite fragmented and unfocused, often included as part of technical dispositions that are unknown even to professionals who are involved in preservation, but not in standardization activities. Furthermore, in this context the meaning of regulations and dispositions is also uncertain, often leading to multiple interpretations. The French ATICA, for example, has listed a “digital preservation guide,” which has not been mentioned in any of the responses from the other French institutions that also answered this section of the questionnaire. The Italian institutions, too, have not always mentioned some regulations (the mandatory documentary procedures management manual, including accessioning activities and specification of preservation standard formats) that yet establish obligations and procedures in this context. Another important issue is that regulations are often generic (as mentioned, for example, by the Schweizerisches Bundesarchiv and by the Ministry of Culture of Latvia¹⁰), or only partially apply to digital materials (Dutch National Library), or make no explicit distinction between digital and non-digital formats (Australian National Archives).

The Irish National Archives answered that they do not currently have an actual law that specifically applies to digital materials: the “National Archives Act” (1986), in fact, includes all records produced by public administrations, independently from their format, affirming a general principle that is positive in theory, but, according to the respondents, is potentially counterproductive in practice, because administrators have come to believe that the Act only applies to paper records and therefore has to be ignored when it comes to electronic records. This interpretation creates great risks for digital materials and, instead of expanding legislative protection, it actually ends up limiting it.

¹⁰ Several national legislative acts have been implemented in Latvia, such as the cultural landmarks protection law, the museum law, the library law, the archives law, the copyright law, the Ministry Cabinet regulations, and more.

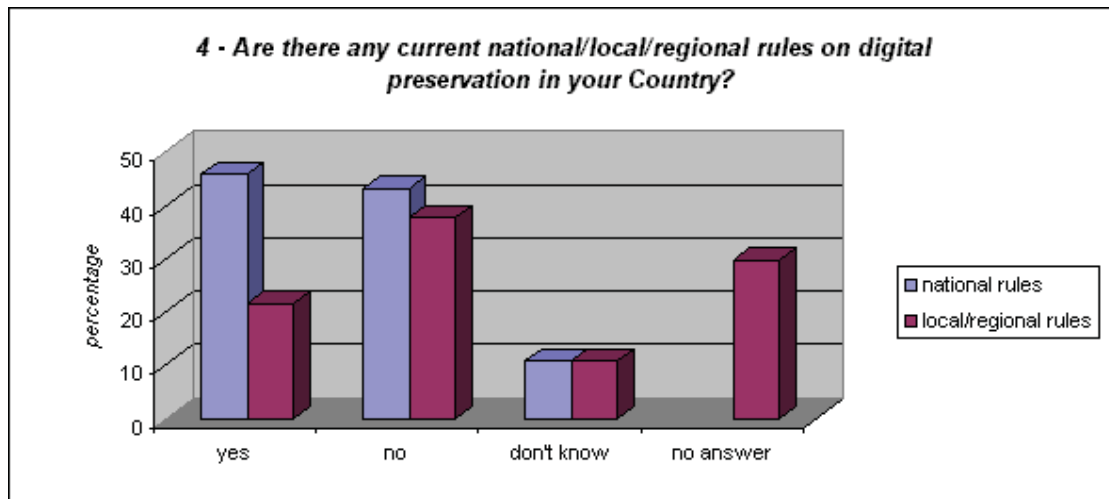


Table 3—Existence of National/Regional/Local Digital Preservation Regulations

The digital preservation regulations currently implemented are, as indicated by 58% of the institutions (Table 4), insufficient, inadequate, unclear and incomplete. In particular, the regulations are considered insufficiently detailed in their description of the digital materials that need to be preserved (Dutch National Library). Even when digital materials are described, preservation specifications are omitted, formats are not defined, procedures that guarantee readability and long-term access are not detailed (Portuguese Archaeology Institute) and not all sectors are always covered. Both the Danish Ministry of Culture and the Public Record Office of Victoria (Australia) have an overall good opinion of their national regulations. On the other hand, the Central State Archives (Italy) say that the specific regulations (Aipa act 42/2001), relying too heavily on technological mechanisms, such as the widespread use of digital signatures to guarantee records integrity and identity, are insufficient in relation to the complexity of the preservation problem. The Archives suggest that there should be further development of the aspects linked to the quality of records creation and management procedures, so to make the records system overall more reliable.¹¹ The Finnish National Archives and National Library have declared that the Legal Deposit Commission has completed a proposal for new measures on legal deposit that will abrogate the measures currently implemented—the Legal Deposit Act and the Act on Archiving of Films—and that aims to cover not only traditional paper publications, but also audio and audio-visual recordings and films, as well as all Finnish electronic publications available through open networks and radio and television programs.

¹¹ Italian archival records preservation regulations are quite fragmented. The DCPM October 31, 2002, promulgated in order to implement electronic records management dispositions, has established some general principles relevant to preservation: it is mandatory that electronic communication systems ensure readability and accessibility over time of the records sent; for the exchange of records and related electronic files the XML format is required and a specific DTD is defined—a sort of metadata schema for records management in the archival environment. Furthermore, the role of digital preservation officer is created, defining, although with many flaws, a mandatory professional profile assigned—maybe in a redundant manner—to the specific function of electronic records and digitized surrogates preservation in every public administration.

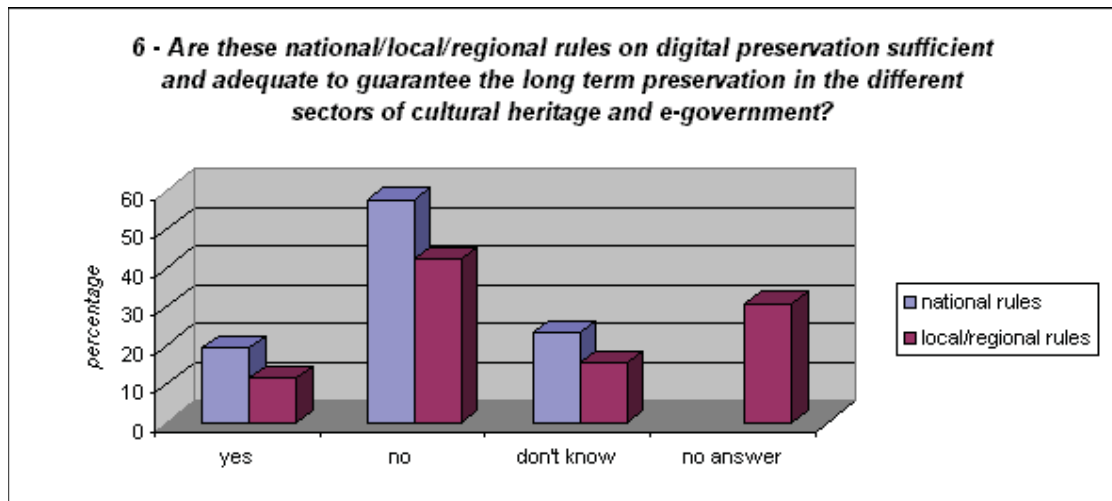


Table 4—Degree of Adequacy of Digital Preservation Regulations

In relation to specific sectors currently controlled by digital preservation regulations, the analysis (Table 5) of the data collected thanks to some institutions participating in the study, confirms the inadequacy of legislation and regulations available within the European Union. Some relevant exceptions exist in the archival record-keeping field, in relation to regulations both at the national level and at the local or regional level (respectively 71% and 29%) and in relation to e-government (respectively 62% and 24%).

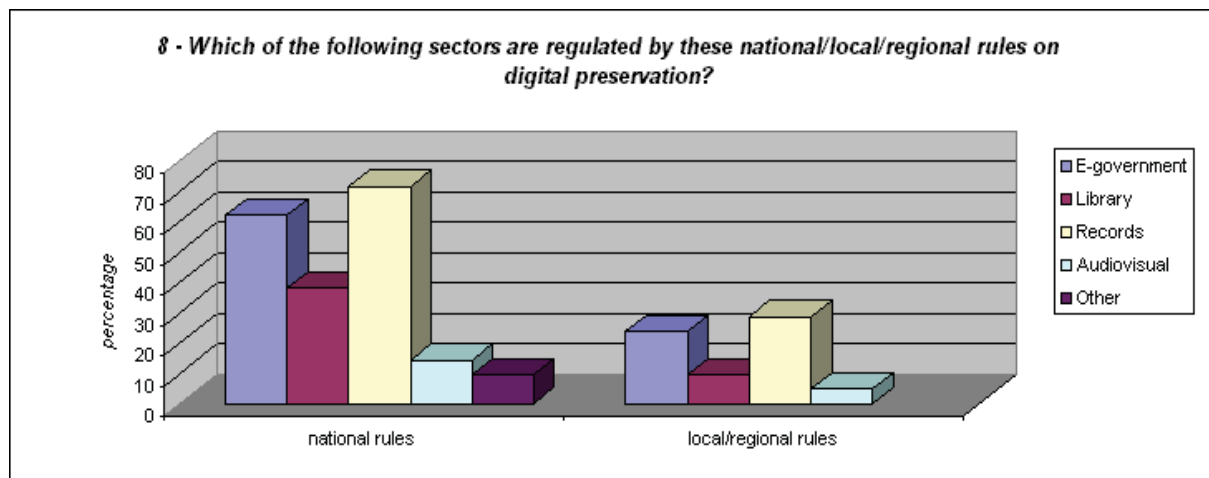


Table 5 – Sectors Controlled by National/Regional/Local Regulations

Currently, considering the insufficient development of digital preservation policies and the constantly increasing amount of digital materials created, 75% of the participating institutions (Table 6) have explicitly expressed their need for the promulgation, as soon as possible, of coherent and specific regulations at the national level. In particular, the “Marciana” National Library, the Central National Library in Florence, Italy, and the Portuguese National Library have all expressed their pressing need for regulations that discipline both the deposit, in the conservation institutions, of electronic sources published on-line and off-line and the deposit of digitized materials. The Canadian National Library and National Archives take a different position, also because of their different juridical traditions, and consider more useful to make available a general reference

framework, rather than promulgate regulations. Most of all, they consider important to increase funding and to raise the level of awareness and knowledge of digital preservation and of best practices. They acknowledge, though, that inside the National Library Act there exist regulations governing legal deposit of some electronic publication typologies, for preservation and access purposes.

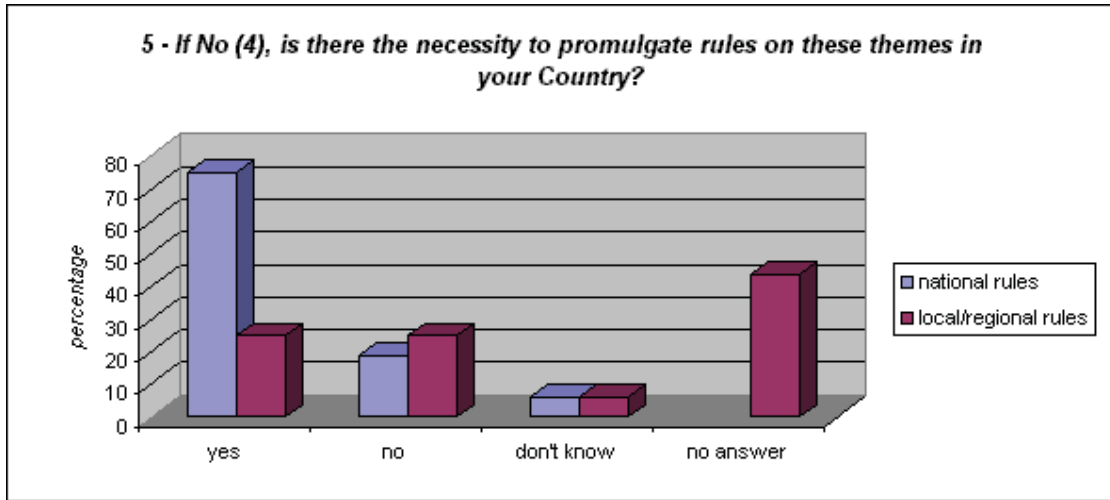


Table 6—Need to Develop Digital Preservation Regulations

Section 1. Roles and Responsibilities

The governing bodies in charge of protecting cultural heritage (representing 75% at the national level and 21% at the local and regional level, as shown in Table 7), as well as the agencies and committees dealing with e-government, are often the ones involved in promulgating digital preservation regulations at both the national and regional and local levels.

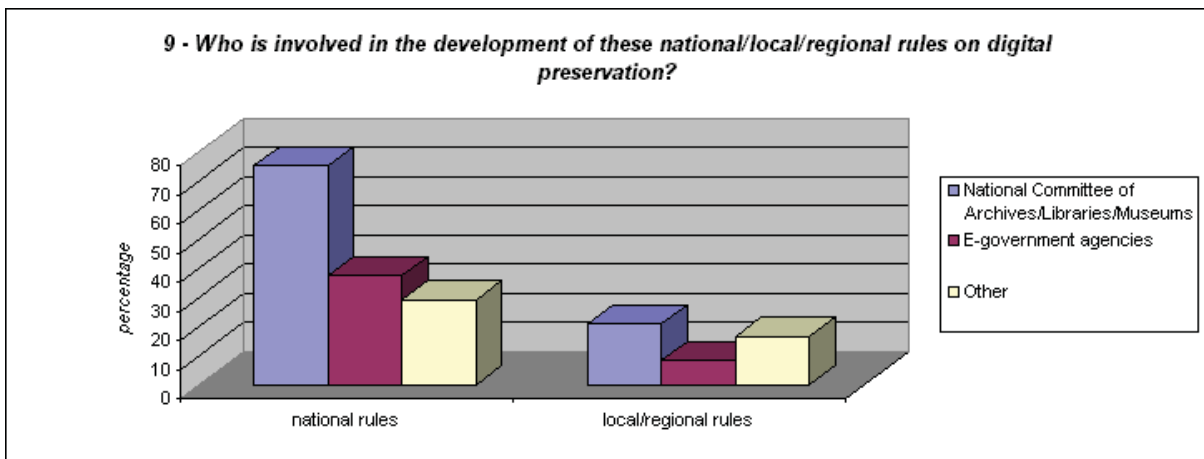


Table 7—Groups Involved in the Development of Digital Preservation Regulations

The information, quite detailed in some cases, provided by the participating institutions in regard to the responsibilities for defining digital preservation regulations, once again shows great variation, which is also determined by the characteristics of the institutions answering the questions.

In some cases, technical responsibilities have been identified as part of the tasks assigned to governing bodies and to organizations in charge of cultural heritage, both at the general level and for specific sectors. In other instances, answers have pointed to specific institutions, especially for e-government activities or for scientific research sectors. It is of course not possible, here, to give a detailed account of this area.

It is equally complicated—and maybe not that relevant, also because of the non-uniformity of the responses—to describe the characteristics, the required skills and the role of the people and organizations in charge of preservation. We will therefore only provide some examples of the diverse situation that emerged from the data. In Italy, the types of requirements for the archival sector are technical and documentary,¹² as established by article 61 of the dpr 445/2000, a decree concerning the officer responsible for the Servizio per la gestione informatica dei documenti, degli archivi e dei flussi documentali (Service for records, archives and records-flow electronic management). In Germany, officers in charge of preservation activities for both traditional and digital materials are the ones who manage archival repositories. These professionals are required to have a general knowledge of Information Technology and to hold technical qualifications, such as system administrator. In Canada there are not specific regulations, but a recent policy on Management of Government Information (MGI) has identified precise areas of responsibility for administrations involved in Information Management at the national level (Treasury Board Secretariat, National Archives, National Library, and Statistics Canada) and at the level of single organizations.

Section 2. Types of Regulations

The outcomes of the data analysis carried out for this study have shown (Table 8) that currently 64% of the participating countries have not yet promulgated regulations governing the creation of reliable and secure (trusted) digital repositories, although some institutions (Dutch National Library, San Diego Supercomputer Center in the United States) said that these regulations are in course of development. The Public Record Office of Victoria (Australia) has pointed out that such repositories are subject only to regional and local regulations. Switzerland said that these kinds of regulations are required, in the archival field, only for archival materials preserved at the federal and cantonal level.

¹² In Italy, according to the information provided by the Centro nazionale per l'informatica nella pubblica amministrazione (CNIPA) (National Center for Public Administration Informatics), in order to increase digital preservation officers' level of knowledge, training courses are periodically organized, although their operational quality is deemed inadequate by the organizers themselves.

