

Project no. 269977

# **APARSEN**

## **Alliance for Permanent Access to the Records of Science Network**

**Instrument:** Network of Excellence

**Thematic Priority:** ICT 6-4.1 – Digital Libraries and Digital Preservation

## **D.36.1 BUSINESS PREPAREDNESS REPORT**

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Document identifier:	APARSEN-REP-D36_1-01-0_3
Due Date:	2013-02-28
Submission Date:	2013-02-28
Work package:	WP36
Partners:	UPAT, INMARK, LIBER, DNB, BRITISH LIBRARY, ESA
WP Lead Partner:	UPAT
Document status	Released
URN	urn:nbn:de:101-20140516274

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**Abstract:** This report presents the results of a European-wide online survey for assessing the preparedness of research libraries (as represented by the members of LIBER) in regard to economically-sustainable digital preservation. The survey investigated the preparedness in accordance to the recommendations of the Blue Ribbon Task Force and the results have been mapped to these recommendations to identify Implementation Gaps. The identification of these Gaps will allow key stakeholders to intervene in a prioritized way and to facilitate digital preservation in an economically sustainable way.

<b>Delivery Type</b>	Report
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<b>Approval</b>	Internal reviewer – John Lindström (LTU)
<b>Summary</b>	The overall purpose of this report is to depict the results of a specific survey carried out to investigate the level of preparedness as a prerequisite to ensure economically-sustainable digital preservation. This survey reflects the level of preparedness currently shown by institutions – mainly located across Europe – that are charged with the mission of securing the permanent access to digital content, especially the records of scientific activities.
<b>Keyword List</b>	Business cases, sustainable digital preservation
<b>Availability</b>	<input checked="" type="checkbox"/> Public

Document Status Sheet			
Issue	Date	Comment	Author
<b>0.1</b>	2012-07-10/18	Initial structure and methodology	RR, XB, PG, GT, KK, SR, KS
	2012-07-18/26	Questionnaire write up, comment gathering, editions and set up	RR, XB, PG, GT
	2012-07-26/ 2012-08-03	Fieldwork and data bases set up	RR, XB, PG, GT
	2012-09-10/ 2012-10-15	Fieldwork launching, deployment and follow up	RR, XB, PG, GT
	2012-10-22/ 2012-11-02	Data processing, cleansing and quality assurance	RR, XB, PG, GT
	2012-11-12/ 2012-12-19	Master data and charting	RR, XB, PG, GT
<b>0.2</b>	2012-11-26/ 2012-12-26	Report Drafts	RR, XB, PG, GT
	2012-12-26/ 2012-12-31	Report Final Version	RR, XB, PG, GT, SR
<b>0.3</b>	2013-06-30	Minor addition of information on survey respondents as requested by project review	RR

### Project information

Project acronym:	<b>APARSEN</b>
Project full title:	<b>Alliance for Permanent Access to the Records of Science Network</b>
Proposal/Contract no.:	<b>269977</b>

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## EXECUTIVE SUMMARY

The overall purpose of this report is to depict the results of a specific survey carried out to investigate the level of preparedness as a prerequisite to ensure economically-sustainable digital preservation. This survey reflects the level of preparedness currently shown by institutions – mainly located across Europe – that are charged with the mission of securing the permanent access to digital content, especially the records of scientific activities.

An analysis framework based on the Blue Ribbon Task Force (BRTF) recommendations was generated to assess the level of preparedness of research libraries; for this purpose, 15 variables under 3 main criteria: Governance, stakeholder needs and financial sustainability, were evaluated following the different components of the BRTF recommendations. For this purpose market research methodology was used, gathering information via a web-based survey and performing the investigation using data analysis.

Given that APARSEN is focused on DP challenges for the records of science; we focus on the issue of economic sustainability in the context of Research Libraries. As a valid representative of this ecosystem, we use the LIBER community of research libraries in Europe.

Although benefits of DP in relation to historical and social value are recognised by decision makers, they need to strengthen their support to DP by issuing DP in organisational governance practices or through mandates at national/regional or organisational level.

Furthermore in order to increase the opportunity for key decision makers to buy-in and support DP, there has been recorded a need to develop models that support economically-sustainable preservation, as well a need to evaluate similar business cases that reflect the multiple value dimensions of DP.

An important aspect for decision makers is to ensure return on investment on DP. Quite a lot of organisations understand the need to protect their investment of in time, money and effort put into creating digitized and born- digital content while other organisations have valuable intellectual assets and important collections now in digital format and need to ensure that they are available in the future.

The main criteria identified for selecting digital material for long term preservation are historical value, user demand and usefulness. New criteria such as added value over other formats seem to reflect the need for reaching uniformity of formats to bring efficiencies to DP processes, such as ingestion, migrations, access and delivery.

It is getting recognized that economically-sustainable DP requires not only to adopt and implement a right cost model but also to incorporate variables similar to the BRTF recommendations; such as recognition of benefits and incentives for stakeholder, business models, organisational governance and technological structure.

In order to secure on-going resources for DP new revenue streams may be required in a greater scale as currently, only a small number of organisations are getting money from different services lines (consultancy, selling DP services, subscription, etc.). Also among organisations with the resources and the know-how, the potential of engaging in collaboration/cooperation with other organisations is gaining ground.

Finally substantial progress in governance of DP activities has been recorded as DP goals, strategies, scope, responsibility and accountability are formally understood, approved and documented within those organisations integrating DP in governance practices.

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## 1 INTRODUCTION

Society is becoming digitally enabled, evidenced by the exponential growth in population using computers and the Internet and the diversity of devices creating digital content. Consequently, large and varied volumes of digital information is being generated, used and digitally stored. To preserve the memory of current (and future) society, efforts have begun during the recent years to ensure on-going, meaningful access to digital information.

These efforts, under the umbrella of the field of Digital Preservation (DP) represent a new discipline, thus it is in need of further development and, ultimately, needs to be properly deployed across organisations charged with the mission to preserve and curate digital heritage (Memory Institutions). Top level management buy-in, awareness, commitment at all levels throughout these organisations, and collaboration within peer organisations, must be coordinated in order to foster successful and mainstream uptake. In this regard, the role of organisations, such as APA, LIBER or DPC, becomes key, due their potential to ignite and foster an expanding environment of services that vertically integrate in the e-DP value chain and cross-boundary partnership building. In addition, these organisations are in best position to track and collect cases of how providers and preservers of information respond to evolving intellectual property legislation, new modes of scholarly communication, and new economic models for information provision, and therefore understand and communicate the value of digital information to multiple stakeholders.

Nowadays, it is widely accepted that failure to address DP will result in a big loss of cultural material, content, heritage or corporate financial losses. Organisations from all domains, ranging from cultural and natural heritage to business ones, are increasing and progressively advancing their level of DP preparedness as they envision abating the potential of losing access to significant digital collections through technical obsolescence, and in consequence as stakeholders see and understand the risk of losing valuable investments. In such way, research libraries (among other memory and heritage institutions) are preparing their organizations and are advancing in their technical approach to ensure the stability and accessibility of digital information now and into the future; a future where a governance approach with defined policies will support the foundation of a shared understanding of assets value and addresses current fragmentation of roles and responsibilities in the DP management.

However, as key benefits and part of social and cultural interest can be intangible, it is often very difficult to place a value on digital assets and their potential to be reused in order to secure economically-sustainable DP schemes. Notwithstanding, we can see that currently DP supports structures that are still built mainly on a project basis, which by nature are short term actions, and not through insertion within governance structures of Memory Institutions, with a long term economically sustainable vision in place. These DP projects, piloting DP technology and pioneering how to assess DP needs, have responded to arguments and needs of public value, archival principles and constitutional mandate for preserving heritage and public assets and set the ground for a DP vision. Howbeit, the need to respond and engage with different stakeholders for ensuring *an economically-sustainable digital preservation*, is making clear the need of a multidimensional approach and business preparedness with sound business arguments that include cost avoidance, cost recovery and initiatives operate with the underlying assumption that information is an asset which derives its value from use and reuse that go beyond business continuity and disaster preparedness.

### APARSEN

APARSEN is a Network of Excellence that aims to bring together an extremely diverse set of practitioner organisations and researchers in order to bring coherence, cohesion and continuity to research into barriers to the long-term accessibility and usability of data, by exploiting the project partners' diversity by building a long-lived Virtual Centre of DP Excellence.

Within the project workplan, WP36 "Business Cases" focuses on the challenges for securing economic sustainability of DP in the context of Research Libraries, in order to secure economic-sustainability of digital collections. More specifically, results presented in this deliverable presents the



situation of research libraries who are members of LIBER,<sup>1</sup> with respect to the conditions identified by the Blue Ribbon Task Force (BRTF)<sup>2</sup> i.e. that “Economically-sustainable DP requires:

- Recognition of the benefits of DP on the part of key decision-makers
- Incentives for the decision-makers to act in the public interest
- A process for selecting digital materials for long-term preservation
- Mechanisms to secure an on-going, efficient allocation of resources to DP activities
- Appropriate governance of DP activities”.

The survey considers the current state of stakeholders’ needs as well as benefits, governance, decision making incentives, DP processes and financial issues as main factors to be evaluated. The report contains five chapters as follows:

- Chapter 1 gives the general context and presents the methodological approach adopted and implemented for investigating Research Libraries’ preparedness for economic sustainability of DP.
- Chapter 2 gives the practical implementation details and the profiles the Libraries who have actually provided the data for the preparedness analysis.
- Chapter 3 shows the results of the analysis on preparedness criteria for promoting/supporting/undertaking economically-sustainable DP of the digital collections existing in leading Research Libraries across Europe.
- Chapter 4, “Implementation Gap Analysis”, shows the distance existing between the ideal situations recommended by the BRTF and the current situation exposed by the Libraries participating in the investigation.
- Chapter 5 summarises the findings and conclusions drawn from the investigation.

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<sup>1</sup> Ligue des Bibliothèques Européennes de Recherche

<sup>2</sup> <http://blueribbontaskforce.sdsc.edu>

## 2 PRACTICAL ASPECTS OF THE INVESTIGATION

### 2.1 METHODOLOGICAL APPROACH TO ASSESS THE LEVEL OF PREPAREDNESS WITHIN RESEARCH LIBRARIES

Taking the recommendations of the BRTF as the starting point, the APARSEN team developed a methodological approach to assess the level of preparedness, based upon the analysis of two main components: (1) the users/stakeholders and (2) the enabling factors for DP. The adopted model, summarised in Figure 1, evaluates 15 variables under 3 criteria, in order to provide the necessary information to match, by means of gap analysis, with BRTF recommendations and requirements.

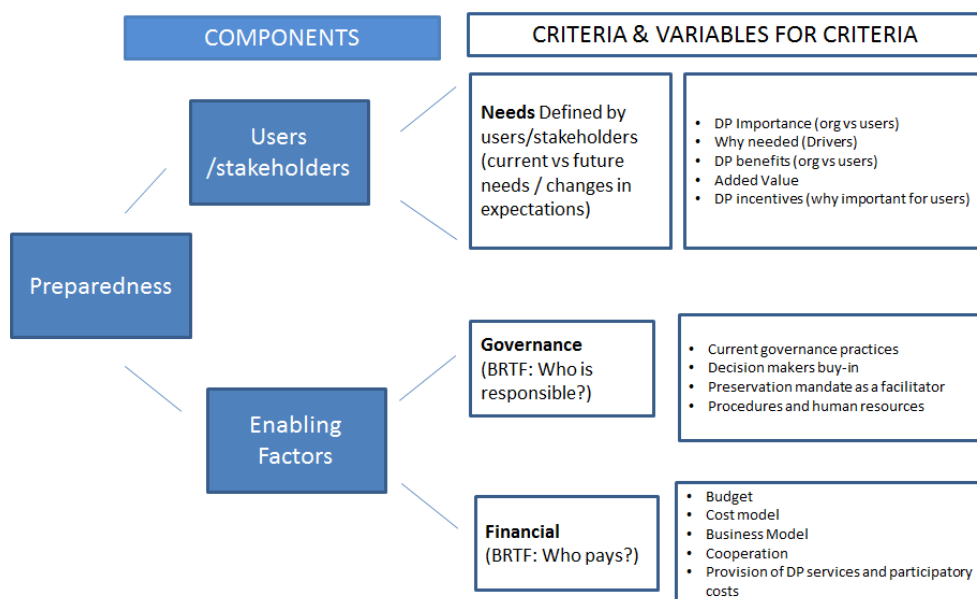


Figure 1: Methodological Approach

The first dimension (users/stakeholders) evaluates criteria related to user's needs, DP importance, digital content, drivers, incentives and benefits.

The second dimension (enabling factors) evaluates parameters related with organisation governance and financial sustainability. This dimension is divided in two sections. First, the organisational governance evaluates the uptake of organisational practices, incentives, management procedures and resources as part of the DP adoption process. Second, the financial enabling factors comprise of evaluating allocation of budget, adoption of revenue models and perception on other cost share models.