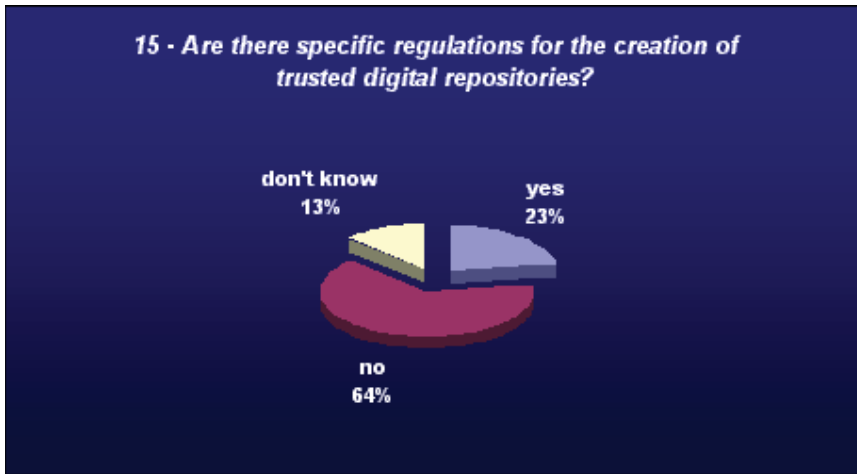


Table 8—Existence of Regulations Governing Digital Repositories Security

In regard to specific regulations promulgated in order to ensure that the preserved digital information be complete, accurate and identifiable, the data (Table 9) have shown that countries have only worked toward this goal at the national level (59%). Canada has specified that it has not yet promulgated these kinds of regulations, although the requirements for completeness, accuracy and identity of materials are currently part of the MGI policy mentioned earlier. Canada has also pointed out that there is an increasing awareness among institutions of the need to prepare shared metadata lists for various administrative sectors, and, furthermore, that the National Archives are expecting administrative structures to move towards the adoption of classification systems based on functions rather than subjects.

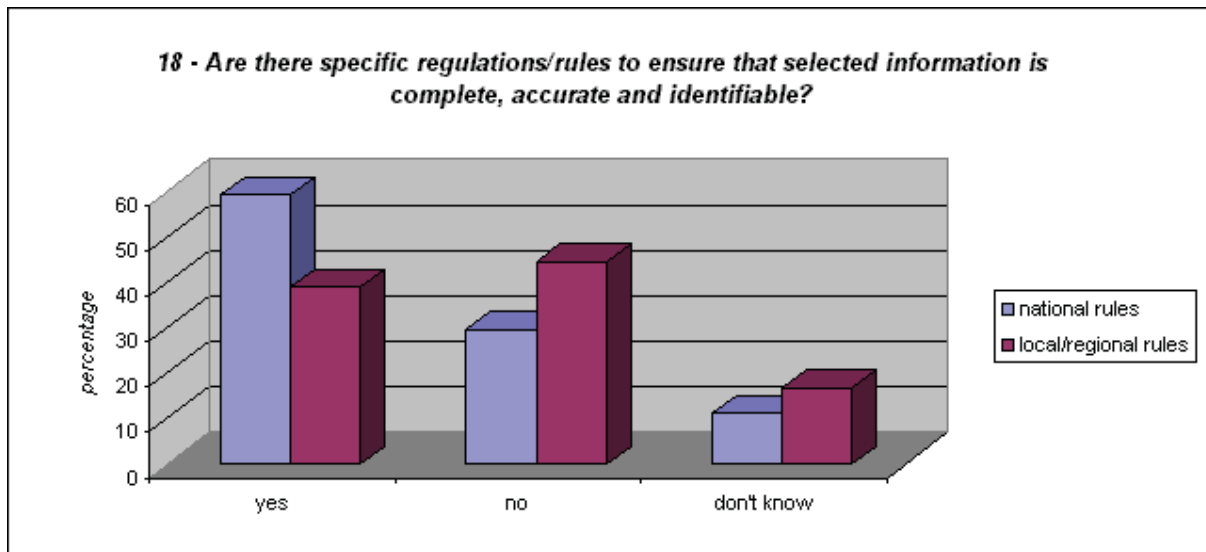


Table 9—Existence of Regulations Ensuring Completeness, Accuracy and Identity of Preserved Information

Currently, both at the national (47%) and local and regional levels (47%), there are not yet—according to the data gathered (Table 10)—rules and regulations mandating that the institutions develop internal policies specific to their plans of action. The Dutch National Library

stated that, within its experimental project dedicated to the permanent preservation of digital materials, *Digital Preservation Tested*, specific guidelines are being developed. Canada pointed out that the National Archives provide this type of guidelines for managing the various aspects of archival recordkeeping. It also pointed out that the National Library follows international standards (such as the *Anglo American Cataloguing Rules*) and provides appropriate information to the Canadian library community. In Italy, the dcpm October 31, 2000, explicitly mandates the legislative obligation, for all public administrations, to develop an internal management manual. This manual has to carefully regulate the activities of registration, classification and archiving of records and, because of its detailed degree of analysis, it has to become a first significant step towards quality certification of the administrations' actions in the documentary sector.

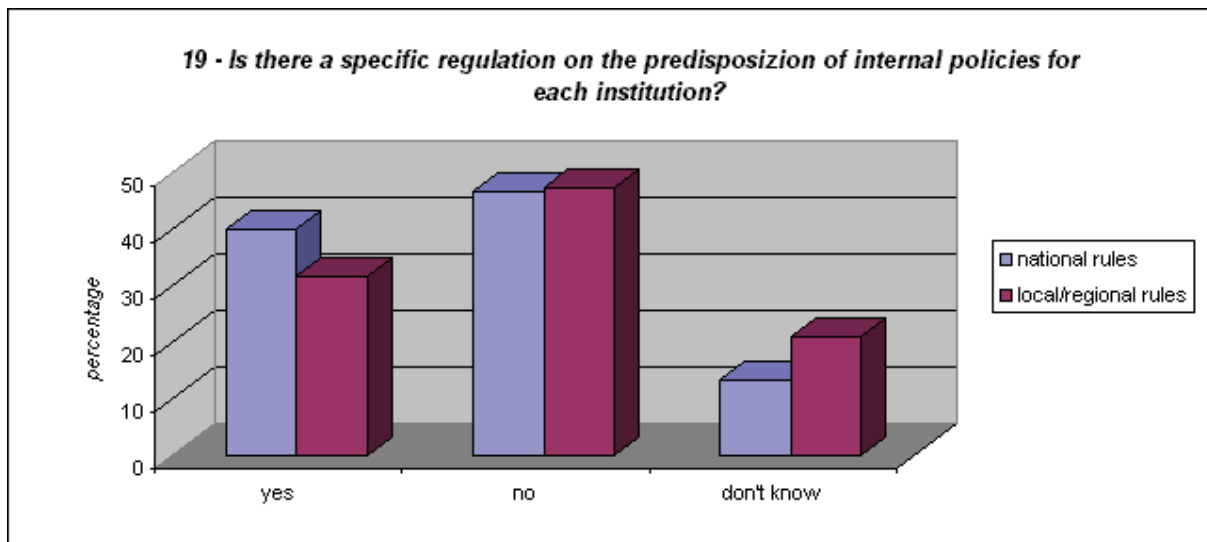


Table 10—
Existence of Regulations Governing Institutions' Internal Guidelines Development

Section 3. Standards

Digital materials preservation regulations should also address adoption and development of standards for electronic media, digital data formats, organizational policies and data exchange. The study has shown that, currently, among the participating countries only 8% (for national regulations) and 4% (for local and regional regulations) have said to have regulations in place that identify general standards or standards specific to each field of application (Table 11). In regard to the field of application, the data analysis showed that, in most countries (88% for national regulations, 50% for local ones), regulations mostly define standards for digital data formats (Table 12), followed by standards for media, policies, and, only in a few cases, for metadata, and for physical and logical formats required for permanent preservation.

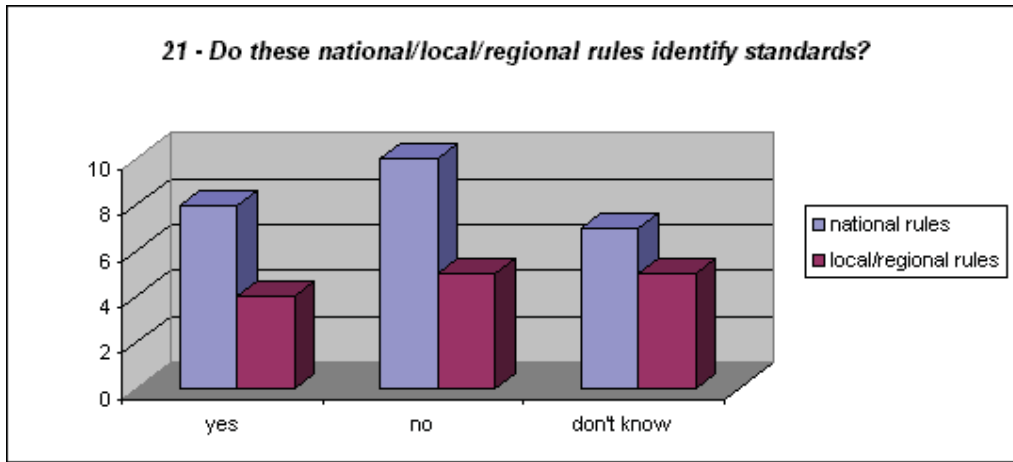


Table 11—Existence of Regulations for Standards Identification

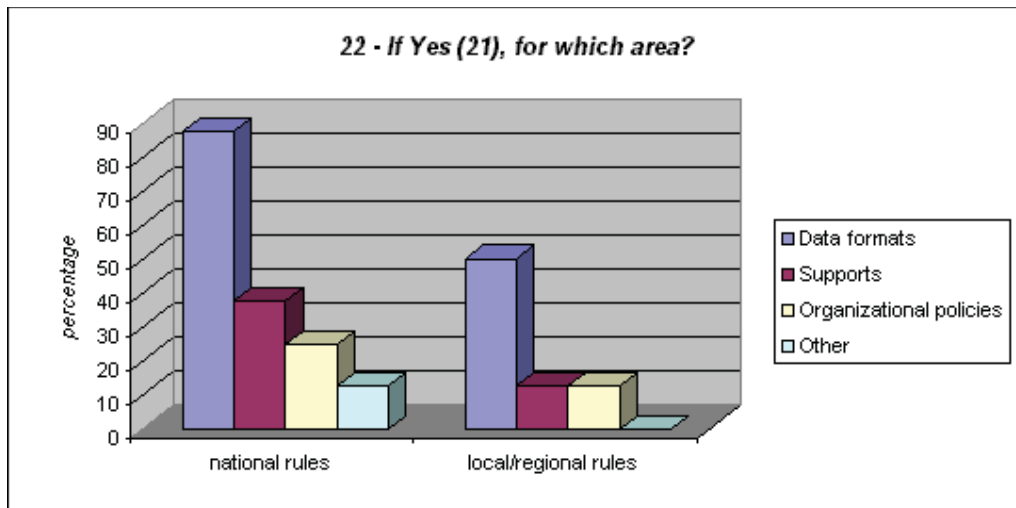


Table 12—Areas of Standards Application

Section 4. Outsourcing

In relation to outsourcing, according, respectively, to 64% and 68% of responses, national and local/regional regulations do not currently address correct digital materials management and preservation (Table 13 and Table 14). It may be observed, within these percentages, that at the national level only 12% of countries—including United States, Greece, Australia, Germany and Ireland—forecast the development of such regulations in the upcoming future, while values tend to increase at the local/regional level.

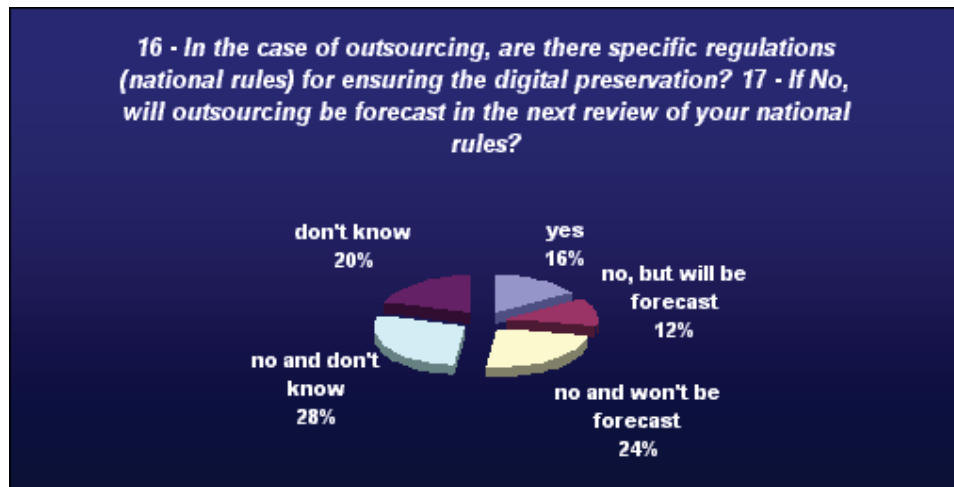


Table 13—Existence of National Digital Preservation Regulations in Case of Outsourcing

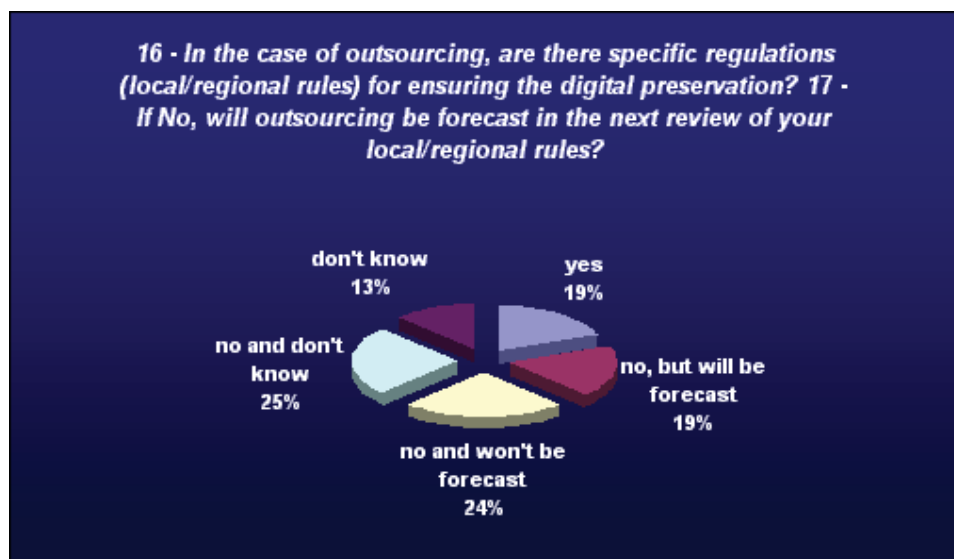


Table 14—Existence of Local/Regional Digital Preservation Regulations in Case of Outsourcing

Section 5. Review of Regulations

The responses show a high degree of uncertainty about the existence of review mechanisms to be applied to digital preservation regulations. Some contradictions have been found within the responses of single countries, presumably caused by the different points of view and sectors of the respondents. What clearly emerges from the data is that, in this area, the national and local regulations of each country are destined to lose their validity in a short time, due to the ongoing technological changes and to the organizational transformations that often occur as a consequence. Switzerland pointed out that regulation review procedures are part of the more general updating process of the activities of the Federal Archives and National Library. Italian regulations governing electronic records management (dpr 445/2000 on administrative records, dpcm October 31, 2000, approving the related application rules, and Aipa technical regulations on replacement reproduction and digital preservation) have already been repeatedly modified in the last few years and include a specific rule requiring updates at least every three years.