The survey was developed following these criteria in order to get information and data on developed BTRF related parameters.

## 2.2 THE RESEARCH METHOD

Quantitative market research methodology<sup>3</sup>, using a web-based survey, has been used to underpin the empirical approach. It was implemented through the following steps:

**Questionnaire Design:** A structured and standardised questionnaire was developed to reduce bias (see Questionnaire in Annex I). The questionnaire was based on the methodological approach developed for evaluating DP preparedness and comprised of five sections:

- The organisation profile
- Importance, values and benefits
- Current preservation activities
- Financial approaches
- Future involvement and collaborations.

Most questions offered codified answers in order to standardise assessment, including an open option (“other?”). Also, closed-ended questions were used to evaluate importance and performances in order to standardize these measures.

An introduction preceded the questionnaire, translating the broad objectives of the study, providing some instructions and addressing issues of confidentiality and/or anonymity according to the Data Protection Act.

**Targeted organisations:** Targeted organisations were research libraries from the LIBER community, mainly based in Europe. Given that APARSEN is focused on DP challenges for the records of science; we focus on the issue of economic sustainability in the context of research libraries. As a valid representative of this ecosystem, we use the LIBER community of research libraries in Europe.

**Sampling:** Sample frame method was used in order to reach at least 100 interviews from a universe of 455 organisations participating in the LIBER community.

**Interviewees’ profiles:** The interviewees were officers from Libraries with direct responsibility in planning and executing Digital Preservation policies of the institution. In practice interviewees were Digital Collection Managers and Digital Preservation Managers. The typical functions of these executives include:

- Lead actions on how best to accomplish a particular preservation goal, including analysing a preservation activity and its associated costs.
- Manage the procedures for carrying out the preservation services or activities
- Coordinate the operations, communications and general functions of the Preservation Team
- Keep abreast of new preservation methodologies and ensure collections care are meeting preservation standards.

**Data collection method:** Systemic web-based data collection was performed through an online questionnaire, which had an average duration of 15 minutes. Surveys testing and dummy testing processes were performed to evaluate length, question ambiguity and clearness. All online responses were tracked and cleansed.

**Data analysis method:** For data exploitation and quality assurance, data analysis method using categorical and interval measurement variables was performed to analyse the data collected, this process was supported by SPSS and INMARK proprietary analytical packages. For the categorical variables the analysis was performed using a cross tabulation between variables. Data processing and

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<sup>3</sup> Methodology that supported by quantitative analysis of statistically valid and reliable survey to create strategies, marketing plans or commercial intelligence for efficient development of organisations (companies and institutions). <http://www.grupoinmark.com/estudios-estrategias-comercial.php?lan=2>

quality control for data exploitation comprised data cleansing, formatting, codifying and structuring for statistical analysis.

**Segmentation:** The survey results are segmented by research library type, geographic region and deployment of DP. Detailed survey findings specific to each type are reported in later chapters.

Survey results pertaining to parameters that reflect the user and enabling factors criteria are discussed in relation to DP deployment in order to assess the level of preparedness.

## 2.3 PROFILE OF LIBRARIES PARTICIPATING IN THE SURVEY

This report is based in the data provided by 101 Research Libraries located across 49 countries.<sup>4</sup> The composition of the obtained sample is shown in Figure 2 and Table 1.

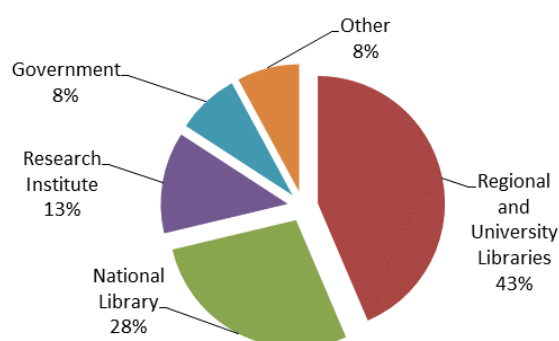


Figure 2: Sample by Organisation Type  
(n=101)

Table 1: Sample by Geographic Region

Research Library Type	Northern Europe	Southern Europe	Western Europe	Eastern Europe	North America	Asia	Total
National Library	13	7	4	2	1	1	28
Regional & University Library	9	13	10	10	0	2	44
Research Institute	3	3	3	1	1	2	13
Government	2	2	2	2	0	0	8
Other*	4	3	1	0	0	0	8
<b>Total</b>	<b>31</b>	<b>28</b>	<b>20</b>	<b>15</b>	<b>2</b>	<b>5</b>	<b>101</b>
*Other: includes foundations and institutions							

In order to build the current picture regarding the scale of digital activities and profiling the participating organisations, we asked respondents about the size of their digital collections, the various types of digital material having created and the budget for creating/acquiring/archiving digital content.

### 2.3.1 Implementation of DP

The vast majority (80%) of the research libraries that participated in the survey claimed to have implemented DP for their digital collections.

<sup>4</sup> The list of countries where the participating LIBER Members are located is shown in Annex II

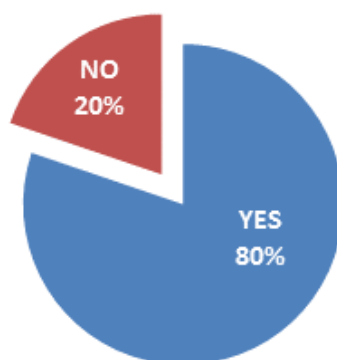


Figure 3: Organisations with DP initiatives  
(n=101)

The presence of DP initiatives is particularly high in:

- National libraries (32% of surveyed research libraries with DP activities).
- Northern and Southern Europe (respectively 33% and 26% of surveyed research libraries with DP activities).

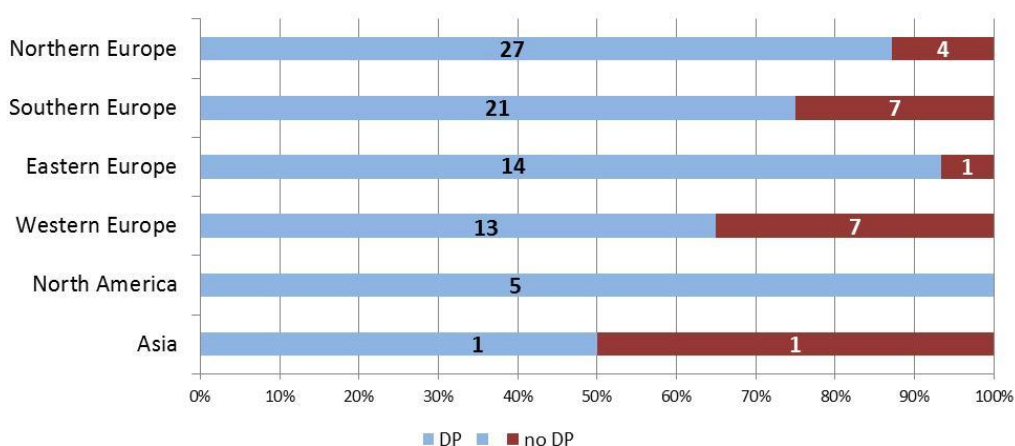


Figure 4: Organisations with DP initiatives by geographical region  
(n=101)

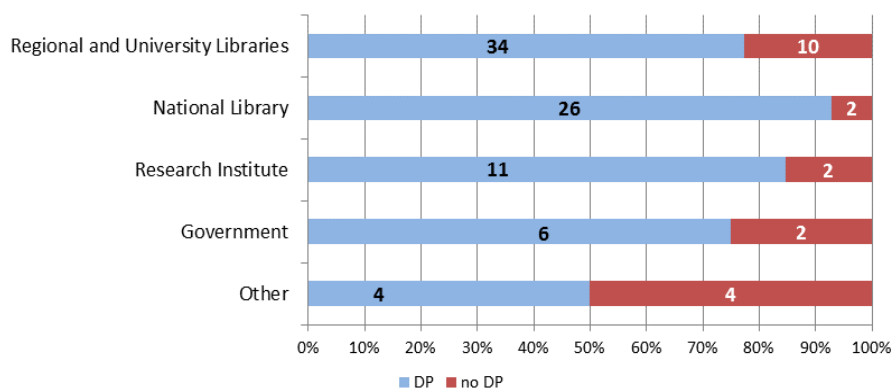


Figure 5: Organisations with DP initiatives by organisation segment  
(n=101)

### 2.3.2 Size and composition of digital collections

Organisation can be divided into four groups, based on the size of their digital collections:

- About 25% of the surveyed organisations have digital collections totalling more than 100 TB. Among these, 50% are national libraries, mainly from the Northern region of Europe, located in Denmark, Finland, Norway and United Kingdom; and all of these libraries have implemented a DP initiative.
- Organisations with digital collections in the area of 10 to 50 TB (22% of the answers) are mainly national libraries (40% of them). By looking first at their geographic location, 40% are located in the south of Europe mainly in Spain, Slovenia, Italy and Malta. A vast majority (92%) of institutions with collections in the 10-50 TB area claim to have implemented DP.
- 27% of the respondent organisations have digital collection totalling between 1 and 10 TB, of which 23% are university libraries mainly located in Western and Eastern European countries, such as Germany, France and Hungary and 70% of them have DP initiatives.
- There are 27% of the organisations which their digital collection is less than 1 TB, mainly university libraries, of which 60% have implemented DP initiatives.

Only four organisations reported collections with 50-100 TB. These were either university, or research Libraries, with DP initiatives in place.

Figures 6 and 7 show the share of organisations by digital collection size and the share of organisations having implemented DP initiatives in those size ranges.

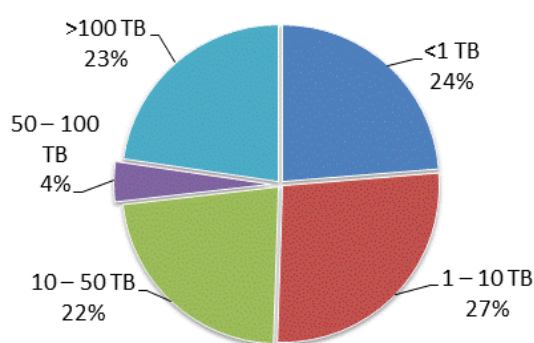


Figure 6: Share of organisations by digital collection size (n=97)

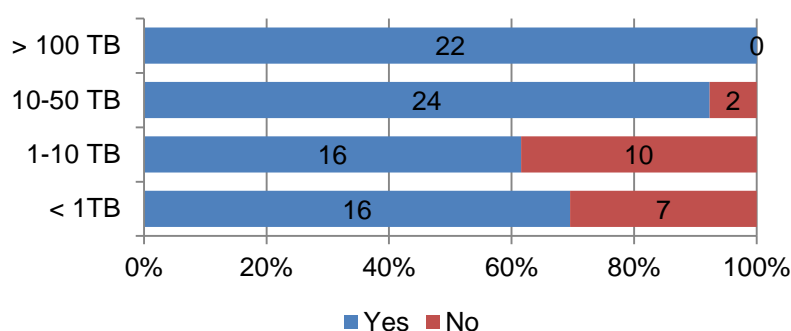


Figure 7: Share of organisations having DP initiatives according digital collection size (n=97)

In regard to the organisations that have no DP initiatives, 50% (mainly university libraries) have between 1-10 TB; a third (mainly corporate and research organisations) have less than 1 TB; while the rest (mainly government organisations) have larger collections of digital content over 10 TB.

Most organisations have a wide range of object types in their collection. We asked them about what type of content is in the digital collection/archive, not as an indication of the total size of the collection digitised, but only as an indicator of the variety/heterogeneity of digital objects co-existing in the collections.

The survey results indicated that digital collections mostly consist of text and image content in the majority of the organisations (80%). Overall, 40% of them also have websites, video and sound/audio files. Research libraries also have datasets. Other type of content in digital collections comprises DjVu files, PDF, Drawings, Film and GIS data.