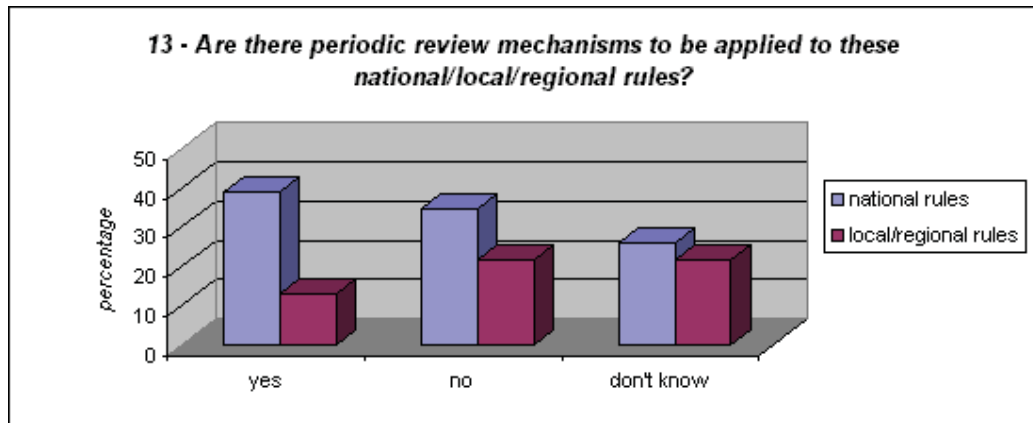


Table 15—Existence of Mechanisms for Review of Regulations

As shown in Table 15, at the national level periodic review of regulations is carried out in 39% of countries, while at the regional and local level it only occurs in 13% of cases. In Australia, for example, review mechanisms are in place only for local and regional regulations, which are rarely updated, though. In France there are national regulations, reviewed every year. In relation to review frequency (Table 16), it may be observed that the countries that update their regulations often are still only a few and therefore not enough to provide a sufficient amount of information to evaluate. The countries that intervene in this area only from time to time are in fact 60% for regulations at the national level, and 20% for regulations at the local/regional level.

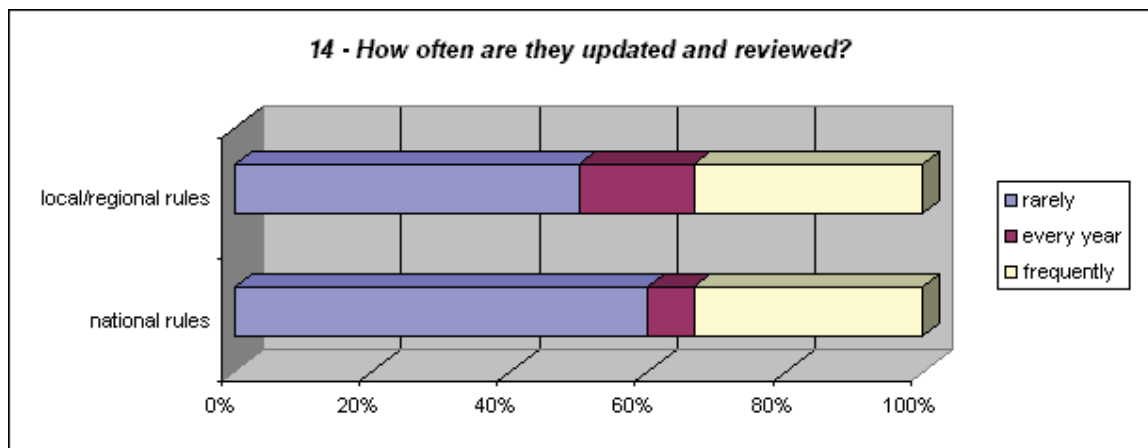


Table 16—Frequency of Regulations Review and Update

PART II. INTERNAL POLICIES AND PRESERVATION PLANS

Introduction

For reasons that have already been discussed in the introductory chapters of this study, it is not simple to unambiguously define the characteristics and functions of organizations' internal regulatory tools, such as policy guidelines that identify procedures and workflow aimed at governing the institutional digital heritage preservation.

In order to better define the field of inquiry and to shed light on the margin of error in the interpretation of the data gathered through the investigation, it is important to clarify that the expression "policy for digital heritage preservation" is used here to include in its meaning: a preservation plan and a set of internal guidelines of the preservation institution, which allow to tackle with different degrees of detail the activities, tools and resources used to secure the digital materials preservation.

The main goal of such a plan is, overall, to guarantee the materials' authenticity, reliability and long-term access, and to provide, at the same time, an internal authoritative guide to the institution in all the activities and tools required to achieve satisfactory results within the institution's mission.

In particular, a policy document, besides pointing out the positive role of the preservation function within the institution's needs, should be able to answer a set of basic questions:

1. What to preserve
2. Why preserve (in accordance with both the general and specific goals of the institution)
3. For how long
4. How

On the characteristics and specific content of preservation policy documents—a topic for which only a limited amount of literature and some examples exist—ERPANET¹³ has compiled an orientation tool, published here as an appendix, that describes the typical structure and the function of each main component of a policy document, and summarizes writing guidelines and main characteristics.

A policy document, at least according to what has been experienced so far in this developing field, should follow a basic model that makes it:

- self-explanatory, persuasive in the way it presents its effectiveness and validity, and clear in illustrating the advantages it promises,
- feasible, operational and easy to update,
- flexible in response to the need of addressing, in an adequate and timely manner, the rapid and frequent organizational and technological changes,
- clear and rational in presenting its specific content,
- easy to understand, yet conforming to high quality standards,
- verifiable and verified through a constant monitoring activity defined according to planned interventions that take into account the organizational, juridical and technological changes.

The questionnaire section about policy has applied to 21 institutions, representative of an extended geographical area and of a variety of organizational functions:

¹³ See also the materials used in the ERPANET Digital Preservation Policies Seminar, held in Fontainebleau (January 30th – February 1st, 2003): www.erpanet.org (*erpaseminars*). Some of the seminar presentations have been expanded and published in *Archivi e Computer* 1-2 (2003).

- Australia: National Archives of Australia
- Australia: Public Record Office of Victoria
- Belgium: City Archives of Antwerp
- Finland: National Archives
- France: Centre des archives
- France: French Space Agency (CNES)
- Germany: Ulm Municipal Archives
- Germany: National Library
- Germany: Federal Archives
- Ireland: National Archives (policy in development)
- Italy: Biblioteca nazionale centrale di Firenze
- Italy: Cineca
- Latvia: National Library
- The Netherlands: Nationaal Archief
- The Netherlands: National Library
- Portugal: Centro Português de Fotografia
- Portugal: Companhia Nacional de Bailado
- Sweden: Riksarkivet
- United States: National Archives and Records Administration
- United States: San Diego Supercomputer Center
- Switzerland: Schweizerisches Bundesarchiv

The available sample is clearly too small to allow a comparative analysis and to identify the most relevant characteristics of tools that are emerging from a new tradition and have only recently been implemented. The available information, though, has made possible a preliminary analysis and the development of some general considerations that might be useful for future initiatives.

Overall (see Table 17), 49% of the responses sent by institutions that are directly in charge of preservation, has, for example, shown the total absence of the organizations' internal regulatory tools. This is a quite relevant—although negative—outcome, especially if we look at it in light of the increasing and constant growth of digital materials housed at the institutions. We could speculate that the negative answers to the section on “Digital Preservation Policy” might have arisen from the fact that the term used (policy) is ambiguous and that the questionnaire was not accompanied by a glossary unambiguously explaining some terms and components that may be too idiosyncratic and linked to very specific sectoral and juridical elements. In this regard, other difficulties have also arisen from some specific questions. However, the overall outcome remains significant and should be reflected upon for future European Union initiatives. During this preliminary phase of analysis we may attempt to identify reasons and relevance of the outcome.

What emerges in the first place is that even the institutions that are mandated to manage and preserve the community's cultural and scientific heritage do not always view as an essential requisite the need to design and systematically apply clear and well defined guidelines and procedures aimed at preservation. The fact that there is not an explicit obligation, at the regulatory level, mandating to draft a policy on digital materials preservation, makes the policy tool entirely optional and therefore scarcely used. Finally, we can point out that the technical and organizational aspects of the problem are highly undefined and this fact does neither promote nor make easy a systematic and well- structured intervention, inevitably too rigid in relation to a constantly evolving practice, such as the type of intervention that would be required if internal management guidelines and procedures were approved, monitored, verified and advertised.

Even when internal policy tools exist, the users degree of satisfaction appears to be quite low: only a 17% says that the tools fully meet the institutional needs, a 6% defines the tools as

inadequate, while the remaining 28% considers them just adequate. It is useful to point out here the answer of the Dutch National Library, which has defined its plan as the best possible in the given conditions, since, in particular, it considers the state of the technologies available for digital preservation projects still largely insufficient. This institution has also remarked—taking an appropriate pragmatic approach—that in this context the expression “current needs of the institution” should be exclusively applied to the need of safeguarding the preserved heritage, therefore employing all available procedures and techniques.

The European Union countries satisfied with their policy are Belgium (City Archives of Antwerp) and Germany (Federal Archives), while Portugal (Centro Português de Fotografia) and Sweden (National Archives) have expressed a negative opinion on its actual usefulness, validity and effectiveness. Overall, most of the institutions fit within the 28% of answers expressing a moderately satisfactory opinion on their available policy; in particular:

- Finland: National Archives
- France: Centre des archives, CNES
- Germany: National Library, Ulm Municipal Archives
- Italy: Cineca
- Portugal: Companhia Nacional de Bailado

The data provided by non European Union countries show that, with the exception of the National Archives and Records Administration in the United States, every institution has expressed a positive opinion of its internal policy.

Sweden (Riksarkivet) has explained that the reason why its policy does not entirely meet the current needs of the institution is the lack of funding allocated for this function; on the other end, the San Diego Supercomputer Center in the United States has pointed out that it is not directly part of its mission to manage digital materials: its main function is to manage the technological growth, with specific attention to migration issues.

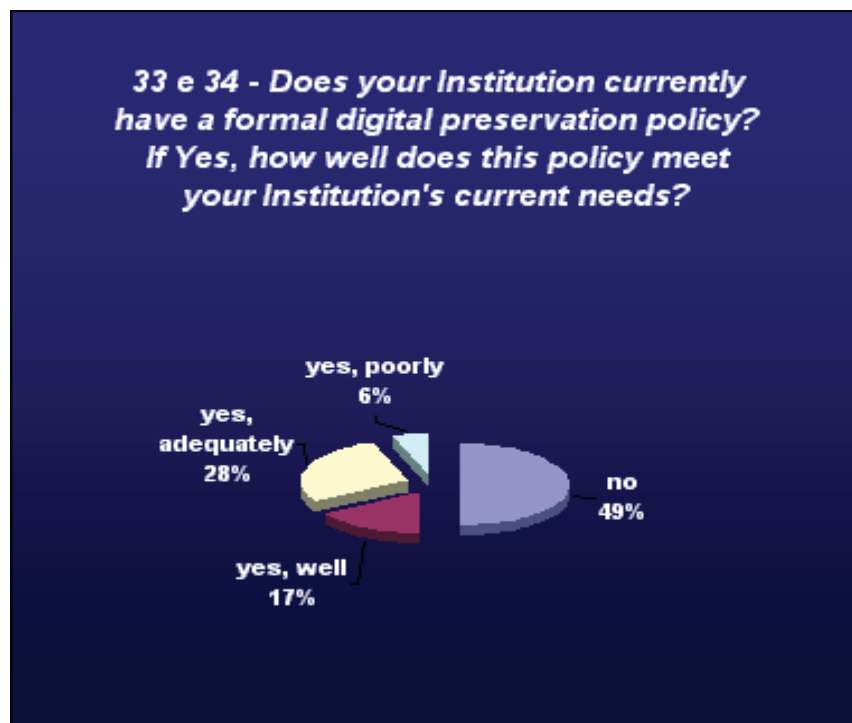


Table 17—
Existence of Digital Heritage Preservation Policies and Adequacy to Institutional Needs

The Australian archival administration (National Archives of Australia) has pointed out that it does not want to make a distinction between internal policies on digital materials and internal policies on materials in other formats: “Another major factor is that our preservation policies, and our policies in general, are format neutral. In our policies we don’t differentiate between digital and non-digital records. It’s in the actual procedures that we make distinction, and there only if there is a need.”

Section 1. Advantages

The correct definition and design of internal digital materials preservation guidelines requires the institutions to do an accurate study of their current situation and to make a remarkable effort, especially in relation to the human resources and funding that from time to time have to be adequately organized and employed. Nevertheless, it provides a series of advantages that contribute to further demonstrate the efficiency and effectiveness of the policy guidelines right from their first implementation.

The main advantage sought, through the drafting of specific policies, by almost every institution responding to the questionnaire (90%), is basically to make sure that its digital materials remain always available and accessible—readable and understandable—in every circumstance, non just in the immediate present, ma also in the long-term future. The institutions’ approach and goals reveal awareness of the fact that a policy tool cannot be conceived as an isolated, independent and definitive entity (even for a limited time). A policy should be a strategic document that—right from the moment of its drafting and approval—may open the way to new interventions and initiatives and may almost always imply—but not necessarily—the planning and development of coherent and valid programs, strategies and operational measures for the protection of the digital resources to be preserved. The policy should also positively and dynamically interact with the many management activities of the institution. The specific outcome of the inquiry on the expected benefits has confirmed what has just been said and has shown that most participating institutions consider the development of a policy document—specifically the document internal to each institution—as a most important action that goes beyond the particular goals declared. This action, in fact, offers the opportunity to systematically and coherently define specific technical guidelines, in relation to the organization and regulation of the activities and processes linked to digital preservation and to the identification, in each category of materials, of the properties and significant attributes that need to be preserved, and of the related responsibilities.

During the data analysis it emerged that for almost 50% of the institutions the approval of a policy mostly means taking responsibility for the digital materials to be preserved, while for a 40% policy adoption represented, within each institution, the chance to implement the idea—too often discussed, but too rarely put into practice—that to invest with awareness and responsibility in the digital future means, in the first place—if not exclusively—to secure, in the current phase, a solid foundation for the memory of the present.

The Public Record Office of Victoria (Australia) has specified, beyond the choices given in the questionnaire, that an additional advantage is securing that always and in any circumstance the interoperability of the preserved digital materials be protected. The Canadian National Archives and the Canadian National Library among the further options chose the one indicating the need to have available a tool allowing to effectively and continually communicate their commitment in this area (“communication of commitment”). The Riksarkivet (Sweden) clarified that its policy is defined within a detailed set of regulations that gives autonomy to the single organizations to choose the

modalities that they consider appropriate for achieving the specific goals of the policy tool, the limitations of which are defined elsewhere.

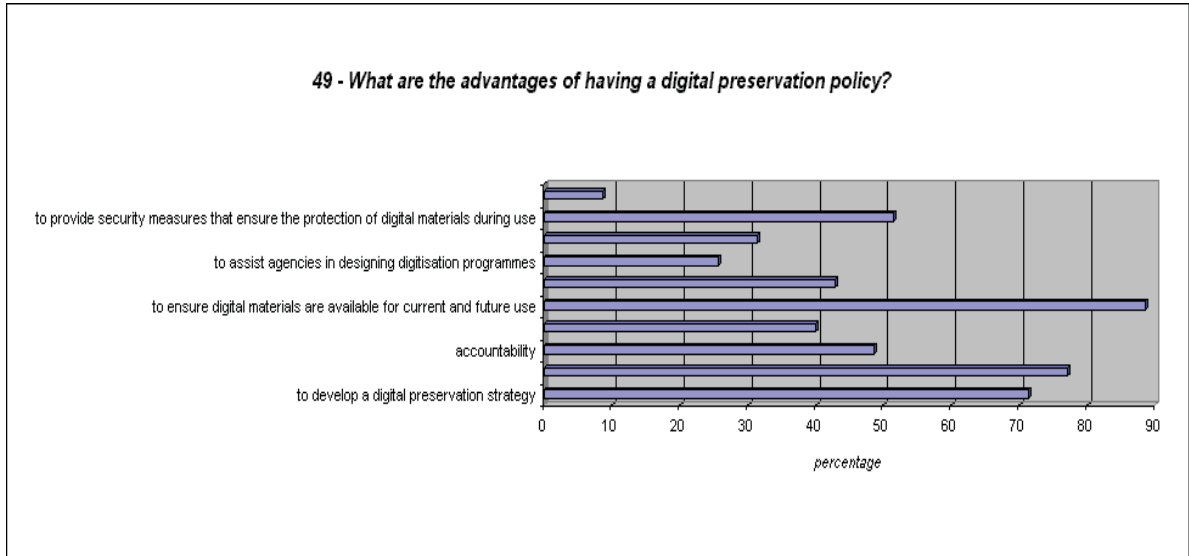


Table 18—Advantages of a Digital Preservation Policy

Section 2. Contextual Influence

A digital materials preservation policy should, in the first place, mirror—has it has been repeatedly pointed out in this report—the way in which the organization operates, specifically in relation to its basic requirements and needs. From the inquiry (see Table 19) it came out that, in 25% of the participating institutions, institutional needs are at the foreground and greatly influence the content and design of each internal policy.

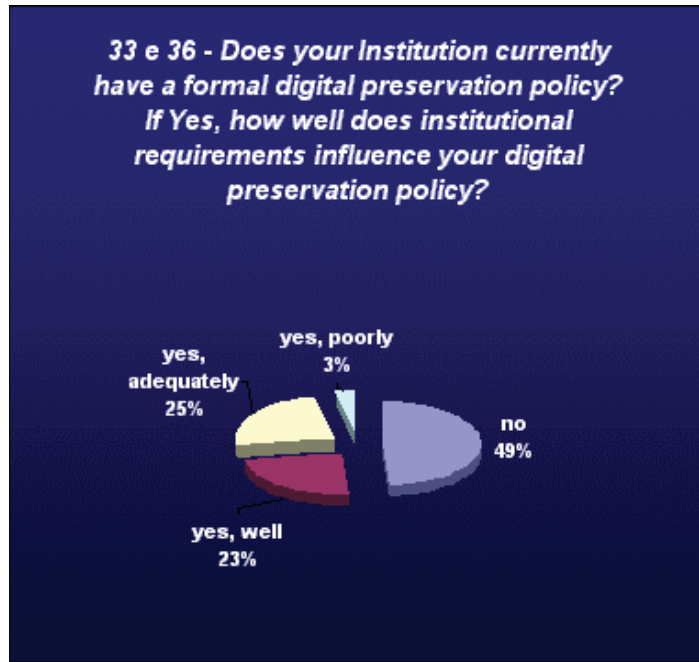


Table 19—Influence of Institutional Needs on Policy Development

The reasons determining policy development (Table 20) may therefore be mostly traced back to institutional needs, which, based on the data analysis, are in most cases identified with the need to secure, for historical purposes, the heritage integrity and accessibility (78%), respectively followed by juridical requirements (50%), administrative requirements (33%) and financial requirements (17%). Specifically about the juridical requirements, the Riksarkivet (Sweden) has referred to what the public sector national legislation has established, also in relation to technical regulations and guidelines. Further specifications (17%) differ among each other: the San Diego Supercomputer Center in the United States and the French Space Agency (CNES) respectively indicate researchers' access needs and value of scientific heritage.

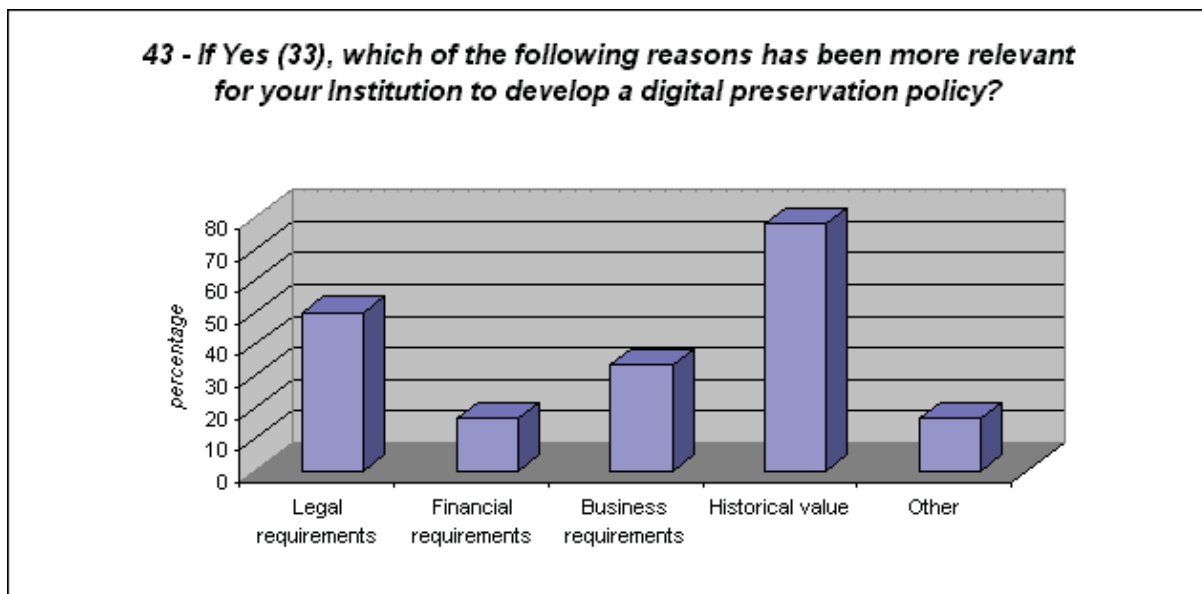


Table 20—Reasons for Policy Development

The specific administrative context of each institution greatly influences policies in this sector. In some cases (as for the Dutch National Library) policy is considered an essential part of the organization's institutional mission. In regard to the importance of national regulations, the situation is strictly linked to the specific nationally legislated state organization, in the relationship between central organs and local and peripheral structures of the country. Some institutions (for example, the Ethnomusicology Institute of the Slovenian Research Center, and the Portuguese Archaeology Institute and Institute for Library Heritage) do not have to be rigid or act in an automatic way when applying in their policies the regulatory principles expressed at the national level. On the other hand, these principles heavily influence the content design of other institutions' plans (for example, in Italy, where a detailed structure for the documentary procedures manual and very precise digital preservation technical rules are required, and in also France, in relation to digital formats regulations). The Australian National Archives have explained that no specific digital materials preservation rules exist and that the existing rules applicable to records management have a strong influence, in indirect form, also on long-term preservation. The Portuguese National Library and the City Archives of Antwerp (Belgium) pointed out that their policies adhere to some specific regulations, such as copyright, security and privacy, more than to general rules.

It is important to point out the approach of the Canadian institutions, which emphasized their opportunity to use regulatory frameworks and guidelines rather than detailed regulations. A diversified situation is also present in the United States, as exemplified by the answers of the National Archives, which evoke the specificity of a situation that does not have a unified national legislation, but allows each Federal Agency to regulate its particular sector.

Section 3. Policy Contents

According to the specific needs of every institution, each digital materials preservation policy should include as part of its content a more or less in-depth and exhaustive discussion of a series of issues mostly related to:

- definition of standards and procedures to adopt, and of the responsibilities and criteria for quality control implementation,
- description of procedures for acquisition, selection and deposit of the materials to be preserved long-term,
- rules for conversion, migration and reformatting.

The study results (Table 21) show that currently the 19 institutions with a policy in place have been mostly interested in discussing and tackling the section on digital materials deposit (88%), while the section that is absent in most cases and that requires the filling of substantial gaps is the one on policy access and diffusion (59%).

Some institutions, as, for example, the Bundesarchiv (Germany), the Riksarkivet (Sweden), the Dutch National Library and the Schweizerisches Bundesarchiv have complete policies covering all the issues here listed so far. The Riksarkivet pointed out that the only issue that is not covered by its policy (but that should be covered) is the one concerning the description of digital materials acquisition and selection procedures.

The Dutch National Library pointed out that the lack of adequate technologies has prompted it to actively participate in the major international initiatives taken in this field, with the specific goal of identifying, in a short period of time, technologies that may enable long-term access to digital materials. In relation to the technical solutions adopted so far, the institution has pointed out

that deposit is managed separately from access functions, although materials are preserved in operational formats and online access is allowed for newspapers only. The Australian National Archives made a different choice in regard to this issue: records are kept in preservation format in an offline repository. Access is ensured by making available, in the reading rooms, the materials in a standard format, together with the necessary reading tools—similarly to what happens with traditional records. The data show that 2/3 of the participating institutions currently provide direct access to their digital materials. Institutions in this category include: the Riksarkivet (Sweden), the National Library, the Federal Archives and the Ulm Municipal Archives in Germany, the Companhia Nacional de Bailado and the Portuguese Center for Photography in Portugal, the City Archives of Antwerp in Belgium, the Finnish National Archives, the National Library of Latvia, the San Diego Supercomputer Center in the United States and the Public Record Office of Victoria in Australia.

As it may be seen in Table 21, the data from the participating institutions show a quite positive situation in regard to the degree of in-depth and focused discussion of the issues included in the policy. Percentages, in fact, are always above 50%.

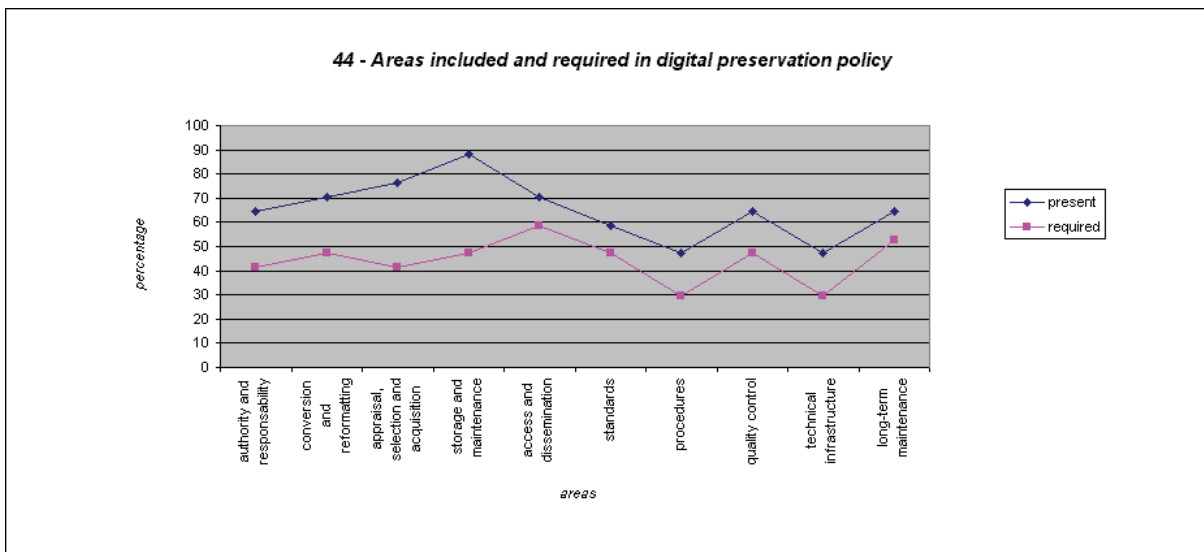


Table 21— Issues Included and Required in a Digital Preservation Policy

As mentioned earlier, guidelines and plans should include a specific section on the definition and regulation of conversion, migration and reformatting procedures. In particular, in regard to the choice of the most appropriate preservation methodology or strategy, the study results have shown that all administrations that answered the questionnaire, with the exception of Greece (Aristotle University of Thessaloniki), always conduct a preliminary study and analysis of the impact that these methods/strategies might have on the digital materials in relation to: intellectual integrity (authenticity and reliability), access, security, readability and interoperability. In regard to the adoption of preservation strategies (reformatting, refreshing, migration, emulation, bundling), the participating institutions said that they mostly use migration (88%), refreshing (76%) and reformatting (71%). The Dutch National Library stated that its policy includes all of the strategies and methods discussed, but that each actual choice depends on specific needs and technical requirements. The Australian National Archives have specified that digital records conversion uses the XML format and that a specific presentation program is subsequently used. In this case,

electronic records are destined to undergo migration through different hardware platforms, while software migration happens only once.

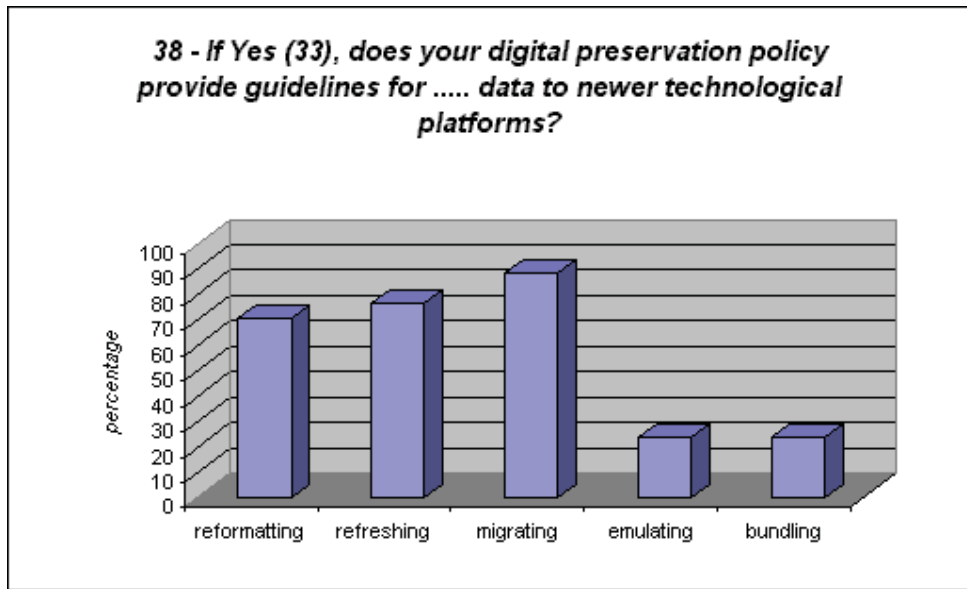


Table 22—Digital Materials Preservation Strategies

Section 4. Roles and Responsibilities

The development of digital materials preservation guidelines requires that the institutions identify specific responsibilities for both maintenance and revision, as well as for monitoring of policy documents. As shown in Table 23, the administrations identified as main responsibilities the ones concerning: the presence of focused internal task forces (12%), external resources for consulting and support (10%), management responsibilities (11%), and human resources for ordinary activities (10%). From the examined cases (Table 24) it emerges that, when developing their plans, experienced professionals often act alone in developing appropriate organizational and technical solutions. The ones who have a lower degree of expertise mostly rely on the review of external literature. Finally, the ones who only have average knowledge still develop internal solutions, but, at the same time, rely on external information, consulting, and models.