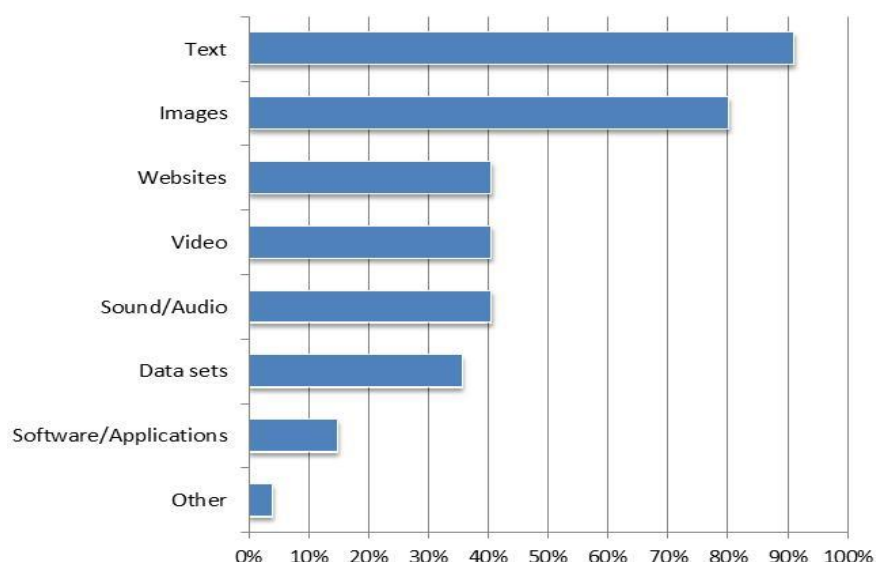


Figure 8: Type of content of the digital collection/archive  
 (n=101)

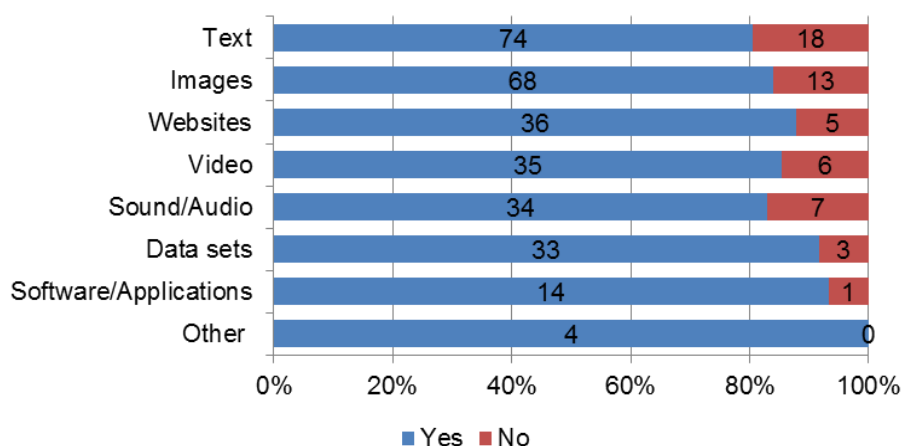


Figure 9: Type of content in organisations that have implemented DP  
 (n=101)

### 2.3.3 DP budgets

76% of the organisations answered the question about annual budget for creating/acquiring, archiving digital content, of which 57% had a budget over 50.000€. Budget differs quite a bit between the various types of organisations; and organisations' size has a large influence on the costs and in turn influence on budget for DP related activities.

97% of organisations with over 50.000€ for creating/acquiring/archiving digital content are often involved in digitisation and archiving activities and thus possess a specific budget for performing

them. Nevertheless, the majority of organisations not performing DP have a budget below the 50.000€ which primarily consists of university libraries located in Southern and Western Europe.

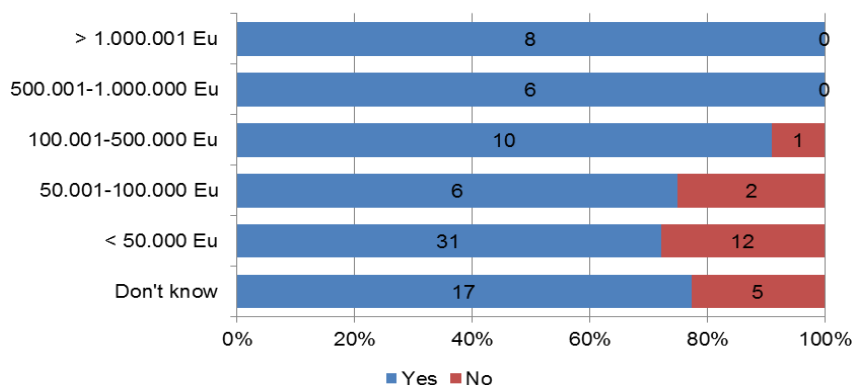


Figure 10: DP initiatives by annual budget or organisations  
 (n=76)

#### 2.3.4 DP staff

Scarcity of human resources is an issue that characterises the respondent organisations and also might reflect the scarcity of people in the market with the necessary skills.

Around half of the survey respondents reported that their organisation has less than five (5) people involved in DP activities, 35% of them have between five (5) and ten (10) people, and only 16% of organisations have more than ten (10) people involved in DP.

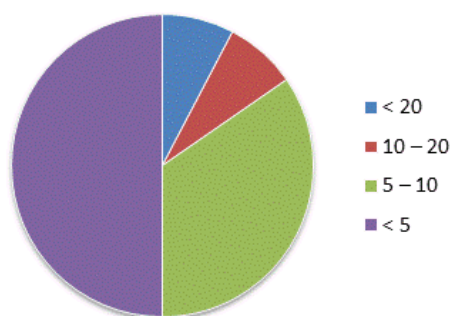


Figure 11: People involved in DP activities  
 (n= 78 only those/ DP=yes)



### 3 PREPAREDNESS FOR ECONOMICALLY-SUSTAINIBLE DIGITAL PRESERVATION WITHIN RESEARCH LIBRARIES

Within the context of this investigation, “Preparedness” has been defined as libraries having incorporated DP practices to (a) cover organisational long-term needs (i.e. access, innovation through content and data re-use), and (b) implemented governance and financial approaches for ensuring that such DP practices are economically sustainable.

#### 3.1 CURRENT IMPORTANCE, VALUE AND NEEDS OF DP FOR USERS/STAKEHOLDERS

##### 3.1.1 Importance of DP

Most of the participant libraries (65%) rated DP as “extremely important” or “very important” for their activities. Another 34% rated DP as “important” or “slightly important”; and only one rated DP as “Not important at all”.

Organisations with larger collections of digital content tended to rate DP with higher importance, while no differences can be observed when analysing these results either by budget, or by geographical area.

58 out of the 65 respondents that rated DP as very or extremely important claimed to have DP practices in place. We can see in the figure below (Figure 12), that the number of organisations not performing DP increases consistently with the lower importance rating of DP.

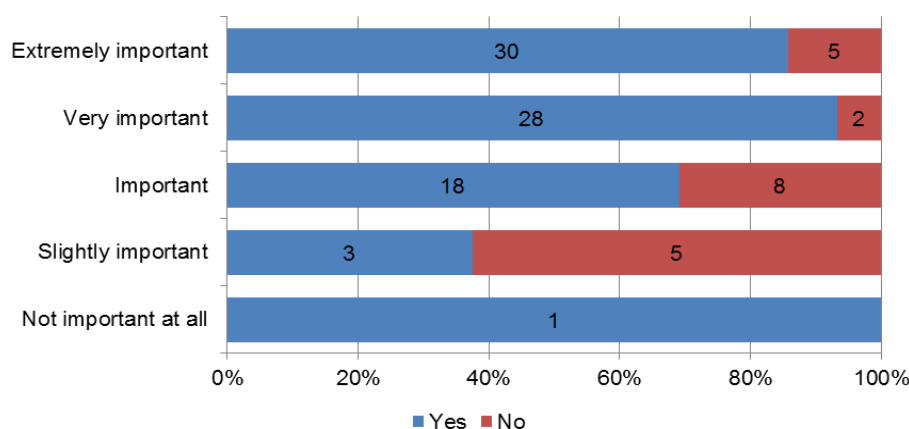


Figure 12: Importance of DP  
(n=80)

##### 3.1.2 Drivers for DP implementation

As most of the interviewed libraries are publicly funded, there are a number of significant drivers for DP for these organisations, such as access, economic, legal/compliance and reputation. Overall, the underlying key driver for engaging in DP is long term access and content re-use. The loss of key cultural, educational, corporate or digital content can lead to lack of compliance, loss of prestige and benefits, or political implications, depending on the nature and type of lost digital assets.

Long term access to, and reuse of, digital content also supports future analysis of current content for better decision making and generation of new content. Researchers and scholars are large creators of digital content, but increasingly need and depend on preserved and archived digital resources, as much of the information is now only delivered in digital form. Drivers for performing DP according to importance were ranked as in the figure below (Figure 13).

Also, interviewees mentioned as important reasons for DP:

- a) The fact that there is no choice, but DP in order to benefit from the socioeconomically benefits arising from the current explosion of the born-digital content and resources
- b) The need to preserve what you get in order to exist, as digital content need to remain accessible and authentic.

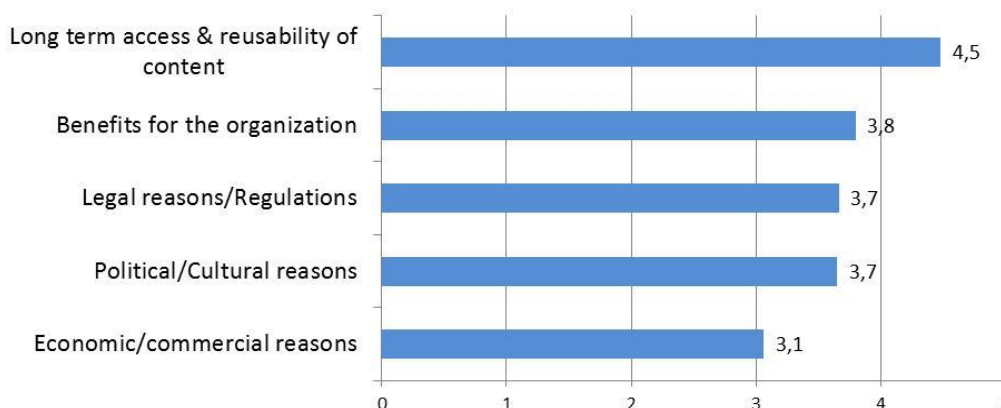


Figure 13: Reasons for performing DP (1 to 5 scale)  
 (n=80)

### 3.1.3 DP added value

The way DP adds value to digital content management is affected by the extent to which operational and strategic processes are embedded in the organisation. The survey identifies that, overall and in organisations active in DP, the two most common ways that DP provides high value to digital content are through identification, interpretation and retrieval of digital objects (63%), followed by optimization of digital content lifecycle management (53%).

This highlights the value of the functional nature of DP; on one hand the value of providing preservation managers with sufficient information to take appropriate actions to maintain the digital content's bit stream over the long-term and on the other hand ensuring that the digital content can be rendered, interpreted and accessed in the future by optimizing lifecycle management and appraisal activities to overcome technological changes. Other reasons mentioned were all the other alternatives (all above) and the support of archiving the procedures that were used to generate the scientific data sets in research institutes.

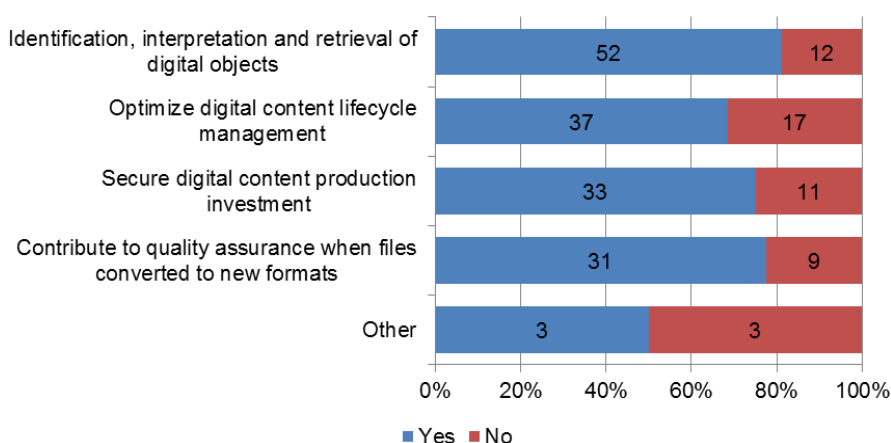


Figure 14: How Digital Preservation adds value to digital content management  
 (n=101)

For organisations that have no DP initiatives, besides the functionality of identification, interpretation and retrieval of digital objects, DP would provide high value to digital content by securing the investment made in creating the digital content.

Although no conclusions can be derived by geographical location, when analysing by the organisation type differences are reflected; 41% of the 63% that perceive identification, interpretation and retrieval of digital objects as the most common way of DP providing high value to digital content are national and university libraries already implementing DP initiatives.

### 3.1.4 Benefits of DP

LIBER members were asked how their organisations were likely to benefit from DP. Overall, the main benefits perceived by research libraries were:

- Increased use of content as a result of better availability and fundability
- Ensuring research results integrity
- Improve organisation and staff reputation (visibility, citations, recognition of being at the forefront of DP, etc.)

However, in the organisations that were active in DP the main benefits were ranked as:

- Increased use of content as a result of better availability and fundability
- Improve organisation and staff reputation
- New research/business

Also, amongst organisations already active in DP, government and university libraries are the ones that believed most strongly that they were likely (completely or very likely) to benefit from new research/business.

Differences are observed in the ratings when analysing by geographic region; Research libraries from Northern European countries were the most in agreement that they were likely (completely or very likely) to benefit from new research/business.