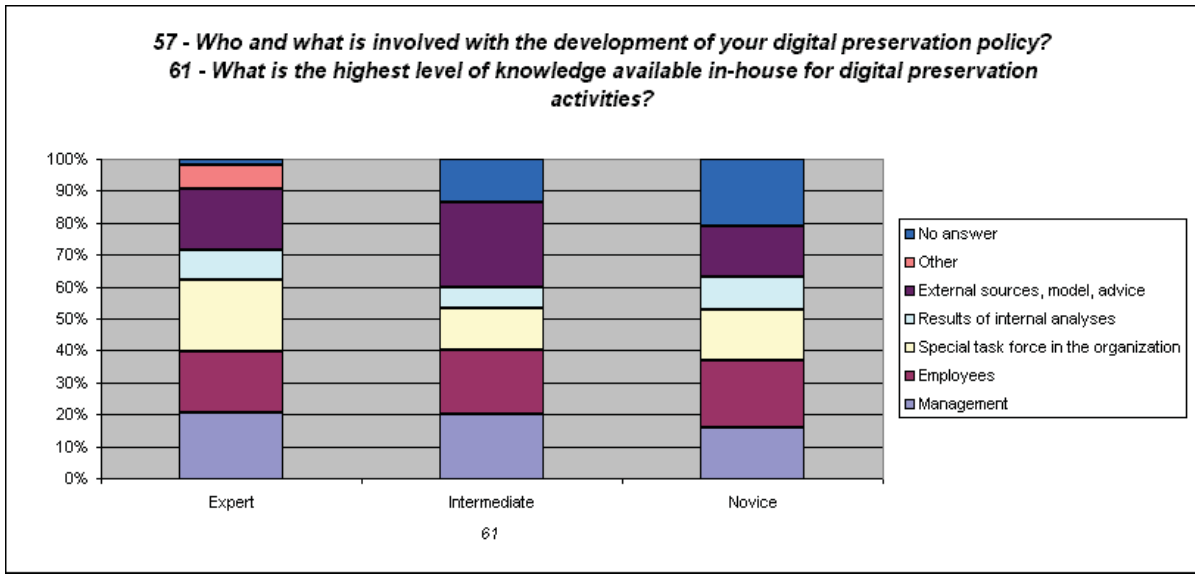


Table 23—Responsibilities for Digital Preservation Policy Development/In-house Knowledge for Digital Preservation Activities

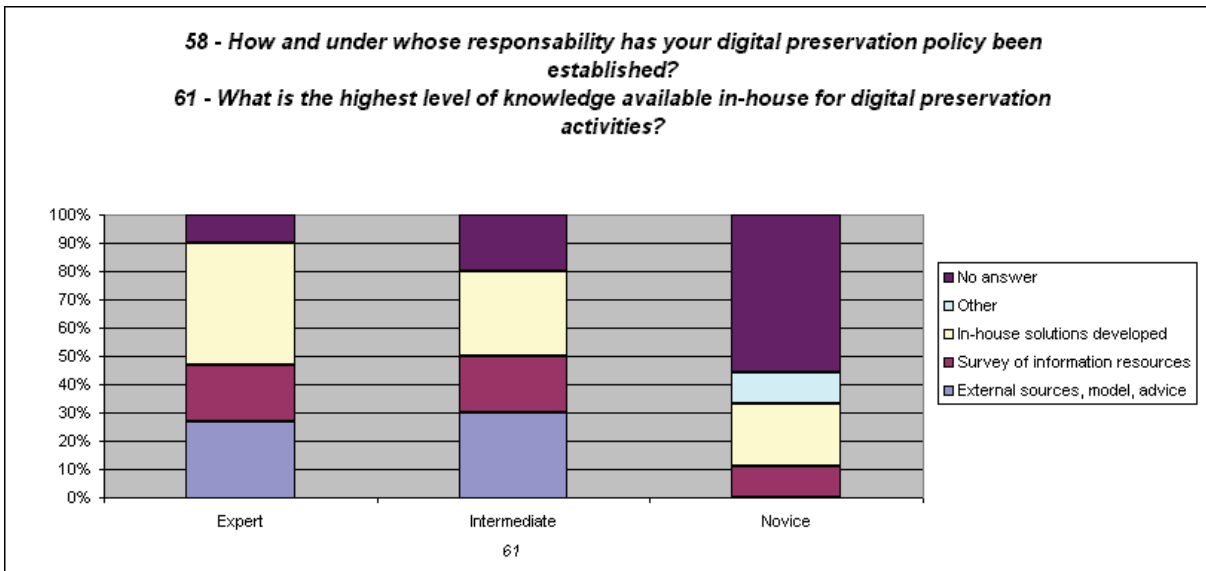


Table 24—Responsibilities and Modalities for Establishing Digital Preservation Policies/In-house Knowledge for Digital Preservation Activities

The study has shown that, currently, 53% of the institutions use external consultants. The Schweizerisches Bundesarchiv has specified that it relies on these procedure for development activities only, while the San Diego Supercomputer Center considers this option has an actual chance to cooperate with other national institutions, such as the National Archives and Records Administration (NARA), universities and companies. Furthermore, the data (Table 25) show that institutions want to increase the level of expertise of their staff/working group in regard to digital

preservation, through specific training in the digital field or general courses taught by external consultants. Other ways to enhance expertise include taking part in international workshops, working groups and conferences (as in the cases of the Dutch and of the Austrian National Libraries) and cooperation with other institutions (according to the France Space Agency). The Australian National Archives have specifically pointed out the increase of staff’s technical expertise obtained by rotating personnel from section to section, including the digital preservation and internal research development sections.

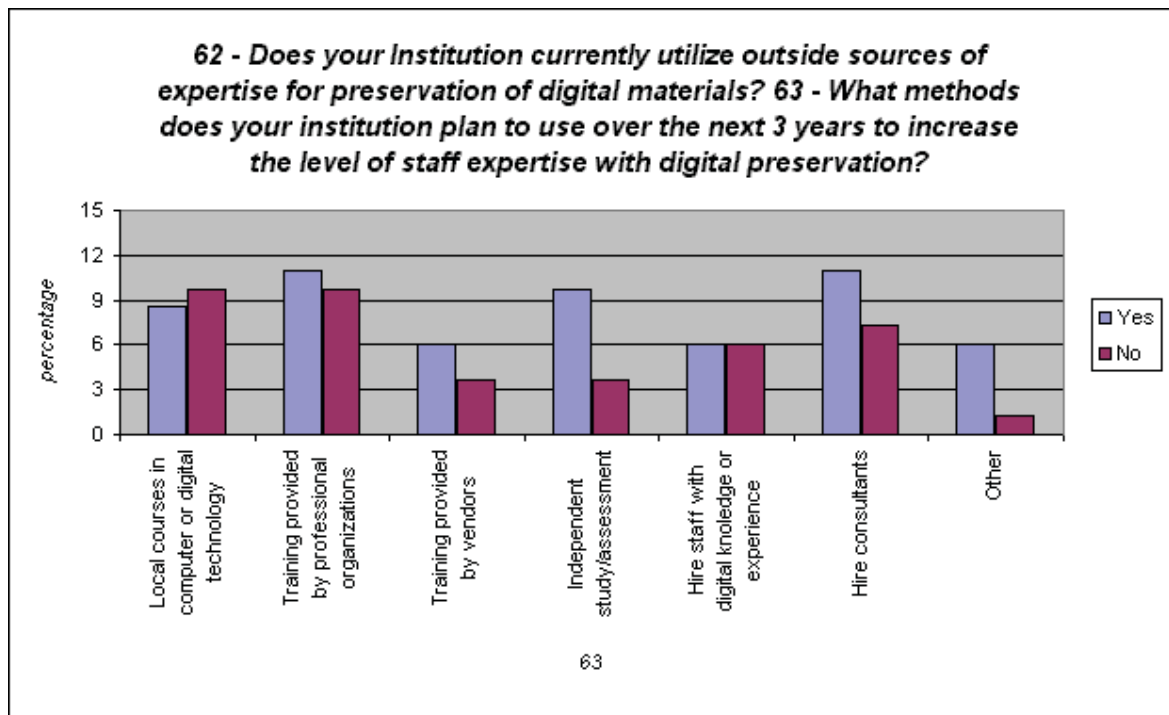


Table 25—Acquisition of Technical Expertise and Ways for Updating It

Section 5. Cooperation and Collaboration

Most institutions—both European and international—often engage in collaborations to develop guidelines, principles, criteria and research projects that may support various countries in the development of standards and of national, international and organizational strategies. Almost all participating institutions (80%), have said to have worked with other organizations to develop policies. In particular, the Archivio centrale dello Stato (Italy), and the National Library and the Museovirasto in Finland have specified that, although they do not have their own internal policies, they have participated in several national and international research projects. Belgium (City Archives of Antwerp) and Australia (National Archives) have pointed out that the cooperation has provided them with an opportunity to compare expertise and experiences. The Central National Library in Florence, Italy, has explicitly pointed out its positive participation in European (NEDLIB) and international (Consortium on Web Archiving) projects, in order to subsequently develop, at the national level, guidelines for the preservation of Italian cultural heritage. As shown in Table 26, each institution cooperates in different ways with several other organizations and, significantly, not only with organizations within its sector. For example, archival institutions do not only cooperate with other archives but also—as shown by the high percentages—with libraries museums and, most of all, with the wider public sector in its different areas of activity For example,

the Finnish National Archives collaborated with the Ministry of Culture and the Finances Ministry, while France and Greece engaged in collaborations with statistics institutes. Significant cooperation also takes place with scientific research institutions, universities, and organizations involved with standards and technical regulations, such as the ATICA (Agence pour les technologies de l'information et de la communication dans l'administration) in France, and the Autorità per l'informatica (Informatics Authority), now Centro nazionale per l'innovazione nella pubblica amministrazione (National Center for Innovation in Public Administration), in Italy. There also exist collaborations with the private sector—which has been repeatedly mentioned in the responses—especially with publishers and software and hardware producers. The San Diego Supercomputer Center in the United States has specified that its cooperation with archives and libraries mostly aims at making available to such institutions its technology and the solutions identified through research projects. The study shows that cooperation mostly occurs at the national and international level and that the workload is shared among institutions also according to the specific research projects undertaken. For example, this has happened for the many European libraries that participated in the European NEDLIB project, and for the Dutch National Library's participation in the IBM promoted "e-Depot," aimed at developing IBM's digital repository.

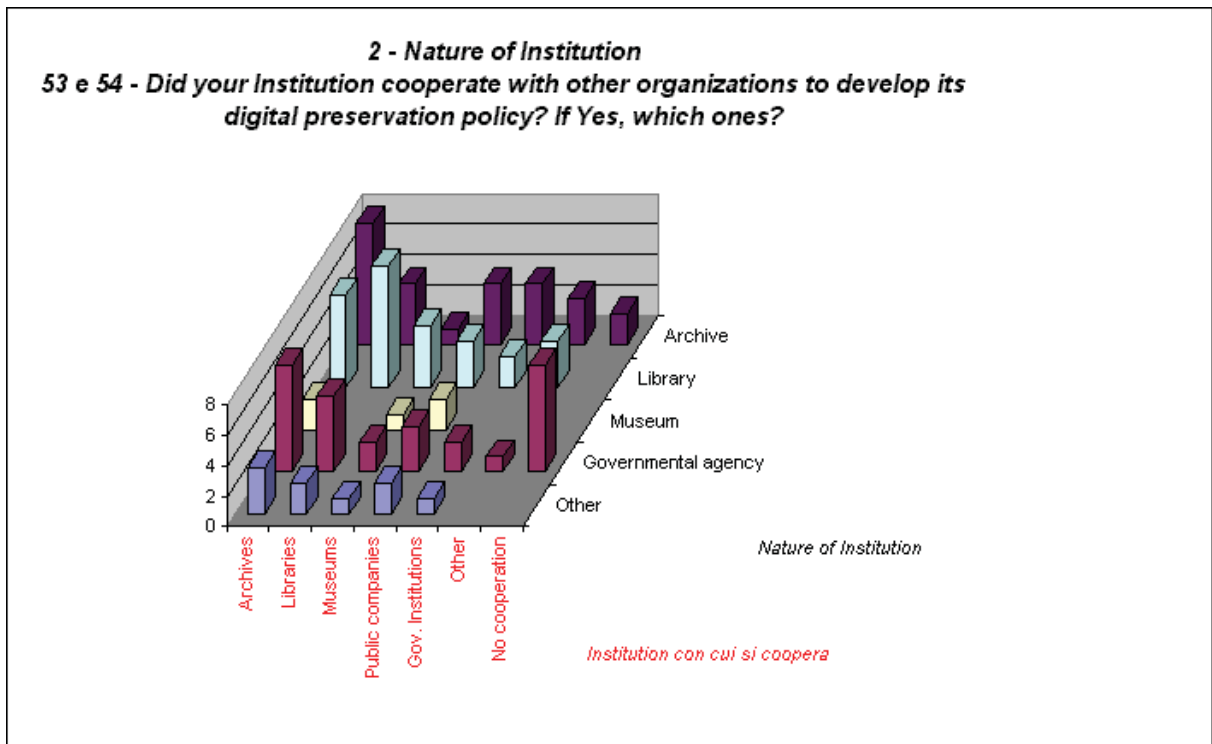


Table 26—Cooperation for Policy Development

Section 6. Costs

The costs of digital materials preservation activities and of their specific supporting tools (in this case, policies and guidelines) are a critical issue that has made the communities involved embark on a long quest for an answer, which so far has not provided any sufficiently detailed results, also due to the fact that up to now there are very few experiences to compare. The drafting

and subsequent revision of a digital preservation policy require the institution to seek and make available sufficient resources, both financial and human, to be employed in various activities, although such resources are not usually applied exclusively to this task. In fact, the study results show (Table 27) that only in 13% of the institutions costs for policy development are a significant entry in the budget, while in most cases (34%) the funds allocated are more limited. The Public Record Office of Victoria (Australia) and the National Archives and Records Administration (United States) pointed out, in particular, that the most significant cost component applies to the implementation and initial development of a policy system, while they consider less relevant (although different) all the subsequent activities of revision and monitoring.

Specifically in regard to the costs of policy monitoring and updating, as shown in Table 27, the data have shed light on a decreasing value scale in which the lowest cost factor corresponds to the highest percentage of institutions participating in this study (33%).

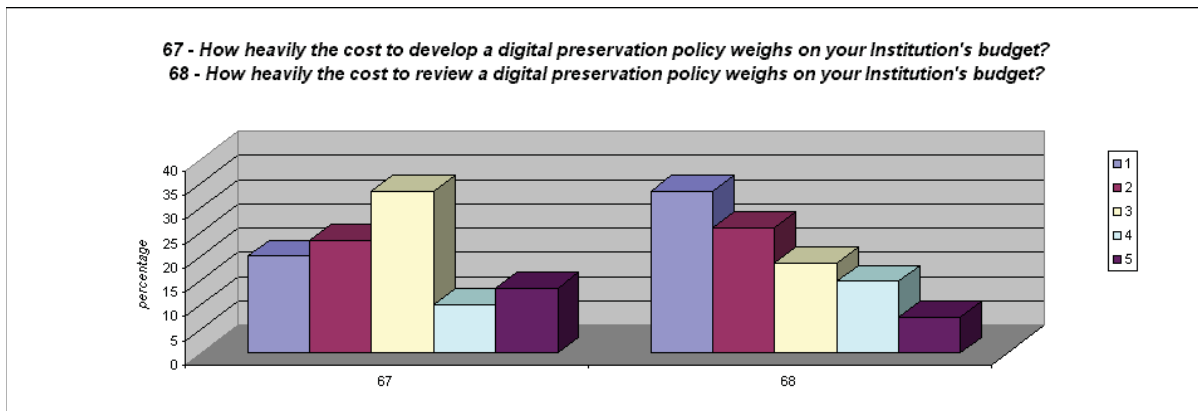


Table 27—Costs of Policy Development and Update

Another theme is funding availability in the participating institutions that are engaged in identifying the materials specifically intended for digital preservation. The data show that in most cases (53%) it is difficult for the institutions to find internal available resources, although they consider identifying materials for digital preservation an essential part of their preservation function. The data analysis also reveals that only half of the participating institutions have internal availability of specific resources for the preservation of their digital materials (47%). Some institutions (for example the City Archives of Antwerp and the Dutch National Library) have pointed out that funding from the European Union is limited and that, in general, all funds provided from the outside, both at the international level and on the part of the private sector, are also limited. One of the outcomes of this lack of resources is the almost complete impossibility to hire external consultants. Another outcome, that is, the common decision not to outsource services (outsourcing tends to be very costly) might arise not from budget constraints, but from the need—in organizations largely dedicated to heritage preservation and aware of the cultural value of digital materials—to directly manage a fundamental function, which is rightly considered “core business” within the institutional mission. It may be noted here that, currently, relevant and widespread experiences of outsourcing in the digital preservation field do not seem to exist (Table 28).

39 - If Yes (33), does this policy provide that your Institution takes care of its digital preservation activities itself or are these outsourced?

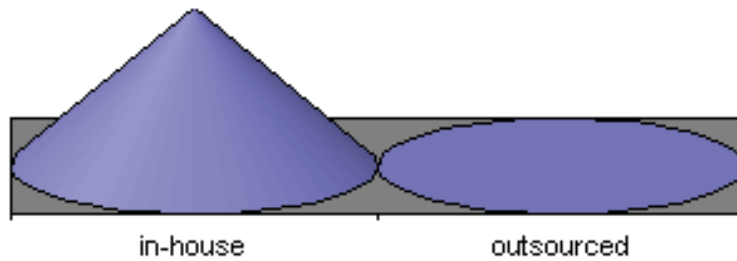


Table 28—Outsourcing

Answering to the question asking what services would the institutions use if available at a lower cost, institutions have generally presented some options (although varied according to the institutional functions), while the National Archives of Australia have explicitly denied that they would use any of these services. In particular, as shown in Table 29, training (78%) and definition of standards and best practices (78%) are the services that the institutions currently seem more favorable to seek outside, contrary to the services identified, for example, as “consultant services” (47%).