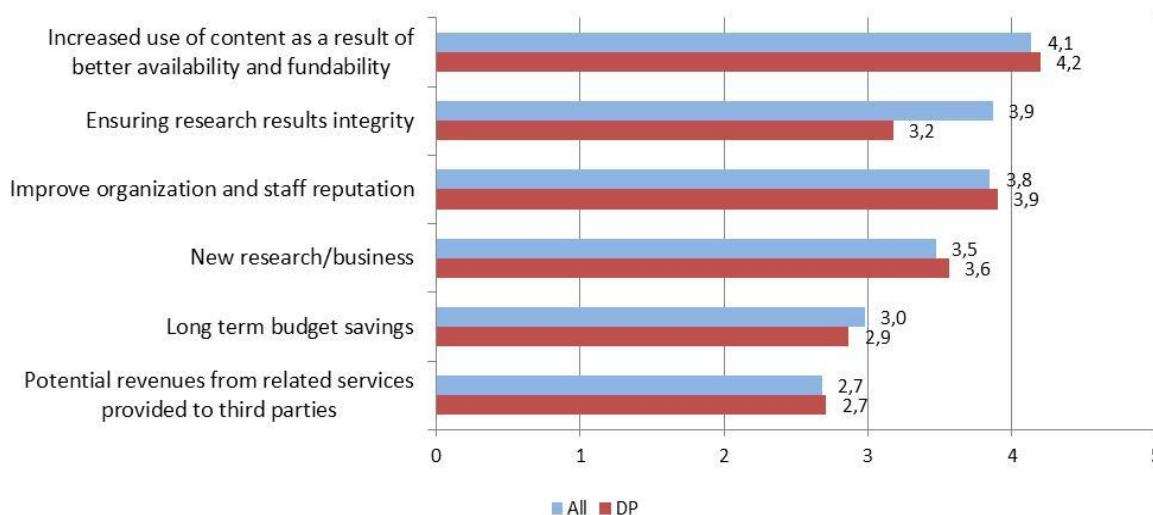


Figure 15: Likeness to benefit from Digital Preservation  
 (n=101)

In addition, the following benefits were mentioned:

- Limit damage to originals by housing them in cool or cold storage and making digital surrogates available.
- Meeting remit to provide access to national published output for future generations

### 3.1.5 Incentives for DP adoption

For this study, we focused on the benefits for users as the reason for which a user would like to the digital content to be preserved. This also could be seen as the selection process for the digital material that needs to be curated. The selection of digital material to be preserved depends on different factors such as the organisation's mission, users/organisational cultural and economic preferences/needs, as well as on compliance requirements. Thus intervention is needed when defining what should be preserved, as preserving everything is a very expensive and non-practical option.

As shown in the figure below (Figure 16), overall, the three major criteria that came out as the most appropriate for selecting digital material are: historical value, user demand and usefulness.

Overall, for all organisations, regardless of whether they were active in DP, the main driver for DP is the mission to keep public heritage and realise historical value and related socio-economic benefits in culture, research and learning. The other two criteria are related to enhancing user experience, driven by demand for and usefulness of digital content, which also supports the case for DP engagement and interaction among users and the organisations (libraries, research centres, etc.).

When looking at organisations that are already active in DP, we see that all the criteria are equally rated.

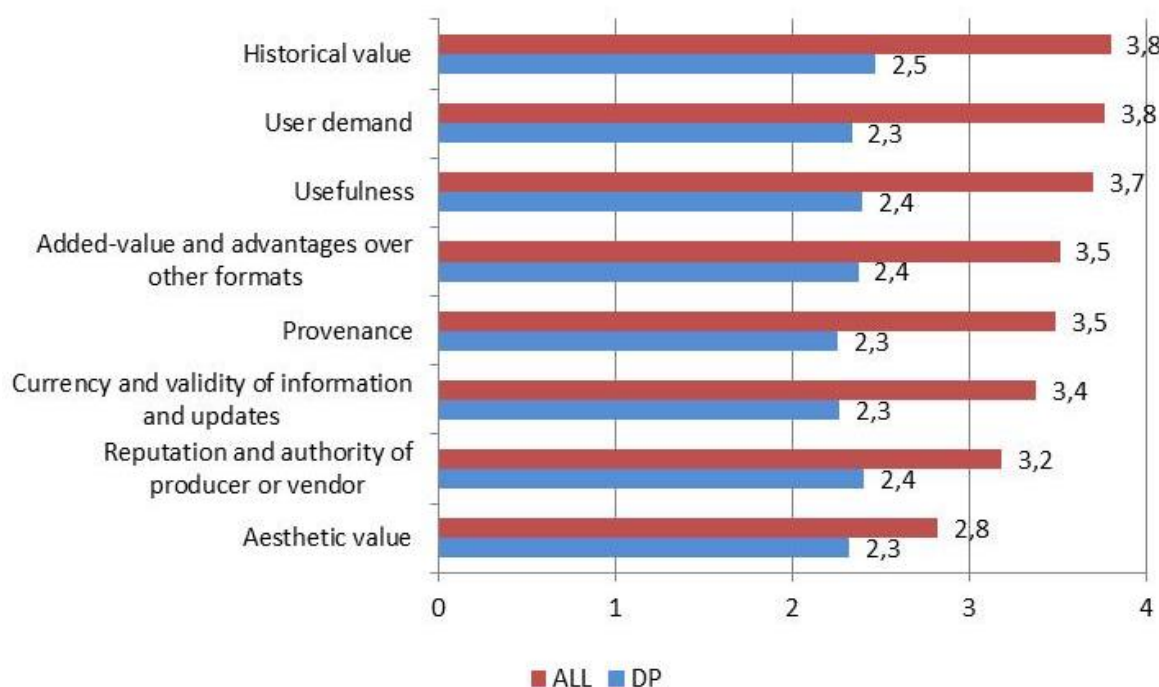


Figure 16: Criteria for selecting material to be preserved  
 (n=101)

In addition, the following criteria or user needs also were mentioned:

- Associational and evidential value of digital content
- Need of legal deposit copies
- Selected/archived web content
- Costly publicly funded data acquisition/generation (e.g. Earth Observation mission)

DP is a comprehensive set of lifecycle management and appraisal activities to ensure current and future use of digital assets, which could be grouped into four stages: pre-ingesting (which comprises the selection and the preparation of packages of digital content to be preserved), ingestion (which comprises all processes and workflows for acquisition and processing), access (comprises all processes and workflows to make digital content easily discoverable and accessible, including generation of

needed metadata and searching techniques that work within the information-finding skills of our users) and curation/preservation (comprises needed processes to maintain digital content collections, either locally created digital, or bought to a third party -in serviceable condition for needed long-term in a cost efficient manner, enabling finite resources-, such as financial, human resources, etc.).

Based on this view of the DP lifecycle, we asked organisations active in DP to prioritise the two activities from the DP lifecycle that need to be addressed by their organisation, in order to provide a view of where these organisations are at currently.

A full transition to DP processes within the DP lifecycle is being observed among European research organisations. However not all are mainstream processes, for example 57% and 53% of the organisations with DP activities respectively need to address curation and access activities. Also, half of the ones that said they need curation also said that need to address accessible processes for digital collections; while the other half mentioned that they needed to address ingesting and pre-ingesting processes.

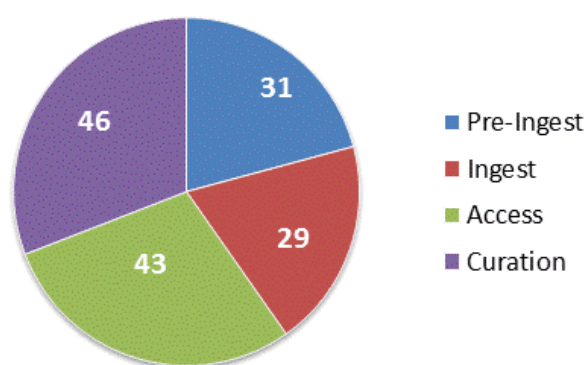


Figure 17: Selection of the 2 DP activities to be addressed by organisations  
(n=79 / only DP= yes)

However, this transition is providing and supporting suitable DP activities and new experiences, which are needed for sustaining preservation processes over the long-term and making DP an evolving and on-going valuable practice, progressively uptaken by organisations. Nevertheless, full digital lifecycle preservation process is still a big challenge.

## 3.2 GOVERNANCE PRACTICES

### 3.2.1 Current governance practices

Achieving economically-sustainable DP requires more than an investment in technical infrastructure for data storage, management, etc. Long term DP raises several organisational challenges, as some business processes across the whole organisation are affected by DP. This issue, coupled with the increasing complexity of DP according to the particular organisational requirements, is generating a need of implication of the high level governance for a long-term proactive and sustainable DP management plan.

To evaluate these issues in the survey we have asked about the integration of DP into the mission and vision statements of the organisation and the organisation's strategic plan, as well as whether the organisation has developed specific DP objectives.

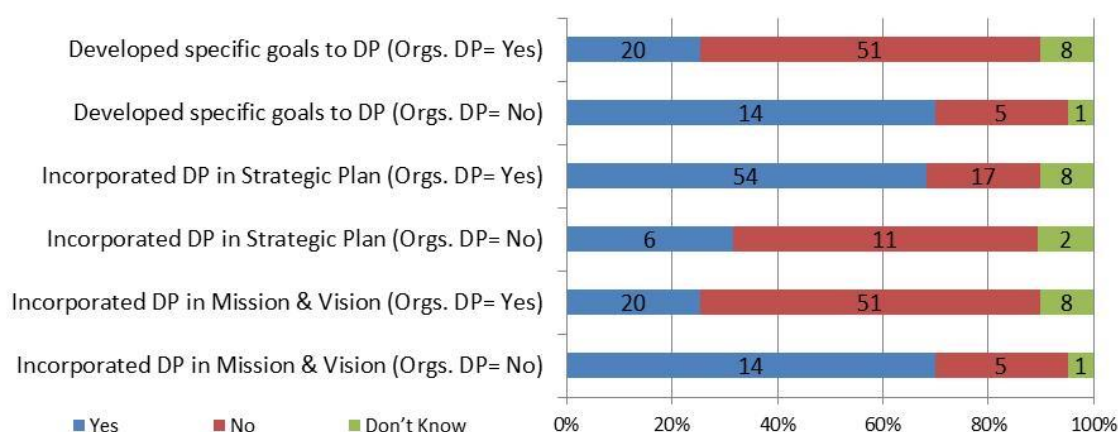


Figure 18: DP integrated in organisation's governance  
(n=101)

Overall, 70% of organisations have developed specific objectives pertaining DP, 59% have incorporated DP into their strategic plan and 55% have incorporated it into their mission and vision statements; of which 63%, 53% and 50% respectively have in place DP processes. This means that DP goals, strategy, scope, responsibility and accountability is formally understood, approved and documented within those organisations, describing the way the organisation will provide DP to its digitised and born digital collections.

On the level of national libraries about 75% have incorporated DP into their mission and vision, 80% have incorporated it in their strategic plan and developed specific DP goals. In addition all state libraries have incorporate DP in organisation governance strategies and plans; which highlights the high level of on-going commitment of national and state libraries to digitally preserving valuable collections.

Almost half of university libraries have incorporated DP into their mission and vision as well as in their strategic plan and 86% of them have developed specific DP goals.

There is little difference among the rest of organisation segments, although research institutes are more likely to incorporate DP in organisation governance strategies and plans.

Looking by geographic regions, three quarters of the organisations located in the Northern, Eastern and Western European organisations reported that have developed specific goals pertaining DP, with a significant difference to organisations located in the South of Europe, with 44% of the respondents report that have specific DP objectives.

Also significant differences by region where identified when exploring if DP has been incorporated in the organisations' strategic plans; over 60% of the organisations in the Northern and Western Europe reported having done it, whereas half of the organisations in the Southern and Eastern Europe reported the same action. There is little difference when assessing if DP is incorporated into the organisations' mission and vision.

### 3.2.2 Decision maker buy-in

In order to realise economical and sustainable DP, it is necessary to have sufficient management buy-in. A communication plan is also needed to gain this buy-in.

Organisations were asked how influential a set of pre-gathered statements were when used for convincing decision makers to adopt/approve DP activities. Major differences were found between the overall sample and the organisations that had implemented DP. The following table ranks (according to highest frequency of responses) the statements for convincing decision makers and getting management buy-in for the overall sample and organisations performing DP activities.



Table 2: Incentives for decision makers to DP

Overall	Organisations with DP
1 Fulfilling legal obligations	Organisation's and staff's reputation
2 Preservation of research results/data	Fulfilling legal obligations
3 Organisation's and staff's reputation	Fulfilling organisation's mission
4 Fulfilling organisation's mission	Preservation of research results/data

*Annex I - survey question Q10*

Incentives do not differ dramatically between the overall result and those organisations active in DP. For the active organisations, reputation is ranked first, over legal obligations. This may be because legal obligations act as an initial catalyst for DP activities, whereas reputation (as a “trustworthy organisation/for excellence in DP”) serves to act as an argument for sustained investment.

National and university libraries are front runners among organisations having implemented DP, and so have embedded a DP strategy in their governance, these organisations try to establish clear social benefits of DP at an early stage to underpin management buy in.

Across the board, accountability of funds used for digital content ranked in the fifth place, thus for many organisations there is a need to protect the investment (in time and effort) put into newly and continually created digital content. Underpinning this is the argument for DP as an on-going activity and not as a time-limited project. Also, organisations use statements related to improving productivity, sustainable DP and potential revenues to elicit management buy-in.

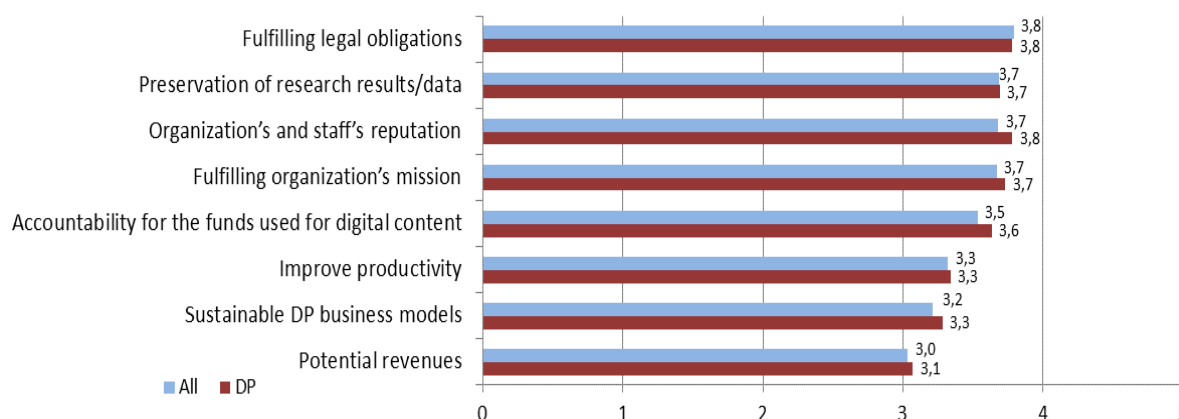


Figure 19: More influential statements to convince decision makers  
(n=101)

Nevertheless, when asking how decision makers are involved in DP in those organisations pertaining DP activities, the majority of respondents reported that they are mostly involved in managerial activities as supervisors (42%), executives (33%) or advisors (24%). However it is interesting that 43% of the respondents reported that decision makers are involved as financial funders, which also supports organisation's accountability and management buy-in.

### 3.2.3 Preservation mandate as facilitator

For most of the respondent organisations, a preservation mandate is a proper facilitator of DP; overall 78% of the organisation either strongly agree (37%), or agree with this statement. Moreover, 80% of the organisations active DP also strongly agree or agree with it and three quarter of the organisations that have not implemented DP also state that this mandate will facilitate DP.

Although there are many other drivers/benefits and communication statements (as shown above), organisations strongly agree that a preservation mandate is needed. This position also highly correlates

with fact of including a legal fulfilment statement reflected in the organisations' communication and awareness process for management buy-in.

Assigning and understanding the responsibilities for DP is often difficult in these organisations. Interviewed organisations are mainly publically funded organisations whose stakeholders may include other public institutions or national and international organisations/institutions, thus a preservation mandate could encourage adoption of a long term DP strategy and facilitate collaboration amongst the different stakeholders.

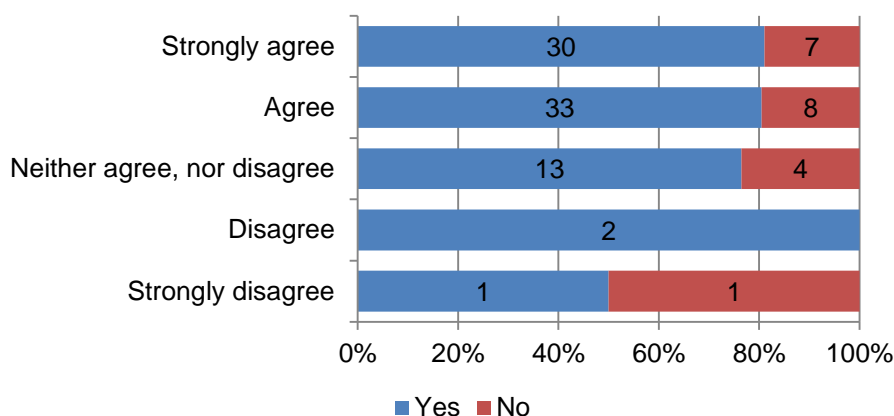


Figure 20: Preservation mandate as proper DP facilitator  
 (n=101)

### 3.2.4 Preservation procedures

The importance of prioritisation of preservation is high, as organisations need to consider in advance the long-term preservation characteristics of the formats they use or will use. Currently, 72% of interviewed organisations prioritise the preservation of digital assets as an internal decision, while only 15% have guidance from experts.

Organisations should work together with experts, software vendors and DP technological suppliers in order to benefit from experts' guidance, which might range from technical issues, such as generating the development of good management procedures, use of standardised vocabularies and content standards, underpin appropriate library standards or proactively defining the expected standards for acquired and locally generated digital content to be preserved, to a management and resource oriented guidance, such as support for planning and foreseeing needed resources (human, financial, infrastructure, etc.) or putting together a cost-benefit case for increasing buying-in from high level management.

## 3.3 FINANCIAL RESOURCES AND PRACTICES

DP is potentially expensive on-going practice, which calls for long term financial planning. From financial point of view, good DP practice and planning can support processes to maintain digital content collections and ensure they remain accessible and trustworthy over the required lifespan in a cost efficient way. To assess preparedness in relation to financial resources and practices as enablers for economically sustainable DP, we have assessed current and foreseen budgetary resources, cost management and models, business models, cooperation and provision of DP services and participatory costs.

### 3.3.1 Budgetary and funding resources

Internal institutional budgets are a financial source for 70% of participating libraries, thus at least DP is partially funded through general operating budgets. In this regard, significant differences are



observed by regions, as a larger number of organisations mentioning this funding source are located in Northern and Southern Europe.

Project grants and awards are strongly represented as funding sources. 49% of organisations reported this as a source and 44% reported Regional/Government endowments or grants as funding source. Project and regional/government funding are a main source for national and university libraries. Very little differences are observed across geographic regions for projects as a funding source. The lowest number of organisations receiving regional/government funding is located in Eastern Europe.

Of the national libraries, about 36% receive funding through their institutional operational budgets, and another 30% of them mentioned project funding as a financial source. For the majority of government organisations (75%) institutional budget is the main funding source. For research organisations, governmental (36%) and institutional (30%) funding are the main sources.

Table 3: Budget sources per library type

	Institutional budget	Regional-Governmental funding	Projects funding	Sponsorships	Revenues	Others
<b>National Library</b>	36%	18%	31%	13%	3%	0%
<b>Research Institute</b>	29%	35%	22%	6%	6%	0%
<b>Government</b>	75%	0%	13%	0%	0%	13%
<b>University Library</b>	40%	26%	23%	5%	5%	2%
<b>State Library</b>	33%	27%	27%	7%	7%	0%
<b>Other</b>	27%	9%	36%	0%	0%	27%
<b>Total</b>	37%	23%	26%	7%	4%	3,4%

*Annex I - Survey questions Q1/22*

Many organisations engaged in DP activities have a mixed funding model, raising money from different services lines, such as consultancy (20%), selling DP services (17%), membership (15%), subscription (14%), advertisement (6%) or other services (external digitisation, selling rare digital reproductions, selling digital images). Nevertheless, a third of the interviewed organisations reported that they do not perform any other activity nor generate revenues or use project funding for raising money for their DP services.

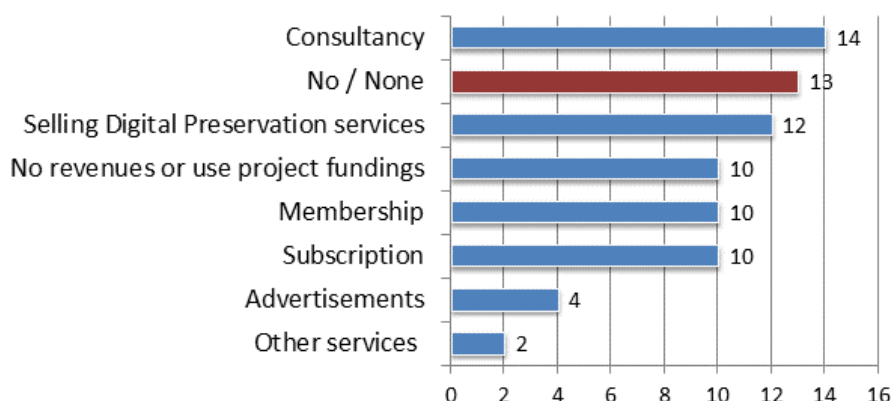


Figure 21: Other sources for raising money from services  
(n=81, DP=yes, excluding don't know)

Annual budget commitments for organisations active in DP is currently below 50,000€ for a third of research libraries (35%). A fifth of the organisations have a budget between € 50,000 and 100,000, while 12% commit a budget of between 100,000 and 500,000€. 31% of organisations still do not have

a specific annual budget, which indicates the possibility of funding fluctuations and dependence on the provision of grant and project money or state/government funds. As we can see in Table 4, a hefty percentage organisations (57%) with budgets below 50,000€ reported that they were dependent on regional/governments, project funding and sponsorships.

Table 4: DP budget sources per annual budget for digital content activities

	Institutional budget	Regional-Governmental funding	Projects funding	Sponsorships	Revenues	Others
< 50.000 €	21	10	15	3	4	3
50.001-100.000 €	1	2	4	0	2	0
100.001-500.000 €	7	7	6	1	0	0
500.001-1.000.000 €	5	2	3	1	0	1
> 1.000.001 €	4	2	2	1	0	0
Don't know	17	9	7	4	0	0

*Annex I - Survey questions Q19/22*

Looking at the organisation type, national and state libraries differ in budget ranges reporting a maximum of 500,000€; the majority of university libraries have a budget below 50,000€ although some universities reported in higher budget ranges, also up to 500,000€. Government organisations funding is between 200,000 and 50,000€, and research institutes have budgets of up to 100,000€. Organisations in the higher range of budgets (up to 500,000€) are concentrated in Northern Europe.

According to respondents, their organisations expect funding to increase or at least stay about the same in the following five years, especially in the higher ranges over 100,000€.

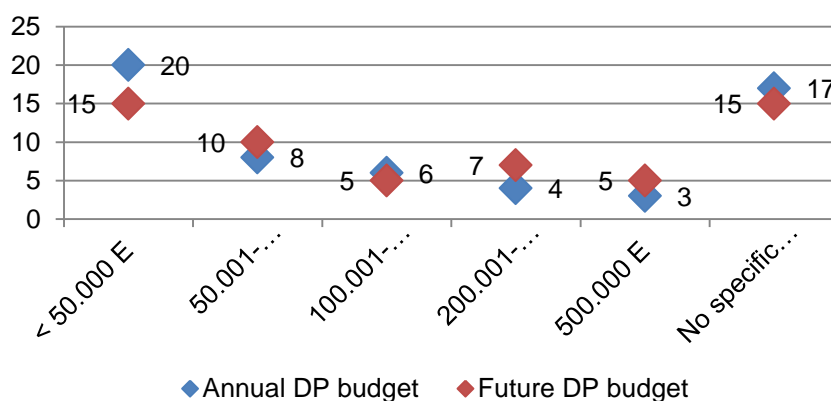


Figure 22: Current vs. anticipated range organisation's budget in five years  
 (n=81 only DP=yes)

### 3.3.2 DP costs management and models

Overall, there are no cost management procedures in place that allow the generation of generalised/standardised cost models. Currently 44% of the organisations estimate budget by experience and 31% of them cannot estimate budget at this level.

Only 11% of organisations monitor cost units and 5% of the organisations estimate their budget and costs through cost models.

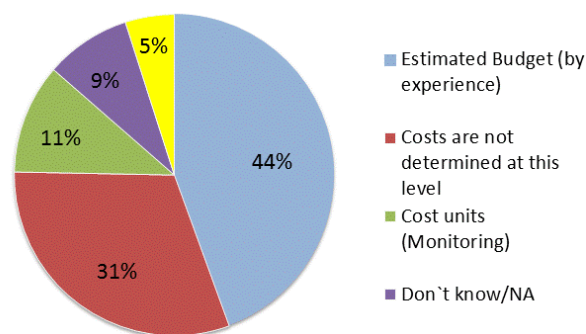


Figure 23: How organisations determine DP costs  
 (n=81 only DP=yes)

Organisations active in DP have reported that new and developing DP cost models are needed not only to support funding requests but also for reporting to high level management, calculating the real costs of preservation and ensuring efficient use of resources.