71 - Which of the following digital archiving services might your Institution use if they were available at a reasonable cost?

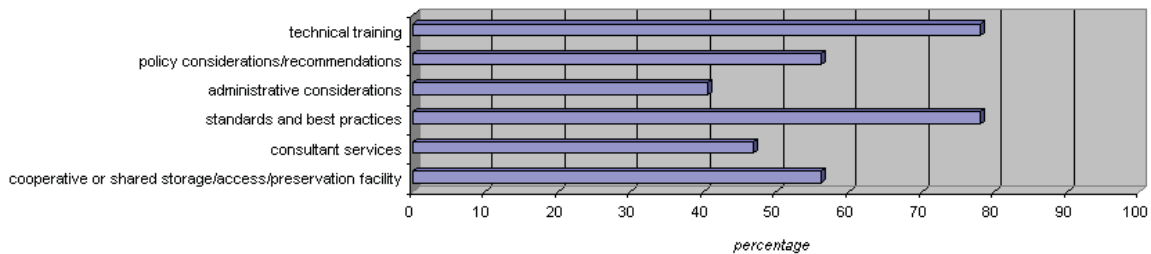


Table 29—Services that Might be Outsourced if Available at Limited Costs

The monitoring and revision activities that a digital preservation policy should periodically undergo, mostly aim to reach higher and higher levels of efficiency and effectiveness and also have the goal to evaluate to what degree the principles expressed in the policy itself meet the current needs of the institution, which should always be ready to adapt itself to the constant change that affects the organizational structure and workflow activities, as well as the technology and media sector.

How often each institution decides to update and revise its policy depends on several factors, such as the type of organization, the speed of the technological changes—as the Dutch National Library appropriately pointed out, the level of activities, both the current one and the required one—according to the response of the National Archives and Records Administration (United States), and also the speed of standards change—as specified by the San Diego Supercomputer Center (United States).

The data analysis shows a contradictory situation in relation to revision times, when comparing general recommendations to the actual operational choices made by the institutions that have a policy in place. At the general level, all institutions think that policies should be revised on an annual basis, except for the Australian National Archives and the Finnish National Library, which expressly supported a different choice, believing that a well designed policy should not require ongoing updates. In contradiction with what stated at the general level, the specific analysis of institutions’ behaviors reveals that in 33% of cases policies are updated “rarely,” while annual updating occurs in 17% of cases and “frequent” updating occurs for a 50% (see Table 30).

In regard to actual operational models, it is interesting to point out that while the Australian institutions (Public Record Office of Victoria, National Archives) require a non-continuing revision activity, American institutions (San Diego Supercomputer Center and National Archives and Records Administration) require a high frequency of updates.

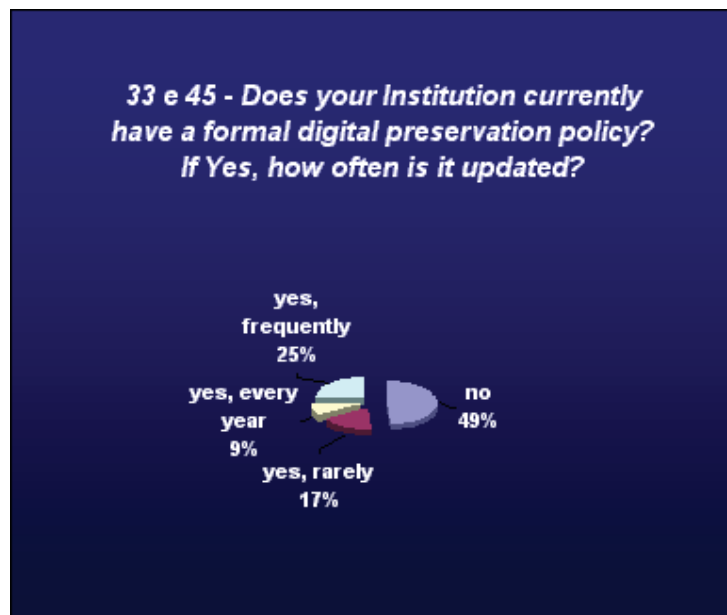


Table 30—Frequency of Digital Preservation Policy Updates

Furthermore, the study results have indicated that currently digital preservation policies are basically able to meet the real needs of an institution only for a period of time between 2 and 5

years. This limited time frame appears to be highly determined—as the specific comments also point out—by technological constraints, which seem to heavily influence internal institutional policies and guidelines. Financial constraints, as well as the organizational structure and level of knowledge and experience also play an important role. The San Diego Supercomputer Center in the United States has pointed out that the next generation of technologies based on dynamic consistency constraint management systems is currently in phase of development. These new technologies will allow the automatic implementation of some policy functions that require upgrading.

Measures and activities on which institutions base their policy revision and improvement interventions mostly concern development plan analysis, auditing and preservation function monitoring activities, with a particular focus—as specified by the Canadian National Archives and National Library—on the state of technologies and on the amounts and types of records that need to be preserved (see Table 31). Other measures that may be listed—on the basis of the information provided, respectively, by the San Diego Supercomputer Center, the National Archives in Washington, D.C., and the Dutch National Library—are a recurring function of independent evaluation, the study of the new technological solutions available, and continuing updates on international research developments.

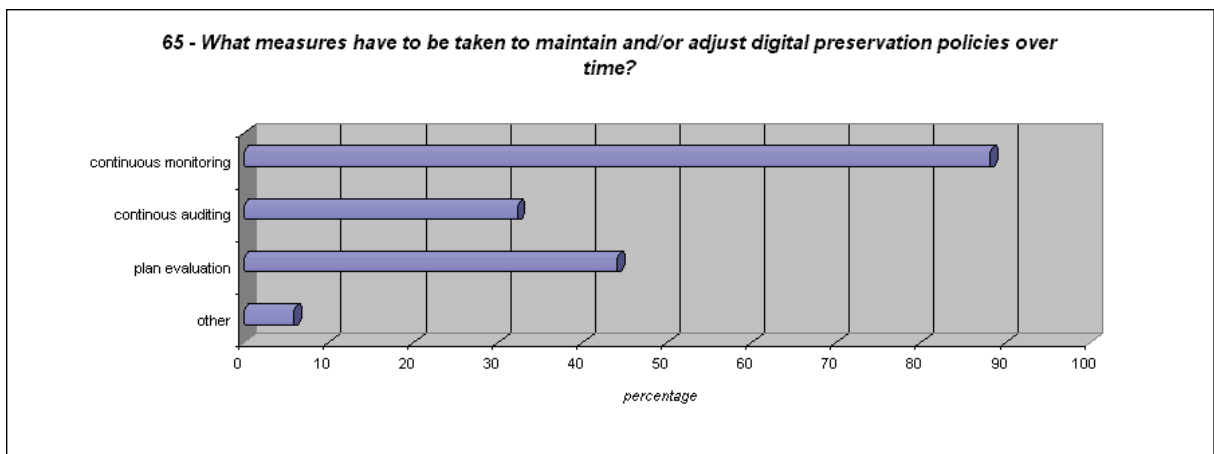


Table 31—Measures to Maintain and/or Improve Digital Preservation Policies

In order to correctly implement a policy, in a way adequate to the specific context to which it applies, and in order to make it operational each institution should conduct preparatory focused investigations and then, which is even more important, design a plan for monitoring activities to be carried out at regular time intervals. When required, the institution should also make the necessary changes to its organizational structure and should update the staff’s level of knowledge of digital preservation.

Section 8. Policy Implementation and Impact on the Organization

In order to correctly implement a policy, in a way adequate to the specific context to which it applies, and in order to make it operational each institution should conduct preparatory focused investigations and then, which is even more important, design a plan for monitoring activities to be carried out at regular time intervals. When required, the institution should also make the necessary

changes to its organizational structure and should update the staff's level of knowledge of digital preservation.

As shown in Table 32, in most of the cases examined, the higher number of changes takes place in the training sector, to acquire specific technical knowledge (83%). Other changes take place at the level of regulations and procedures (60%), followed by changes at the organizational structure definition level (57%) and staff level (51%). A good percentage (29%) shows other possible areas for change: technology (Portuguese National Library and Dutch National Library), definition of early planning of the documentary and information system (Australian National Archives and Public Record Office of Victoria), records creators participation (Riksarkivet), and financial aspects (Schweizerisches Bundesarchiv).

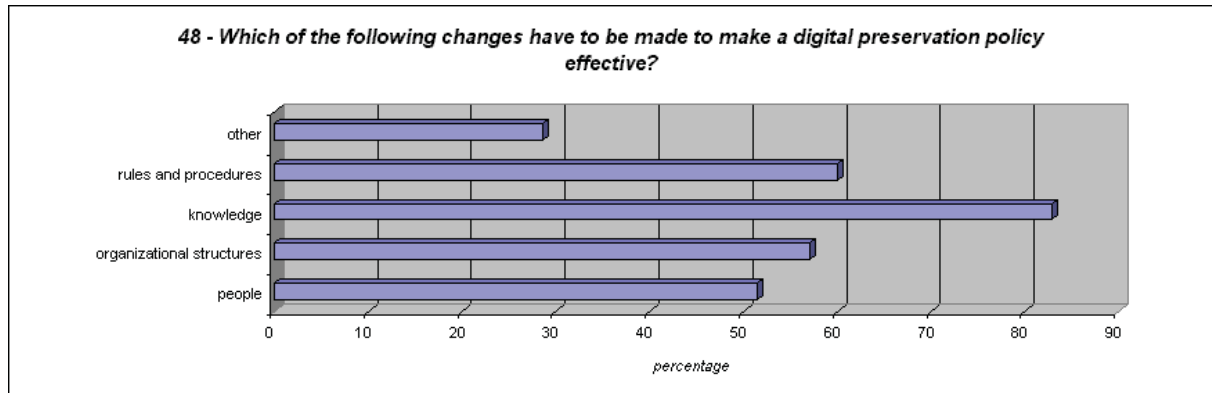


Table 32—Changes to Implement in Order to Design Effective Policies

Among the most interesting observations emerging from the data analysis, particularly relevant is the information that many institutions provided about the pre-requisites and activities necessary to successfully implement a digital preservation policy in relation to its specific context. Listed below are the most relevant suggestions on which conditions increase the effectiveness of digital materials preservation policies:

- National Library (The Netherlands): knowledge of potentials and technical requirements, international standardizing activities, use of tried procedures;
- National Library (Austria): sufficient resources, institutional internal knowledge, expert staff;
- National Archives (Ireland): coherent regulations;
- National Archives (Sweden): national standards;
- National Library (Latvia): availability of information on best practices, standards and experiences of other countries;
- City Archives of Antwerp (Belgium): adequate media management, technical-scientific knowledge, users awareness, training;
- National Archives (Finland): human resources and funding sufficient to meet the organization's mission;
- Book and Library Portuguese Institute: widespread awareness of policies and adopted strategies, in relation both to the goals and to the need for human and financial resources;
- Portuguese Museum Institute: specific national regulations;

- National Library (Finland): adequate resources and cooperation with other sectors, such as publishing, research community and Information Technology community;
- Museovirasto (Finland): well-defined processes and detailed policies, plan for professional continuing education, a clear vision of one's own mission and strong support for change;
- Central State Archives (Italy): correct management of the entire documentary system, with an emphasis on the design of an adequate preservation plan, properly authorized and periodically updated, analysis of the typologies of the electronic archival records present in the system and of the elements that guarantee their authenticity across time and space;
- Ulm Municipal Archives (Germany): design of policies based on administrative activities analysis, collocated at the intersection of an overall electronic records strategy and based on the current technological situation, definition of specific responsibilities (for example, for digital preservation and its related functions), policy diffusion, guidelines for policy application, preparation of specific training courses, monitoring and audit-trail supporting policy implementation, continuing revisions of the policy and of the strategy adopted for electronic records management based on the current technological development;
- Federal Archives (Germany): openness to all possible formats;
- Schweizerisches Bundesarchiv: expert personnel and sufficient resources;
- National Archives and National Library (Canada): support from expert personnel that has practical more than theoretical knowledge, advocacy and defense of institutional mission, increasing awareness, partnership development;
- Public Record Office of Victoria (Australia): strategic vision, adoption and publication of open standards, support to users and providers for standards adoption, continuing updating of adopted standards, also through research activities that may secure practical and efficient methods for digital materials acquisition, management and use, adoption of software that fits in with the adopted standards;
- "Marciana" National Library (Italy): financial resources, expert personnel availability, continuing training, guidelines and technical standards;
- Centre des Archives (France): strong support from top management and government authority, professional training for the personnel, strategic vision and work plan;
- National Library (Portugal): diffusion, at a social level, of adequate awareness of the issue and of how to manage it with skill and promptness, strong political and institutional support, adequate levels of technical know-how and strategic knowledge, actual investment of energy at the local level, in the organizations and institutions involved in practically solving the problem;
- University of Patras (Greece): existence of a national agreement and of an official awareness (at the government, ministry, level) that may prevent unfocused and uncoordinated activities;
- Portuguese Archeology Institute: regulations, procedures and organizational structures;
- Portuguese Center of Photography: adequate hardware and software equipment, training and financial resources;
- National Library (Spain): staff, professional training and equipment;
- Aristotle University of Thessaloniki (Greece): resources, organization's decision-making ability, knowledge of preservation standards;
- National Archives (Australia): planning, adequate resources and technical skills;
- National Library (Germany): clear vision of the task and of the central role played by collaborative initiatives;

- National Archives and Records Administration (United States): organizational commitment, clear definition of requirements, multidisciplinary skills, financial resources, availability of adequate technology, capability of adapting to constantly evolving technologies.

From this information it comes out that the highest requirements for internal policy guidelines development and implementation are: human and financial resources assigned to digital preservation and training courses to increase the knowledge and experience level of the preservation personnel. In relation to the preliminary activities that should be carried out in order to make policy adoption efficient, the investigation's outcomes show that, in almost every institution, these activities are:

1. study the typology of the materials that need to be preserved;
2. create a safe place for the materials;
3. make decisions about the most appropriate preservation strategies;
4. secure access to the preserved materials;
5. gather sufficient human and financial resources;
6. develop guidelines and pilot projects and activities programs tackling key policy elements;
7. study and monitor existing standards.

From the data collected, it currently emerges that 78% of the participating institutions apply their policies to all their sectors.



ERPANET



ERPANET – UNIVERSITY OF URBINO

RULES AND POLICIES FOR DIGITAL PRESERVATION SURVEY

Scope of the survey

The survey is designed to gather and analyse data on the policies and national/local rules that are being used to preserve digital materials. It is structured into 3 parts:

1. General questions
2. National/local rules
3. Digital plan and policy at institutional level (dedicated to the institutions and creators which preserve digital resources): this part examines specifically some issues concerning the development of digital preservation rules and policies: costs, requirements, roles, responsibilities, monitoring and review.

Even if the survey is apparently very long, in fact it contains a lot of questions with immediate answer; therefore you will spend no more than 20 minutes to complete it.

Results of the survey will be used to prepare a specific dossier on the rules and policies for digital preservation; in particular, the dossier will be presented and discussed during the International Conference on digital preservation (Florence, 16/17 October 2003), promoted and organized by Italian Ministry of Cultural Heritage with the aim of better defining and qualifying the issues and the content of a future European action plan in this area.