A cost model for providing clear cost-benefit justification for DP initiatives should address the following criteria:

- Sound good model validated by a similar organisation.
- Scope of the model; for example taking into account if the model covers the complete digital content life-cycle.
- Easy to use and adaptable
- Cost of the model

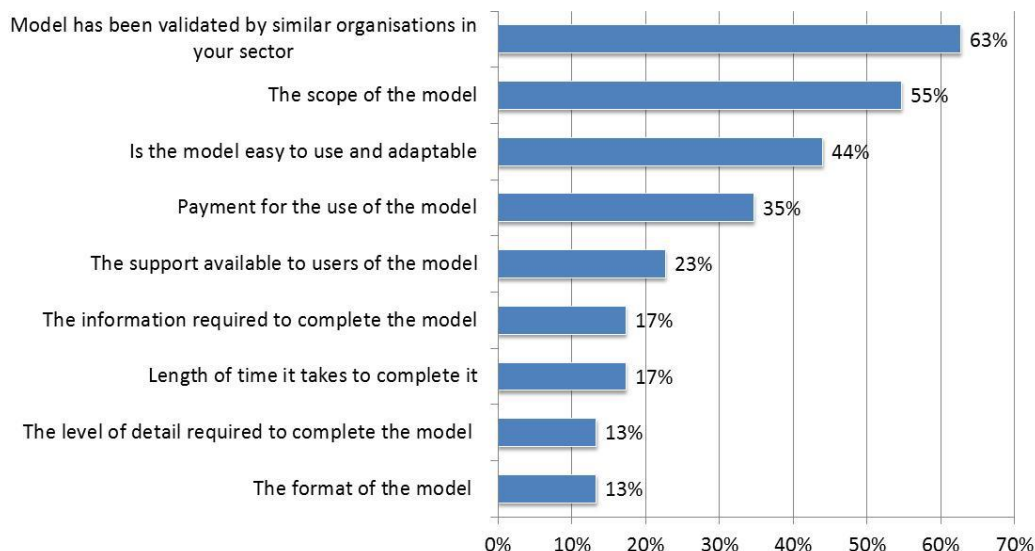


Figure 24: Criteria to select a cost model  
 (n=81 only those DP: yes)

DP activities such as change management, innovation, operation and installation are seen as risky in terms of costs, as these activities diminish the implementation of DP from a resources perspectives, thus actions against high-level threats need to be defined for these activities in cost planning or cost models.

Of these activities, change management is seen as the activity that poses a higher risk or uncertainty to DP from the costs perspective. It is followed by innovation, operations and installation activities, respectively ranked in second and third place as risky activities.

The purchase of support tools and software has been ranked by the majority of organisations (55%) as the highest cost component when implementing DP, followed by IT infrastructure costs (31%) and management/organisation costs (8%). 81% of organisations that rated the purchase of support tools and software cost category as number 1, also ranked as the 2nd most important IT infrastructure as the second most important category.

### 3.3.3 Business Models

The majority of respondents (70%) support models towards an economically-sustainable preservation initiative, which, as stated by the BRTF, requires more than just an understanding of DP costs but also main categories such as clear partners/stakeholders roles, proper cost/benefit analysis tools, as well as organisational commitment, while also taking into account other issues such as preservation needs/processes of maintaining digital content/objects through its entire lifecycle.

The following table ranks (according to frequency of responses) 10 characteristics that should be incorporated into a sustainable DP business model. It also presents differences regarding the importance (differences in priority ranking-) when comparing results across all research libraries and the organisations that have implemented DP. We can see, for example, in the table below that the incorporation of a revenue system into a business model is ranked in 4th place in the all respondents ranking (with high impact from organisations that have not implemented DP), while organisations with DP have ranked revenue systems with less importance (ranked 10th).

Table 5: Characteristics of a business model

	All respondents	DP organisations
1	Clear partners/stakeholders roles	Organisational commitment
2	Proper cost/benefit analysis tool	Funding commitment
3	Organisational commitment	Standard procedures
4	Revenue system (e.g. fee by membership, subscriptions etc.)	Clear partners/stakeholders roles
5	Funding commitment	Proper cost/benefit analysis tool
6	Standard procedures	Proper selection & appraisal procedure
7	Proper selection & appraisal procedure	Risks
8	Right incentives	Investment Analysis
9	Risks	Right incentives
10	Investment Analysis	Revenue system (e.g. fee by membership, subscriptions etc.)

*Annex I - survey question Q42*

Research libraries active in DP (48%) reported that their current DP business model is capable of meeting current and short term needs. A hefty percentage of these are national or regional/university libraries. Although 40% of university libraries also reported the same, more than a third (mostly from Southern Europe) reported that their current business model does not nor might not (unsure) meet current and short term needs.

When linking this characteristics with needed building blocks for a Business Model Innovation<sup>5</sup>, we can see that organisational commitment, standards procedures and clear partners/stakeholders roles are needed and become important in organisations that are moving toward a shared understanding of DP and providing a foundation of a unified view of the value proposition that support needs of all stakeholders and targeted customers/users as well as generating an appropriate value chain architecture. In addition, characteristics related with funding and financial benefits such as having a proper cost/benefit analysis and revenue system, selection and appraisal procedure, investment analysis and right incentives and risk management support the building blocks related with the profit

<sup>5</sup> Baseline for Networked Innovation Models (D4.1) NEFFICS Project

formula, needed competences and use of partner networks and alliances as market channels to grow and generate positive sprout.

### 3.3.4 Cooperation

Cooperation is key to in moving towards economically-sustainable DP. DP is not only a costly process, with finite and scarce resources, but also key in addressing the current challenge of establishing responsibilities, workflows, governance practices and infrastructures to systematically preserve exponentially growing digital content on an on-going basis.

Therefore, DP would benefit from cooperation, particularly from cost-efficiencies coming from the economies of scale. The majority of organisations (70%) responded that they have the resources and the know-how to be further involved in cooperation with other organisations, large percentage is driven by national libraries mainly located Northern European countries and some university libraries from Eastern and Western European countries.

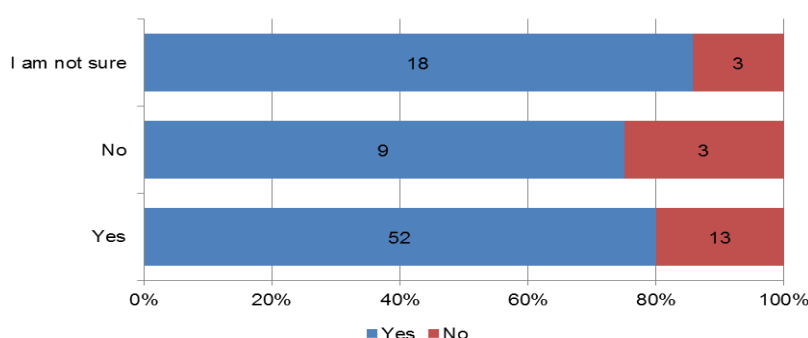


Figure 25: Capability to be further involved in cooperation  
 (n=81 only those DP=yes)

In order to foster cooperation between organisations pertaining DP or aiming at doing so, a coordination mechanism is needed to address synergies, initiatives and consistency of common DP activities across the European DP supply and demand side. 53% of respondents envisage this coordination mechanism as a consortium of peer organisations while 28% of them visualize under the figure of a national agency.

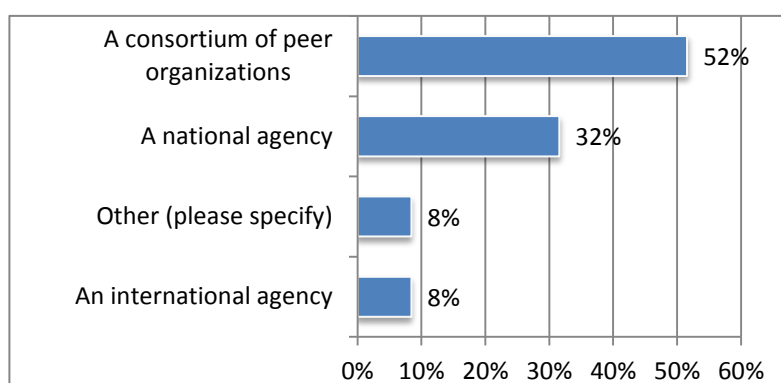


Figure 26: Coordination mechanism preferences

Also, some organisations proposed that the coordination mechanism should be in a distributed way, as centralized mechanisms are dangerous and outdated, while other organisations commented that in their perception having a consortium or a national agency would depend on the level and scope of services to be provided/coordinated.

### 3.3.5 Provision of DP services and participatory costs

Most of the respondents (90%) reported that they view the provision of DP services to other organisations as a good idea.

A third of these respondents, and also a third of the organisations having implemented DP, anticipated that they might try to implement it in the future. In university libraries, 40% reported that might try providing DP services in the future.



Figure 27: Idea of providing DP services to other organisations  
 (n=100)

The top two reasons driving the idea of providing DP services to other organisations were: 1) Effort sharing and 2) Cost sharing.

The following reasons were also mentioned: Technology sharing, provision of the capability of DP, ease implementation of DP, commitment to a common purpose, technology pay off and generation of revenues.

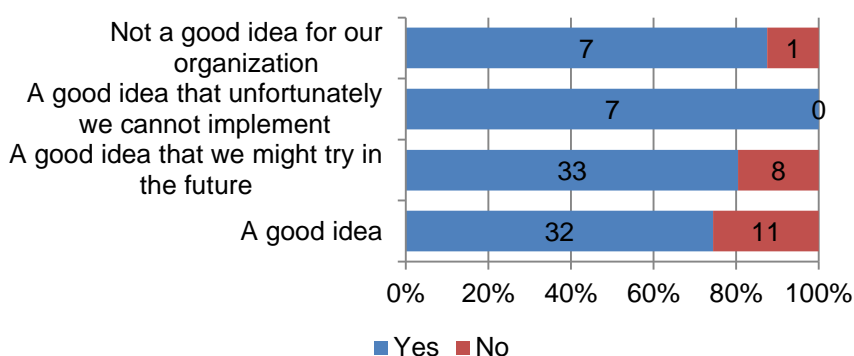


Figure 28: Idea of receiving DP services from other organisations  
 (n=99)

Interviewed organisations seemed very open to seeking broader community-based opportunities, as 90% found receiving DP services to be a good idea. 44% of them anticipate that they might try to implement this in the future. National and university libraries are the organisations that are most open to receiving DP services from other organisations.

Main two reasons driving the idea of receiving DP services from other organisations are the same than the ones of providing DP services to other organisations: Effort sharing and Cost-sharing. Similarly, reasons lagging behind driving reasons were ranked equally to the above counterpart service.

Only a few of the organisations (15%), mainly those already performing DP activities, would be interested in participating in a system that would ask you to preserve information that you have not

created or you don't control, majority of organisations doubted answering that it depends on the schema used. Main reasons to participate in this system are driven by the same needs or reasons explained in the cases of DP services offered from and to other organisations: Effort sharing and Cost-sharing.

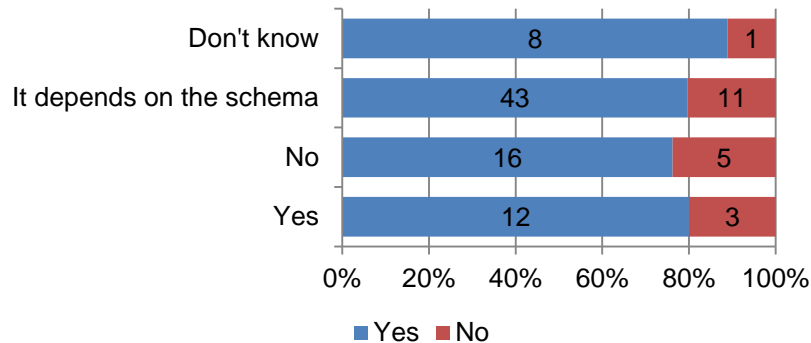


Figure 29: Interest in a system to preserve information that you have not created (n=101)

Long term will need to involve the cooperation and probably participation costs when outsourcing DP services. If participation costs existed, nearly a third of organisations see the standard fee per service unit as the ideal way to calculate the participatory share. 24% would rather a standard annual fee, another 24% would calculate the share as a fee per service estimated on the organisation's size and 15% would use an annual fee estimated on the size of the organisation. Other proposed ways to calculate the participatory share were: a fee per estimated use, an agreed percentage of costs over the overall cost, (based on specified criteria that can change appropriately over time) and a fixed fee for the whole time of the contracted preservation.

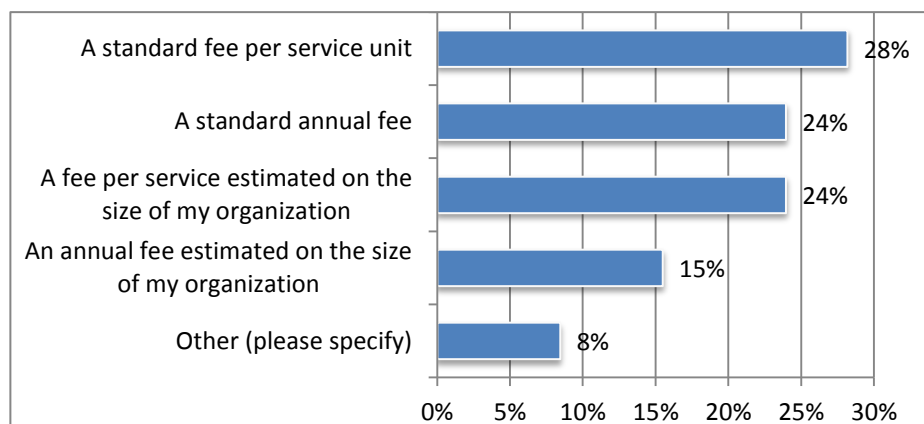


Figure 30: Participation cost preference



## 4 IMPLEMENTATION GAP ANALYSIS

In order to gauge the ‘Implementation Gap’ we have calculated the number of research libraries that rated DP as a strong need, but have not yet implemented a DP solution or do not included DP within the governance structures.

The Implementation Gap provides another perspective on the priority of DP implementation and/or its integration within the organisation’s governance. The Gap highlights those areas where take-up or integration of DP activities is weaker. The proportion of respondents who reported a Gap for each practice is:

- DP implementation: 17%
- Organisation’s Goals: 24%
- Organisation’s Strategy: 26%
- Mission & Vision: 35%

In the chart, the Gap area shows the proportion of libraries that rate DP as of high importance but have yet to implement a DP solution or integrate DP in governance practices. “Important & Implemented” shows the number of libraries that rated the practices as highly relevant, but also have a strong need.

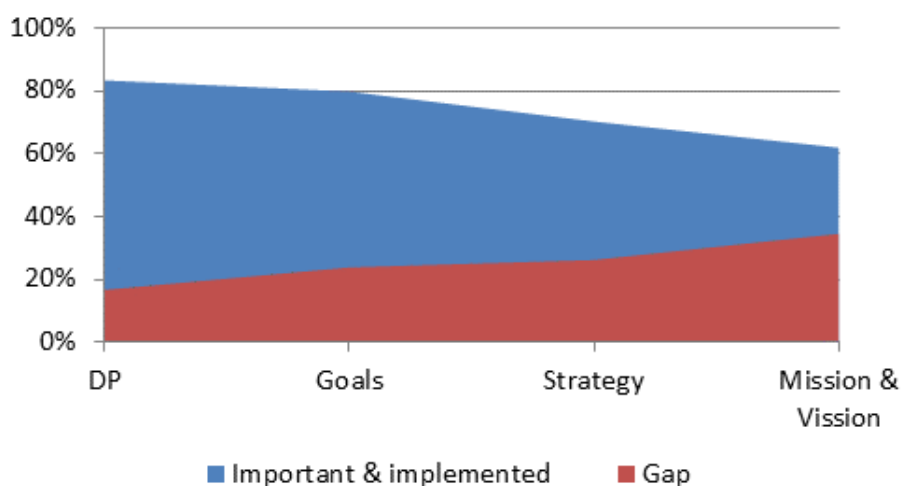


Figure 31: Implementation Gap

The following sections explain the analysed implementation gaps for each practice.

### 4.1 DP IMPLEMENTATION GAP

- 90% of European organisations rate DP of high importance
- Only one organisation has rated DP as not important at all
- 15% of those who rate DP of high importance have no implementations



Table 6: DP Implementation - Important & Have Implemented

	Total	Eastern Europe	Northern Europe	Southern Europe	Western Europe
<b>Have implemented</b>	74%	87%	81%	68%	65%
<b>Rated DP as important</b>	89%	93%	94%	82%	90%

*Annex I - Survey questions Q6/Q13*

Almost 90% of respondents in the survey rated DP as of high importance. Yet only 74% reported that they have implemented DP. Organisations located in Southern Europe rated importance much lower than the rest of the regions and also, alongside Western European organisations, lagged behind in implementing DP.

**The DP implementation Gap is the proportion of organisations that have a rated DP as of high importance but have not yet implemented a solution.**

Eastern Europe reports the lowest Gap for DP implementation while organisations from Western Europe reported an implementation gap for DP that is 1.5 times the average gap. State and university libraries reported the highest implementation gap, whilst, in contrast, national libraries are more likely to have implemented DP.

Table 7: DP implementation Gap by Region

Region	Average	Eastern Europe	Northern Europe	Southern Europe	Western Europe
<b>Important, and not implemented</b>	17%	7%	14%	17%	28%

Table 8: DP implementation Gap by Organisation Type

Type	Average	National Library	State & University Libraries	Government	Research Institute	Other
<b>Important, and not implemented</b>	17%	7%	21%	14%	8%	50%

*Annex I - Survey questions Q6/Q13*

## 4.2 DP IMPLEMENTATION GAP AS PART OF SPECIFIC ORGANISATIONAL GOALS

Overall, 69% of the libraries have implemented DP into specific organisation's goals, which is essential to appropriately address evolving technologies and needed actions that ensure and measure that carried out actions support DP strategies and organisation's mission. Organisations in Southern European lag behind the rest of regions and below the average.

Table 9: DP implementation in specific organisation's goals - Important & Have Implemented

	Total	Eastern Europe	Northern Europe	Southern Europe	Western Europe
<b>Have implemented</b>	69%	73%	74%	61%	70%
<b>Rated DP as important</b>	89%	93%	94%	82%	90%

*Annex I - Survey questions Q6/Q7*

**Implementation gap for DP specific organisation's goals is the proportion of libraries that have rated DP as of high importance but have not yet implemented specific DP goals as part organisational goals.**

Organisations located in Northern Europe reports the smallest Gap, 10 percentage points below the average, while organisations from Southern European reported biggest implementation gap that is 1.6 times the average gap. State and university libraries report the highest implementation gap, while by contrast national libraries are more likely to have implemented DP and rate it of high importance. There is little difference among national libraries, regional & university libraries and research institutes.

Table 10: DP implementation Gap by Region

	Average	Eastern Europe	Northern Europe	Southern Europe	Western Europe
<b>Important, and not implemented</b>	27%	21%	17%	43%	28%

Table 11: DP implementation Gap by Organisation Type

	Average	National Library	State & University Libraries	Government	Research Institute	Other
<b>Important, and not implemented</b>	23%	20%	22%	14%	22%	50%

*Annex I - Survey questions Q6/Q7*

### 4.3 DP IMPLEMENTATION GAP AS PART OF THE ORGANISATION'S STRATEGY

Overall, 57% of Libraries have incorporated DP into the organisation's strategy, which in turn supports evolving research collections and describe DP activities scope, strategies, challenges, roles and responsible parties. In addition this practice underpins specific DP goals to develop a long-term repository for digital collections. Organisations in Northern Europe not only are the larger group rating DP of high importance but also the larger group (68%) implementing DP as part of the organisation's strategy.

Table 12: DP implementation in organisation's strategy - Important & Have Implemented

	Total	Eastern Europe	Northern Europe	Southern Europe	Western Europe
<b>Have implemented</b>	57%	47%	68%	50%	60%
<b>Rated DP as important</b>	89%	93%	94%	82%	90%

*Annex I - Survey questions Q6/Q7*

**Implementation gap for DP in organisation's is the proportion of organisations that have rated DP as of high importance, but have not yet integrated DP in the organisation's strategy.**

There are significant differences by organisation segment. State and university libraries and research institutions, both report the largest gaps, while national libraries report the smallest gap (half of that of the total average). The largest gap is for organisations in Eastern Europe region, the smallest for organisations located in Northern Europe region.

Table 13: DP implementation Gap by Region

	Average	Eastern Europe	Northern Europe	Southern Europe	Western Europe
<b>Important, and not</b>	25%	36%	17%	26%	28%

## implemented

Table 14: DP implementation Gap by Organisation Type

	Average	National Library	State & University Libraries	Government	Research Institute	Other
<b>Important, and not implemented</b>	25%	12%	27%	14%	44%	50%

*Annex I - Survey questions Q6/Q7*

## 4.4 DP IMPLEMENTATION GAP AS PART OF THE ORGANISATION'S MISSION AND VISION

Overall, 49% of the respondents have incorporated DP into the organisation's mission and vision.

Table 15: DP implementation in organisation's mission & vision - Important & Have Implemented

	Total	Eastern Europe	Northern Europe	Southern Europe	Western Europe
<b>Have implemented</b>	49%	53%	52%	46%	45%
<b>Rated DP as important</b>	89%	93%	94%	82%	90%

*Annex I - Survey questions Q6/Q7*

There is little difference among geographic regions regarding integration of DP in organisation's mission and vision, ranging from a low of 46% in the Southern Europe to 53% in the Eastern Europe. Integration within an organisation's mission is a significant factor for sustainable DP.

**Implementation gap for DP in organisation's is the proportion of organisations that have rated DP as of high importance but have not yet integrated DP in the organisation's mission and vision.**

Table 12: DP implementation Gap by Region

	Total	Eastern Europe	Northern Europe	Southern Europe	Western Europe
<b>Important, and not implemented</b>	33%	21%	31%	35%	44%

There are significant differences by organisations type ranging from a low of 20% of implementation gap in national libraries to the highest (56%) implementation gap reported by research institutes. Similarly, there are also significant differences by geographic region, ranging from a low (21%) implementation gap in organisations from Eastern Europe countries to a 44% gap in Western Europe organisations. The difference between implementation across national and research libraries can be explained by, and illustrates the influence of the presence of legislation and mandates.

Table 13: DP implementation Gap by Organisation Type

	Average	National Library	State & University Libraries	Government	Research Institute	Other
<b>Important, and not implemented</b>	33%	20%	35%	29%	56%	50%

*Annex I - survey questions Q6/Q7*

## 4.5 ORGANISATIONS WITHOUT DP IMPLEMENTATION

In spite of the rapid adoption of digital technologies, growth of digital libraries, and growing relevance of DP, many organisations have yet to overcome many financial, organisational, technical and legal challenges that must be addressed in order to engage in a sustainable DP initiative. These organisations lag behind, and create a gap between DP needs and implementation. 40% of these organisations do not have plans to performing DP activities. The other 60% foresee that DP activities will be implemented in 2-5 years. This will require much policy groundwork.

These organisations have reported that the most important reason for not engaging in DP is the lack of funding and lack of policy. They also reported that the best way to fund DP activities is through project funding, as well as from the institutional budget and regional/governmental funding. In order to move their organisations towards implementing DP activities they reported the need to establish a policy supported by an institutional and national mandate.

Lack of knowhow and lack of technology was a key issue for these organisations, but were not the main barriers to the implementation of DP. One agreed solution to this was the use of Networks of Excellence or Research organisations to obtain support and acquire knowhow, mostly on a free, membership or submission basis. Significant technological barriers to initiating DP activities in these organisations are the lack of: infrastructure, appropriate applications, technological protection and licensing agreements, as well as lack of standard procedures.

## 5 GENERAL REMARKS & CONCLUSIONS

Following survey results, we can say that a significant proportion of European research libraries are moving forward and towards the BTRF recommendations on economically-sustainable DP. Their level of preparedness, measured as activities related to the five BTRF recommendations, lead to the following conclusions:

### 1. Recognition of the benefits of DP on the part of key decision-makers

Much effort and hard work is needed to improve the buy-in of decision makers. The need of assessing current fragmentation of roles and responsibilities of the key stakeholders, as well as approaching their needs, has generated the need to provide multidimensional and persuasive business cases that represent and show why each of the stakeholders should participate under a common strategy for building a shared understanding of the DP value.

Efforts towards the adoption of DP as part of organisations' formal governance policies are securing support from decision makers and management as the benefits of DP in relation to historical and social value are being recognised by decision makers. Increasing integration of DP in organisational governance practices and/or as a mandate at national/regional or organisational level also will facilitate economical sustainability and justification of the investment of resources.

A shift in priorities amongst those who are practicing DP is also observed. Organisations that have implemented DP reported priorities in a different order to the overall sample or organisations with no DP initiatives, overcoming the strong cultural backlash and enabling communication "*with*" decision-makers and stakeholders as opposed "*to*" communicate with them.

To increase the opportunity for key decision makers to buy-in and support DP, there is a need to develop models that support economically-sustainable preservation, and study, analyze and present business cases that reflect the multiple value dimensions of DP.

### 2. Incentives for the decision-makers to act in the public interest

Activity around, and the perceived added value of, DP are still mostly functional in nature. In order to increase the buy-in and support of decision makers, these activities need to be aligned with the strategic priorities of their institutions and articulated at a level which illustrates the value of DP for the public good.

Mandates at national and regional level are also a factor influencing decision makers. The mission critical approach of emphasising the need to maintain access to public heritage in perpetuity and recognising the historical value of born-digital content creates the impetus for decision makers to take action regarding its preservation.