PART I - GENERAL QUESTIONS

1. Contact Information

Name _____
 Institution _____
 Address _____
 E-mail address _____
 Phone _____

2. Nature of your Institution

- Archive
- Library
- Museum
- Commercial company
- Governmental agency
- Special collections (Please specify)
- Other (Please specify)

3. Level of your Institution

- State
- National
- Regional
- Local
- Private body

PART 2 - NATIONAL/LOCAL RULES

4. Are there any current national/local/regional rules on digital preservation in your Country-

	National rules	Local/regional rules
- Yes	-	-
- No	-	-
- Don't know	-	-

5. If NO, is there the necessity to promulgate rules on these themes in your Country-

	National rules	Local/regional rules
- Yes (if YES, why-)	-	-
- No (if NO, why not-) -	-	-
- Don't know	-	-

6. Are these national /local/regional rules on digital preservation sufficient and adequate to guarantee the long term preservation in the different sectors of cultural heritage and e-government-

	National rules	Local/regional rules
- Yes (if YES, why-) -	-	-

- No - -
- Don't know - -

7. If NO, where should they be improved- Why-

8. Which of the following sectors are regulated by these national/local/regional rules on digital preservation-

	National rules	Local/regional rules
- E-government	-	-
- Library	-	-
- Records	-	-
- Audiovisual	-	-
- Other (Please specify)	-	-

9. Who is involved in the development of these national/local/regional rules on digital preservation-

rules	National rules	Local/regional
- National Committee of Archives/Libraries/Museums	-	-
- E-government agencies	-	-
- Other (Please specify)	-	-

10. Are there any regulations to identify specific persons responsible for the digital preservation-

	National rules	Local/regional rules
- Yes	-	-

- No - -
- Don't know - -

11. If YES, which are the required competences for them- What type of training or advice is available for them-

12. Who is the person responsible for digital preservation rules in the sectors here listed- (If it is possible, please write name and appointment of the responsible)

	National rules	Local/regional
	rules	
- E-government	_____	

- Library	_____	_____
- Records	_____	

- Audiovisuals	_____	

- Other (Please specify)	_____	_____

13. Are there periodic review mechanisms to be applied to these national/local/regional rules-

National rules Local/regional rules

- | | | |
|--------------|---|---|
| - Yes | - | - |
| - No | - | - |
| - Don't know | - | - |

14. How often are they updated and reviewed-

- | | National rules | rules |
|---------------------|----------------|-------|
| - Rarely | - | - |
| - Every year | - | - |
| - Frequently | - | - |

15. Are there specific regulations for the creation of trusted digital repositories-

- | | National rules | Local/regional rules |
|--------------|----------------|----------------------|
| - Yes | - | - |
| - No | - | - |
| - Don't know | - | - |

16. In the case of outsourcing, are there specific regulations for ensuring the digital preservation-

- | | National rules | Local/regional rules |
|--------------|----------------|----------------------|
| - Yes | - | - |
| - No | - | - |
| - Don't know | - | - |

17. If NO, will outsourcing be forecast in the next review of your national/local/regional rules-

- | | National rules | Local/regional rules |
|--------------|----------------|----------------------|
| - Yes | - | - |
| - No | - | - |
| - Don't know | - | - |

18. Are there specific regulations/rules to ensure that selected information is complete, accurate and identifiable- (i.e., preservation of defined metadata, of filing plan, registry system data, etc.)

National rules	Local/regional rules
----------------	----------------------

- Yes - -
- No - -
- Don't know - -

19. Is there a specific regulation on the predisposition of internal policies for each institution- (e.g., electronic records management handbook or guidelines)

National rules Local/regional rules

- Yes - -
- No - -
- Don't know - -

20. Do these national/local/Local/regional rules refer to special terms for preservation (i.e., intermediate repositories, etc.)- Please answer only if they are different from traditional principles and times)

21. Do these national/local/regional rules identify standards-

National rules Local/regional rules

- Yes - -
- No - -
- Don't know - -

22. If YES, for which area-

- Data formats
- Supports
- Organizational policies
- Other (Please specify)

23. Please indicate title and date of your national/local/regional rules on digital preservation; if it is possible, please send us copies or write down the URL where they are available:

Title: _____

Date: _____

URL: _____

PART 3. DIGITAL PRESERVATION POLICY AT INSTITUTIONAL LEVEL

Section 1 - Digital Preservation Program/Plan

24. Is your Institution aware of any external standards, best practices and guidelines available on digital preservation-

- Yes
- No (if NO, why not-)
- Don't know

25. If YES, are these specific to your sector-

- Yes
- No
- Don't know

26. Does your Institution currently have a practice of regular review of items for possible digital preservation treatment-

- Yes
- No

- Don't know

27. Does your Institution currently have a digital preservation training program for staff-

- Yes
- No
- Don't know

28. Does your Institution currently have a digital preservation training program for users-

- Yes
- No
- Don't know

29. Does your Institution currently have a preservation plan for digital resources-

- Yes
- No
- Don't know

30. Has your Institution developed digital preservation strategies, standards and practices-

- Yes
- No
- Don't know

31. If YES, how were they introduced and implemented-

- By department
- With training
- Other (Please specify)

32. Please indicate the quantity of digital materials for which your Institution currently has preservation responsibility.

_____ approximate number of unique files
_____ approximate number of volumes (reels of tape, optical disks, etc.)
_____ total storage volume (in MB, GB, etc.)

Section 2 - Digital preservation Policy

33. Does your Institution currently have a formal digital preservation policy-

- Yes
- No
- Don't know

34. If YES, how well does this policy meet your Institution's current needs-

- Well

- Adequately
- Poorly

35. If YES, does this digital preservation policy apply across your entire Institution-

- Yes
- No
- Don't know

36. If YES, how well does institutional requirements influence your digital preservation policy-

- Well
- Adequately
- Poorly

37. If YES, please indicate with a number from 1 to 5 how much your digital preservation policy is influenced by the (business) context in which your organization is working.

- 1
- 2
- 3
- 4
- 5

38. If YES, does your digital preservation policy provide guidelines for: (check all that apply)

- reformatting data to newer technological platforms-
- refreshing data to newer technological platforms-
- migrating data to newer technological platforms-
- emulating data to newer technological platforms-
- bundling data to newer technological platforms-

39. If YES, does this policy provide that your Institution takes care of its digital preservation activities itself or are these outsourced-

- Outsourced
- In-house

40. If YES, does your policy provide a direct access to the digital information stored (i.e., are documents stored in an executable format)-

- Yes
- No
- Don't know

41. If YES, which of the following statements more accurately describes your digital preservation policy-

- The organization's policy is part of an institutional-wide initiative
- Our institution has its own policy for preserving digital materials

42. If YES, which of the following problems are discussed in your digital preservation policy-

- The short-lasting life span and small capacities of media
- The obsolescence of the hardware required to access them
- The obsolescence of software for reading the data and file formats
- The obsolescence of those data and file formats itself
- The technical and structural heterogeneity of the different types of digital documents

43. If YES, which of the following reasons has been more relevant for your Institution to develop a digital preservation policy-

- Legal requirements
- Financial requirements
- Business requirements (e.g., to document important decisions and activities)
- Historical value
- Other (Please specify)

44. If YES, which of the following areas are included in your digital preservation policy- And which should be required in your point of view-

	Present	Required
- Authority and Responsibility	-	-
- Conversion and Reformatting	-	-
- Appraisal, Selection and Acquisition	-	-
- Storage and Maintenance	-	-
- Access and Dissemination	-	-
- Standards	-	-
- Procedures	-	-
- Quality control	-	-
- Technical Infrastructure	-	-
- Long-term Maintenance	-	-

45. If YES, how often is your digital preservation policy updated-

- Rarely
- Every year
- Frequently

46. Will your Institution be developing a digital preservation policy in the next 12 months-

- Yes
- No
- Don't know

47. Please indicate title and date of your national/local/regional rules on digital preservation; if it is possible, please send us copies or write down the URL where they are available:

Title: _____

Date: _____

URL: _____

Section 3 - Digital Preservation Policy Requirements

48. Which of the following changes have to be made to make a digital preservation policy effective-

- People
- Organizational structures
- Knowledge
- Rules and procedures
- Other

49. What are the advantages of having a digital preservation policy-

- To develop a digital preservation strategy
 - To plan coherent digital preservation programmes
 - Accountability
 - To demonstrate that such funds can and will be used responsibly
 - To ensure digital materials are available for current and future use
- To define the significant properties that need to be preserved for particular classes of resources
- To assist agencies in designing digitisation programmes
 - To provide a comprehensive statement on the digital preservation
 - To provide security measures that ensure the protection of digital materials during use
 - Other (please specify)

50. What are the prerequisites and the necessary activities to successfully implement a digital preservation policy-

51. What should be the first steps to implement the established policy-

52. In selecting the preservation method or strategy, has your Institution considered what its effect might be upon the intellectual integrity (e.g., authenticity and reliability) of the digital material-

- Yes
- No
- Don't know

Section 4 - Cooperation

53. Did your Institution cooperate with other organizations to develop its digital preservation policy-

- Yes
- No
- Don't know

54. If YES, which ones- (Check all relevant)

- Archives
- Libraries
- Museums
- Public companies
- Other (Please specify)

55. What kind of cooperation was this-

- International
- National
- Local

56. How is the work distributed-

- Equally
- In a different way

Section 5 - Roles and responsibilities

57. Who (and what) was/is involved with the development of your digital preservation policy- (Check all relevant)

- Management
- Employees
- Special task force in the organization
- Results of internal analyses (e.g., risk analysis)
- External sources, model, advice

Other (Please specify)

58. How and under whose responsibility has your digital preservation policy been established-

- External Advice/Sources/Models
- Survey of information resources
- In-house solutions developed
- Other (Please specify)

59. How do national rules influence your policy-

60. Which of the following responsibilities are assigned to them-

- To approve the digital preservation policy
- To implement the digital preservation policy
- To review the digital preservation policy

Section 6 - Digital knowledge/training

61. What is the highest level of knowledge available in-house for digital preservation activities-

- Expert
- Intermediate
- Novice
- None

62. Does your Institution currently utilize outside sources of expertise for preservation of digital materials (e.g., consultants, contractors)-

- Yes
- No
- Don't know

63. What methods does your institution plan to use over the next 3 years to increase the level of staff expertise with digital preservation- (Check all that apply)

- Local courses in computer or digital technology
- Training provided by professional organizations
- Training provided by vendors
- Independent study/assessment
- Hire staff with digital knowledge or experience
- Hire consultants
- Other (please specify)

Section 7 - Monitoring and review of policy

64. How often a digital preservation policy should be updated-

- Rarely
- Every year
- Frequently

65. What measures have to be taken to maintain and/or adjust digital preservation policies over time-

- Continuous monitoring
- Continuous auditing
- Plan evaluation
- Other (Please specify)

66. How long do you predict that your current digital preservation policy, strategy and solution will meet your organization's digital preservation needs-

Section 8- Costs

67. Please indicate with a number from 1 to 5 how heavily the cost to develop a digital preservation policy weighs on your Institution's budget.

- 1
- 2
- 3
- 4

- 5

68. Please indicate from 1 to 5 how heavily the cost to review a digital preservation policy weighs on your Institution's budget.

- 1
- 2

- 3
- 4
- 5

69. Are there available funding resources within the broadcasting sector allocated for digital preservation issues-

- Yes
- No
- Don't know

70. Are there other external resources available for digital preservation activities (e.g., government grants, cross-sector funds)-

- Yes
- No
- Don't know

71. Which of the following digital archiving services might your Institution use if they were available at a reasonable cost- (Check all that apply)

- Technical training
- Policy considerations/recommendations (i.e., model policies)
- Administrative considerations (i.e., training in project mgmt. and budgeting)
- Standards and best practices
- Consultant services
- Cooperative or shared storage/access/preservation facility

Please send us (University of Urbino, Istituto di studi per i beni archivistici e librari, Urbino, Italy) your response no later than August 10, 2003; you can choose to send it via (e-)mail or fax:

Address: Università di Urbino, Istituto di Studi per la Tutela dei Beni Archivistici e Librari, Via Piano Santa Lucia 6 - 61029 URBINO

E-mail: lucialograno@virgilio.it

Fax: 0039 0722 377021

Thank you very much for your valuable contribution.

Appendix B – LIST OF PARTECIPANTS

- 1) AUSTRALIA – National Archives of Australia
- 2) AUSTRALIA – Public Record Office Victoria
- 3) AUSTRIA – Austrian National Library
- 4) BELGIUM – City Archives of Antwerp
- 5) CANADA – National Library
- 6) CANADA – National Archives
- 7) DENMARK – Danish Ministry of Culture
- 8) FINLAND – Helsinki University Library (HUL) - The National Library of Finland
- 9) FINLAND – Museovirasto / National Board of Antiquities
- 10) FINLAND – National Archives of Finland
- 11) FRANCE – Centre des archives
- 12) FRANCE – CNES (French Space Agency)
- 13) FRANCE – Direction des Archives de France
- 14) GERMANY – Federal Archives
- 15) GERMANY – Municipal Archives Ulm
- 16) GERMANY – National Library of Germany
- 17) GREECE – Aristotle University of Thessaloniki
- 18) GREECE – High Performance Information Systems Laboratory University of Patras
- 19) GREECE – Ministry of Culture - Dpt of International Relations
- 20) IRELAND – National Archives of Ireland
- 21) ITALY – Archivio centrale dello Stato
- 22) ITALY – Biblioteca nazionale centrale di Firenze
- 23) ITALY – Biblioteca nazionale marciana
- 24) ITALY – Cineca
- 25) ITALY – Centro nazionale per l'informatica nella pubblica amministrazione (CNIPA)
- 26) ITALY – Centro di fotoreproduzione, legatoria e restauro degli archivi di Stato
- 27) ITALY – Istituto centrale per il catalogo unico delle biblioteche italiane e per le informazioni bibliografiche - Ministero per i beni e le attività culturali
- 28) LATVIA – Ministry of Culture of the Republic of Latvia
- 29) LATVIA – National Library of Latvia
- 30) THE NETHERLANDS – Koninklijke Bibliotheek (National Library of the Netherlands)
- 31) THE NETHERLANDS – Nationaal Archief

- 32) PORTUGAL – Book and Libraries Portuguese Institut
- 33) PORTUGAL – Centro Português de Fotografia
- 34) PORTUGAL – Companhia Nacional de Bailado
- 35) PORTUGAL – Delegação Regional da Cultura do Algarve
- 36) PORTUGAL – Delegação Regional da Cultura do Norte
- 37) PORTUGAL – Instituto dos Arquivos Nacionais / Torre do Tombo
- 38) PORTUGAL – Instituto Português de Arqueologia
- 39) PORTUGAL – Instituto Português de Museus
- 40) PORTUGAL – National Library of Portugal
- 41) SLOVENIA – Institute of Ethnomusicology of the Scientific Research Center – The Slovenian Academy of Sciences & Arts
- 42) SPAIN – National Library of Spain
- 43) SWEDEN – National Archives of Sweden
- 44) SWEDEN – Riksarkivet
- 45) SWITZERLAND – Schweizerisches Bundesarchiv
- 46) UNITED STATES – San Diego Supercomputer Center
- 47) UNITED STATES – National Archives and Records Administration



ERPANET



ErpaTools
Digital Preservation Policy

Project acronym:	ERPANET	Contract nr.	IST-2001-32706
Title of Document:	<i>ErpaTools: Digital Preservation Policy</i>		

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Introduction and scope

This tool examines policies in use or in project for preserving and maintaining digital materials and ensuring their availability for current and future use; in particular, it dwells upon some specific aspects such as costs, requirements, roles, responsibilities, monitoring and review.

A policy forms the pillar of a programme for digital preservation. It gives general direction for the whole of an organization, and as such it remains on a reasonably high level. Actual steps in implementing a preservation programme have to be in accordance with the policy in order to guarantee their coherence. From an external point of view, a written policy is a sign that the organization takes the responsibility to preserve digital material.

At the present time, the policies for ensuring long-term storage, maintenance, migration and access to digital materials, whether at the local or national level, are not frequently present both in the private and in the public sectors. Moreover, the policies publicly available via web are mainly developed by cultural heritage institutions and have been elaborated very recently.

Frequently, the confusion about the most appropriate practices and methods, the lack of a consensus, the difficulty in engaging the interest for these themes and the shortage of good models for digital preservation can be some of the difficulties that institutions meet in developing their policies, even if the need for defining policies is increasing at the same degree of the growth of the digital heritage.

The primary aims of a policy are to provide guidance and authorization on the preservation of digital materials and to ensure the authenticity, reliability and long-term accessibility of them. Moreover, a policy should explain how digital preservation can serve major needs of an institution and state some principles and rules on specific aspects which then lay the basis of implementation.

This tool sets out to identify and describe the reasons that have induced an institution to develop its policy for digital preservation, the advantages of having it, the definite areas that are included in it, the most important problems discussed and other specific and relevant aspects, as those above-mentioned.

General principles

Some general principles should be followed for qualifying this activity:

- a policy needs to convey the very philosophy of an organization concerning digital preservation; it should induce a common understanding of the objectives, of whether each collection item should be preserved with maximum effort possibly applying multiple preservation paths, or whether a certain pragmatism should be pursued;
- a digital policy should facilitate the sustainability of an institution's present and future digital holdings;
- a digital preservation policy has to demonstrate its benefits, its effectiveness;
- a digital policy should be connected and integrated with a risk assessment document;
- every policy should be practicable, not definitive, capable of being put into practice by institutions with varying resources and needs, and, especially, flexible to adapt itself to changing administrative and technological circumstances;
- any policy should be characterized by clarity, adequacy, transparency, efficiently, effectiveness and logical organization of contents;
- a digital preservation policy should be written in a simple and suitable language, without redundancies and, at the same time, without lowering the level of quality contained in its contents;

- once a digital preservation policy is operative, it should be re-thought, reviewed or newly conceived on a regular basis to take into account changes in the organizational, legal and technical environment and to make rules and guidelines more precise and explicit where there is any ambiguity about implementation;
- a digital policy should offer achievable solutions, provide for the management training and, finally, be maintained through time.

TOOL: Table – Digital Preservation Policy: BENEFITS

<i>BENEFITS</i>	<i>To develop a digital preservation strategy</i>
	<i>To plan coherent digital preservation programmes</i>
	<i>To ensure and reinforce accountability</i>
	<i>To demonstrate that such funds can and will be used responsibly and consistently</i>
	<i>To ensure digital materials available for current and future use</i>
	To define the significant properties that need to be preserved for <i>particular classes resources</i>
	<i>To assist agencies in designing digitisation programmes</i>
	To provide a comprehensive statement on the digital preservation
	<i>To provide security measures that ensure the protection of digital materials during use</i>

A digital preservation policy could guarantee many benefits at each institutional level, such as ensuring digital materials available for current and future use, providing a comprehensive statement on this theme and planning coherent digital preservation programmes. Besides, the formulation of a policy allows to deal with difficult subjects as the short-lasting life span and small capacities of digital materials, the obsolescence of the hardware required to access them, the obsolescence of software for reading the data and file formats and, finally, the structural and technical heterogeneity of the different types of digital materials.

TOOL: Digital Preservation Policy: SCOPE AND OBJECTIVES

In according to an institution’s achievable resources, the main scope of a digital preservation policy is to achieve the following objectives:

- preserving and providing continued access to digital material, both born digital and digitised material;
- ensuring that preserved digital materials are authentic;
- preserving damage and deterioration of the physical media by ensuring an environmental control;
- reversing damage, if it’s possible;
- changing the format of digital materials to preserve their intellectual content, if it’s necessary.

TOOL: Table – Digital Preservation Policy: REQUIREMENTS

REQUIREMENTS	Legal requirements	
	Financial requirements	
	Business requirements	
	Technical requirements	Maintenance procedures
		Preservation strategies
		Technology forecasting
	Historical value	

The reasons behind the positioning of policy development for digital preservation within institutions are several and can vary according to the specific juridical and institutional contexts; in many cases, the political context in which a policy is formed weighs heavily as well as the legal environment. Moreover, there are other relevant factors, such as the substantial financial requirements, the business requirements to take evidence of decisions and activities and ensure the historical value of digital materials. Technical requirements constitute another important reason for developing a policy, specifically as far as it concerns the definition of technology forecasting, maintenance procedures and, especially, preservation strategies, or rather the precise guidelines for reformatting, refreshing, migrating, emulating and bundling data to newer technological platforms.

TOOL: Digital Preservation Policy: ROLES AND RESPONSIBILITIES

A policy should identify the actors and assign responsibilities for digital preservation, not by giving names but rather by outlining the overall organization and business structure. This may include outsourcing certain functions to external providers, or cooperation with an associated initiative in specific tasks. Furthermore, a policy should state the commitment to training the preservation staff and informing other actors; in particular, it should provide methods for increasing the level of staff expertise with digital preservation, such as local courses in computer or digital technology, training provided by professional organizations or by vendors, independent study or assessment, hire consultants and hire staff with digital knowledge or experience. People who has responsibility in the developing and implementation of a digital preservation policy should carry out the following functions:

- *making decisions of retention, use and preservation of digital materials at the acquisition or creation stage, not later;*
- *establishing maintenance procedures and quality control within monitoring processes and programmes;*
- *establishing and implementing strategies for digital preservation, such as migration, emulation or technology preservation;*
- *developing a disaster recovery programme;*
- *ensuring security of access to digital materials.*

TOOL: Digital Preservation Policy: CONTEXT

A digital policy can be part of a national/regional initiative or can be formulated and developed within each institution. In the first case, the policy will must respect and entirely apply all national/regional rules, regulations, standard and guidelines regarding preservation issues for

digital materials; in the other case, it will represent the final result of a careful analysis conducted on institution's own initiative to solve internal problems concerning these themes. Another important question regards the integration of a policy in an existing business structure; it could be difficult and tricky in that digital preservation has a tight interaction with all stages in the information lifecycle and other segments of an organization. Therefore, a digital preservation policy should commit to a smooth integration with other policies and business processes, by identifying and communicating possible interrelations and synergies.

TOOL: Table – Digital Preservation Policy: AREAS OF COVERAGE

<i>AREAS</i>	<i>Authority and responsibility</i>
	<i>Conversion and reformatting</i>
	<i>Appraisal, selection and acquisition</i>
	<i>Storage and maintenance</i>
	<i>Access and dissemination</i>
	<i>Implementation</i>
	<i>Standards</i>
	Procedures
	<i>Quality control, auditing and benchmarking</i>
	<i>Cooperation</i>
	<i>Technical infrastructure</i>

A digital preservation policy should be structured in several specific and distinctive areas, such as those above-mentioned. It should be introduced by two sections, respectively the purpose and the scope of the policy, to better explain, show and clarify all the questions that will be then largely discussed in it; in particular, referring to the purpose, a digital preservation policy should view the mandate of the repository, possible external legal pressures, the value of the digital material and, finally, the expected use in the future. A special area should be dedicated to the cooperation between institutions in the policy process; usually, the cooperation regards archives, libraries, museums or other repositories, can be local, national or even international and provides that the work and engagement can be distributed equally or in a different way between participant members. Furthermore, standards relevant to preservation are of great value as they facilitate cooperation and hold the knowledge and experience of other initiatives; therefore, a policy should include the intention to adhere to relevant standards. Another important section concerns the responsibilities involved specifically with reference to the implementation and the related human resources and tools, such as management, employees, special task force, external advice, resources or models; in some cases, results of internal analyses, first of all risk analysis, are the main actors in the drawing up of the policy. Really, an accurate list of risks inherent in systems that preserve digital materials can help to formulate a more comprehensive policy on these themes; therefore, it is necessary to emphasize that a digital preservation policy should aim to minimize the risks associated with technological changes and allow for other changes. In this way, materials in digital form can be preserved and always remain comprehensible even if, for example, the organizational structure changes. Another area should be dedicated to benchmarking, in particular referring to measures of the access of the policy and audit.

TOOL: Table – Digital Preservation Policy: COSTS

<i>COSTS</i>	<i>Technical infrastructure</i>	<i>Equipment purchases, maintenance and upgrades</i>
--------------	---------------------------------	------------------------------------------------------

		<i>Software/hardware obsolescence monitoring/review</i>
		<i>Network connectivity</i>
	Financial plan	<i>Strategy and methods</i>
		<i>Commitment to long-term funding</i>
	Staffing infrastructure	<i>Hiring training</i>
		<i>Ongoing training</i>
	Outsourcing	

Costs carry on a primary role in the developing of digital preservation policies; in fact, factors such as outsourcing, financial plan, technical infrastructure and staffing training can weigh heavily on institution's budget and so an institution is called to undertake a cost-benefit analysis concerning its investment in digital preservation. The resources available can be used to develop specific services related to the preservation function, which has in any case evaluated with reference to its feasibility in terms of reasonable costs, such as technical training, standards and best practices, consultant services, cooperative or shared storage/access/preservation facility and model policies.

A policy review represents an important cost that depend on frequency with which a digital preservation policy is updated. However, it is widely accepted that, although the costs of preserving digital materials might be high, the cost, consequences and implications of not having a digital preservation policy may be higher and in some cases they could affect the feasibility of the preservation.

TOOL: Digital Preservation Policy: MONITORING AND REVIEW

A digital preservation policy should be subjected to reviews to take into account of the technological changes, new standards, etc.; moreover, it should be conducted on a routine basis in response to internal or external stimuli or both.

TOOL: Digital Preservation Policy: IMPLEMENTATION OF THE POLICY

An institution that aims at implementing a digital preservation policy needs to assure financial commitment and to adjust active management of digital materials at each stage of their life-cycle. Therefore, a programme for digital preservation should be included into the workflow of an organization and should be flexible to adjust itself to new technological developments.

BIBLIOGRAPHY ON DIGITAL PRESERVATION POLICY

- **The Association for Information Management Professionals**

The ARMA, the Association of Records Managers and Administrators, Standards Development Committee, SDC, has established a task force to work on the development of this proposed standard. The proposed standard will address fundamental policy, procedural, and technical issues associated with conversion and migration from one records keeping system to another regardless of record format, so that these systems will insure the context, content, and structure of authentic records.

Conversion and Migration Criteria in Records Keeping Systems (Regularly Updated)

<http://www.arma.org///publications/standards/workinprogress.cfm>

- **Beagrie, Neil; Greenstein, Daniel; Pressler, Christopher**

Available in either Microsoft Word or Adobe PDF format, this study presents fourteen recommendations in the areas of long-term digital preservation, standards, the policy framework, and future research. Six case studies highlight some of the real-life considerations concerning digital preservation.

A Strategic Policy Framework for Creating and Preserving Digital Collections (Version 5.0)

Date Created: Jul 2001 (United Kindom)

<http://ahds.ac.uk/strategic.htm>

- **Berkeley Digital Library**

A succinct example of a collections policy developed for a digital library with a defined hierarchy of collection levels for digital library materials.

Berkeley Digital Library's Collection Policy

<<http://sunsite.berkeley.edu/Admin/collection.html>

- **Columbia University Libraries**

Official statement of CUL policy for the preservation of digital resources, including its commitment to digital lifecycle management.

Columbia University Libraries Policy for Preservation of Digital Resources

(Date Created: Jul 2000) (United States of America)

<http://www.columbia.edu/cu/libraries/services/preservation/dlpolicy.html>

- **Committee on Institutional Cooperation University Archivists Group (CIC UAG)**

A policy outlining "a set of institutional requirements for the responsible management of electronic records and information systems" within the twelve member academic consortium, the Committee on Institutional Cooperation (CIC).

Standards for an Electronic Records Policy

(Date Created: Dec 2001) (United States of America)

<http://www-personal.umich.edu/~deromedi/CIC/cic4.htm>

Also available in Word format at: <http://www-personal.umich.edu/~deromedi/CIC/cic4.doc>

- **De la Puente, Fernández**

Providing an overview of the principles for co-ordination of European digitisation efforts, this resource notes the digitisation and preservation issues raised at a meeting of representatives and experts of EU Member States in Lund, Sweden, on April 4, 2001. Links to the Lund principles, Report, draft Action Plan and background documents are also available.

Coordination of National Digitisation Policies & Programmes

(Last Updated: 7 Oct 2002)

<http://www.cordis.lu/ist/ka3/digicult/eeurope-overview.htm>

- **JISC Comms (United Kingdom)**

Outline of JISC's record management policy, including statements regarding electronic records.

JISC Records Management Policy Statement (Date Created: 28 Feb 2003)

http://www.jisc.ac.uk/index.cfm-name=pres_rmpps

- **Matthews, G, Poulter, A and Blagg, E.**

Preservation of Digital Materials: Policy and Strategy for the UK. JISC/NPO Studies on the Preservation of Electronic Materials. British Library Research and Innovation Centre, 1997. ISBN: 0-7123-3313-4, ISSN: 1366-8218. British Library Research and Innovation Report 41.

- **National Archives of Australia**

A document setting out the National Archives of Australia's policy on the status and management of Commonwealth Government online resources, including websites, as Commonwealth records. It includes Best Practice recommendations plus listings of additional sources to assist Commonwealth agencies in establishing mechanisms for creating, managing and retaining web-based records.

Archiving Web Resources: A policy for keeping records of web-based activity in the Commonwealth Government

(Last Updated: Jan 2001) (Australia)

http://www.naa.gov.au/recordkeeping/er/web_records/policy_contents.html

Also available as .pdf and .rtf file from

http://www.naa.gov.au/recordkeeping/er/web_records/intro.html

- **National Archives of Australia**

The Commonwealth Recordkeeping webpages supersede The Australian Archives Handbook. The pages provide information on the National Archives of Australia's policy and procedures for appraising, sentencing, transferring and disposing of Commonwealth government records. They also give advice on records management procedures, preservation issues, and outsourcing work.

The Commonwealth Recordkeeping webpages

(Last Updated: 2000) (Australia)

http://www.naa.gov.au/recordkeeping/overview/new_approach.html

- **National Library of Australia**

This policy indicates the National Library of Australia's directions in preserving its digital collections and in working with other agencies. It outlines the nature of the Library's digital collections and the challenges associated with keeping them accessible; its broad directions for the digital collections; strategies for managing digital collections; and its areas of focus in research, standards development and both national and international collaboration.

A Digital Preservation Policy for the National Library of Australia

(Date Created: 17 Jul 2001) (Australia)

<http://www.nla.gov.au/policy/digpres.html>

- **National Library of Australia**

The Policy sets out the principles behind the Library's digitisation activities, and identifies the primary purpose of these activities as enhancing access to the Library's collections, while assisting the preservation of rare and fragile items. In addition, the Policy provides details on the criteria the Library will use in selecting items for digitisation, and about access to digitised collections.

National Library of Australia Digitisation Policy 2000-2004

(Date Created: May 2000) (Australia)

<http://www.nla.gov.au/policy/digitisation.html>

- **National Preservation Office** (National Preservation Office)

The Digital Remit of the National Preservation Office, which sets out the NPO's official responsibilities for digital archiving and preservation in the United Kingdom. Featuring amongst the assigned tasks are the assembly of best practice guidelines, the coordination of national digital preservation policy, and the creation of an appropriate comprehensive communication strategy. An important additional responsibility involves the establishment and administration of the Digital Archiving Working Group, to advise the NPO Management Committee.

National Preservation Office Digital Remit

(Date Created: 2001)

<http://www.bl.uk/services/preservation/remit.html>

- **Oxford University**

A useful overview of the introduction of the Hierarchical File Server at Oxford and the digital archiving policy established for the University.

Oxford University Policy on Computer Archiving Services

<<http://info.ox.ac.uk/oucs/services/archiving/archive-policy.html>

- **Public Record Office** (United Kingdom)

The Public Record Office's official policy for the management of electronic records. As well as detailing standards for handling and access to digital materials, the policy includes a section which examines the preservation of electronic documents in the long-term.

Corporate Policy on Electronic Records (Date Created: Sep 2000)

<http://www.pro.gov.uk/recordsmanagement/eros/RMCorpPol.pdf>

- **State Records NSW (Australia)**

This publication, accessible through the State Records NSW website, forms part of the Government Recordkeeping Manual. Its purpose is to establish a Government-wide policy on the keeping of records in the electronic environment.

Policy on Electronic Recordkeeping (Last Updated: 13 Apr 1999)

<http://www.records.nsw.gov.au/publicsector/erk/polerk/erk-pol.htm>

- **University of Leeds (United Kingdom)**

This report will provide guidance for collection managers on the creation or enhancement of policies to address retention, and preservation of digital materials. For the purposes of this report, collection management is intended to reflect a more demanding concept than simply collection development, to encompass "policies on the housing, preservation, storage, weeding and discard of stock."

CEDARS Guide to Digital Collection Management (Date Created: Mar 2002)

<http://www.leeds.ac.uk/cedars/guideto/collmanagement/>

ANNEX D

RULES AND LEGISLATIONS ON DIGITAL PRESERVATION

- *Australia Victorian Electronic Records Strategy Initial Standard Published in 2000 www.prov.vic.gov.au/vers
- *Germany Registraturrechtlinie für das Bearbeiten und Verwalten von Schriftgut in Bundesministerien 11. July 2001 www.bmi.bund.de/Anlage8185/Download.pdf
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