Ensuring return on investment of funds used for digital content is an important factor influencing decision makers. For many organisations there is a need to protect the investment of in time, money and effort put into creating digitized and born- digital content. Many organisations have valuable intellectual assets and important collections now in digital format and need to ensure that they are available in the future.

### 3. A process for selecting digital materials for long-term preservation

The main criteria identified for selecting digital material are: historical value, user demand and usefulness; representing both: the public heritage and historical mission critical approach and a demand driven attitude (enhancing user experience).

Also, new criteria such as added-value over other formats, coupled with the need to build accessible collections over the long-term emerge an important criterion for organisations that practice DP. This could be a factor in setting criteria for reaching uniformity of formats to bring efficiencies to DP processes, such as ingestion, migrations, access, and delivery.

Although benefits of DP in relation to historical and social value are recognised by decision makers, they need to strengthen their support to DP by issuing DP in organisational governance practices or through mandates at national/regional or organisational level.

Further more in order to increase the opportunity for key decision makers to buy-in and support DP, there has been recorded a need to develop models that support economically-sustainable preservation as well a need to evaluate similar business cases that reflect the multiple value dimensions of DP.

An important aspect for decision makers is to ensure return on investment on DP. Quite a lot of organisations understand the need to protect their investment of in time, money and effort put into creating digitized and born- digital content while others organisations have valuable intellectual assets and important collections now in digital format and need to ensure that they are available in the future.

The main criteria identified for selecting digital material for long term preservation are historical value, user demand and usefulness. New criteria such as added value over other formats seem to reflect the need for reaching uniformity of formats to bring efficiencies to DP processes, such as ingestion, migrations, access and delivery.

It is getting recognized that economically-sustainable DP requires not only to adopt and implement a right cost model but also to incorporate variables similar to the BRTF recommendations; such as recognition of benefits and incentives for stakeholder, business models, organisational governance and technological structure.

In order to secure on-going resources for DP new revenue streams may be required in a greater scale as currently, only a small number of organisations are getting money from different services lines (consultancy, selling DP services, subscription, etc.). Also among organisations with the resources and the know-how, the potential of engaging in collaboration/cooperation with other organisations is gaining ground.

Finally substantial progress in governance of DP activities has been recorded as DP goals, strategies, scope, responsibility and accountability are formally understood, approved and documented within those organisations integrating DP in governance practices.

#### **4. Mechanisms to secure an on-going, efficient allocation of resources to DP activities**

The study shows that organisations performing DP have recognized that economically-sustainable DP requires more than just understanding costs and implementing a cost model, they are working in a larger framework that includes other variables similar to the BRTF recommendations; such as recognition of benefits and incentives for stakeholder, business models, organisational governance and technological structure.

BRTF recommendations provide an extended framework with best practices that can be included to support a business model approach in research libraries. Integration with governance is being approached mostly at policy level, establishing formal documentation and development of appropriate DP organisational structures, roles and responsibilities; formalising and securing support and commitment from decision makers. However top management buy-in, awareness, commitment at all levels throughout the organisation, stakeholder interests, clear incentives, collaboration with peer organisations and secure funding still need to be addressed and clearly defined to ensure success for and sustainable uptake of, and investment in DP.

Appropriate standardised cost models are needed. Many organisations estimate budget by experience or cannot estimate budget at this level. Only 5% of the organisations have estimated budget and costs through cost models.

In order to secure on-going resources for DP, also more independent revenue streams may be required. Currently, only a few organisations are raising money from different services lines (consultancy, selling DP services, subscription, etc.).

Some organisations have the resources and the know-how to engage in collaboration/cooperation with other organisations. They are positively disposed towards providing and receiving DP services to/from other organisations. Such activities could bring further efficiencies for resource allocation.

#### **5. Appropriate governance of DP activities**

Substantial progress is perceived in this area. DP goals, strategies, scope, responsibility and accountability are formally understood, approved and documented within those organisations integrating DP in governance practices.

In addition, progress in the integration of DP within governance policies provides the opportunity to migrate DP activities from short-lived projects to being part of the core activity of the organisation.



## 6 ANNEXES

### 6.1 ANNEX I: QUESTIONNAIRE

#### WP36 – APARSEN SURVEY – BUSINESS PREPAREDNESS

This questionnaire is being undertaken for the APARSEN Project that runs under the ICT directorate of the EUROPEAN COMMISSION. We aim to produce a study which evaluates digital preservation in terms of importance, value, benefits, currents activities, costs and future involvement.

We would like to inform you that the survey results will not reflect any particular organisation perspective as gathered results will be treated in an anonymised way in compliance with the Data Protection Act.



#### PROFILING AND EVALUATING DIGITAL PRESERVATION

1. *Could you please select from the following list the sector where your organisation best fits? (Single choice)*

- ☐ National Library
- ☐ State Library
- ☐ University Library
- ☐ Corporate
- ☐ Government
- ☐ Research Institute
- ☐ Other (please specify) .....

2. *Please tell us the country where your organisation resides? (Single choice)*

- |   |   |                                      |   |
|---|---|--------------------------------------|---|
| <input type="checkbox"/> Albania                | <input type="checkbox"/> Denmark                                | <input type="checkbox"/> Luxemburg   | <input type="checkbox"/> Slovakia                     |
| <input type="checkbox"/> Armenia                | <input type="checkbox"/> Estonia                                | <input type="checkbox"/> Malta       | <input type="checkbox"/> Slovenia                     |
| <input type="checkbox"/> Austria                | <input type="checkbox"/> Finland                                | <input type="checkbox"/> Montenegro  | <input type="checkbox"/> Spain                        |
| <input type="checkbox"/> Azerbaijan             | <input type="checkbox"/> Former                                 | <input type="checkbox"/> Netherlands | <input type="checkbox"/> Sweden                       |
| <input type="checkbox"/> Bangladesh             | <input type="checkbox"/> Yugoslav Republic of Macedonia (FYROM) | <input type="checkbox"/> Nigeria     | <input type="checkbox"/> Switzerland                  |
| <input type="checkbox"/> Belgium                | <input type="checkbox"/> France                                 | <input type="checkbox"/> Norway      | <input type="checkbox"/> The Netherlands              |
| <input type="checkbox"/> Bosnia and Herzegovina | <input type="checkbox"/> Germany                                | <input type="checkbox"/> Poland      | <input type="checkbox"/> Turkey                       |
| <input type="checkbox"/> Bulgaria               | <input type="checkbox"/> Greece                                 | <input type="checkbox"/> Portugal    | <input type="checkbox"/> Ukraine                      |
| <input type="checkbox"/> Canada                 | <input type="checkbox"/> Hungary                                | <input type="checkbox"/> Romania     | <input type="checkbox"/> United Kingdom               |
| <input type="checkbox"/> Croatia                | <input type="checkbox"/> Iceland                                | <input type="checkbox"/> Russia      | <input type="checkbox"/> USA                          |
| <input type="checkbox"/> Cyprus                 | <input type="checkbox"/> Ireland                                | <input type="checkbox"/> Serbia      | <input type="checkbox"/> Other (please specify) ..... |
| <input type="checkbox"/> Czech Republic         | <input type="checkbox"/> Italy                                  |                                      |   |
|   | <input type="checkbox"/> Latvia                                 |                                      |   |
|   | <input type="checkbox"/> Lithuania                              |                                      |   |

3. *What is the size of your digital collection/archive? [Choose one of the following intervals]*

- ☐ <1 TB



- ☐ 1 – 10 TB
- ☐ 10 – 50 TB
- ☐ 50 – 100 TB
- ☐ >100 TB

4. *What type of content does your digital collection/archive consist of? [Multiple choices]*

- ☐ Text
- ☐ Images
- ☐ Data sets
- ☐ Sound/Audio
- ☐ Video
- ☐ Software/Applications
- ☐ Websites
- ☐ Other (please specify) .....

5. *What is your annual budget for creating/acquiring/archiving digital content (including operational costs)? [Choose one of the following intervals].*

- ☐ <50.000 €
- ☐ 50.001 - 100.000 €
- ☐ 100.001-500.000 €
- ☐ 500.001-1.000.000 €
- ☐ >1.000.001 €
- ☐ Don't know

6. *Evaluate how important digital preservation is for your organisation in particular? Please use a scale from 1-5, where 1 is Not important at all and 5 Extremely important. [Single choice]*

- ☐ Extremely important
- ☐ Very important
- ☐ Important
- ☐ Slightly important
- ☐ Not important at all
- ☐ Don't know

7. *Please tell us if your organisation has: [single choice per alternative]*

	Yes	No	Don't Know
Incorporated Digital Preservation into its Mission and Vision statements (directly or indirectly)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incorporated Digital Preservation into its Strategic Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developed specific goals or objectives pertaining to Digital Preservation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. *The following alternatives describe how we believe Digital Preservation adds value to digital content management. Please select the 2 that you think provide the highest value:*

- ☐ Contribute to quality assurance when files converted to new formats

9. *How do you think your organisation is likely to benefit from digital preservation?*

10. How influential do you think the following statements could be to convince decision makers to adopt/approve DP activities?

[illegible]

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

[illegible]

☐ Yes

☐ No (Jump Q30)

[illegible]

15. How does your organisation prioritize the preservation of your digital assets? [Single choice]

- ☐ It is an internal decision
- ☐ It is a decision by a supervising/funding agency
- ☐ Guidance by experts
- ☐ Public consultation/advocacy
- ☐ Other (please specify) .....

16. Among the following digital preservation activities, please select the 2 activities that primarily need to be addressed by your organisation?

- ☐ Pre-Ingest
- ☐ Ingest
- ☐ Access
- ☐ Curation
- ☐ Other (please specify) .....

17. How likely do you think the following type of content will need to be digitally preserved in your organisation in 8 Years' time? [Multiple choices]

	Not at all likely	Slightly likely	Moderately likely	Very likely	Completely likely	Not sure/ Don't Know
Text (E-Books, E-Journals, Documents/publications, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Images	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data sets /databases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sound/Audio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Video	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software/Applications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Websites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. How many people are involved in Digital Preservation activities in your organisation? (Single choice)

- ☐ < 5
- ☐ 5 – 10
- ☐ 10-20
- ☐ < 20
- ☐ Other (please specify) .....

19. In which of the following ranges is your organisation's annual budget for digital preservation activities? (Single choice)

- ☐ <50.000 €
- ☐ 50.001 - 100.000 €

- ☐ 100.001-200.000 €
- ☐ 200.001-500.000 €
- ☐ 500.000 €
- ☐ No specific budget

20. *In which of the following ranges do you anticipate that budget to be in 5 years' time? (Single choice)*

- ☐ <50.000 €
- ☐ 50.001 - 100.000 €
- ☐ 100.001-200.000 €
- ☐ 200.001-500.000 €
- ☐ 500.000 €
- ☐ Don't know

21. *Does your organisation use any of the following in order to raise money for its services? [Multiple choices]*

- ☐ Subscription
- ☐ Selling DP services
- ☐ Consultancy
- ☐ Advertisements
- ☐ Membership
- ☐ I am not sure / I do not know
- ☐ Other (please specify) .....

22. *What is the main funding source for your digital preservation activities? [Multiple choices]*

- ☐ Institutional budget
- ☐ Regional/Governmental funding
- ☐ Project(s) funding
- ☐ Sponsorships / Donors
- ☐ Revenues (fees from products or services)
- ☐ Other (please specify) .....

23. *If the costs of Digital Preservation are divided as follows, please rank the following alternatives starting from the one that accounts for the highest and ending with the one that accounts for the lowest cost*

- ☐ Management and organisation
- ☐ IT-Infrastructure
- ☐ Purchase and support of Tools and Software
- ☐ Other (please specify highest) .....

24. *Please tell us, the degree of risk/uncertainty (in terms of costs) for Digital Preservation that you see in the following alternatives:*

	Very High	High	Moderate	Low	Very Low	Not sure/ Don't Know
Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innovation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change-Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. *How are decision makers involved in Digital Preservation activities in your organisation?*  
*[Multiple choices]*

- ☐ As funders
- ☐ As supervisors
- ☐ As executives
- ☐ As advisors
- ☐ None / Other (please specify) .....

26. *From the alternatives below, please select the 3 main reasons for you/your organisation using a cost model:*

- ☐ To inform decision makers
- ☐ To find out the costs of preserving objects/items
- ☐ For assessing the possible options available in order to carry out DP activities
- ☐ Keep preservation budget as low as possible to enable collection development while performing digital preservation
- ☐ To provide information for a bid to apply for external funding
- ☐ As part of a risk analysis
- ☐ In order to prioritise work
- ☐ To ensure the efficient use of resources
- ☐ To set up priced digital preservation services for third parties
- ☐ Other (please specify) .....

27. *On what basis would you select a cost model? [Multiple choices]*

- ☐ Model has been validated by similar organisations in your sector
- ☐ The scope of the model e.g. covering the digital preservation lifecycle
- ☐ Length of time it takes to complete it
- ☐ The information required to complete the model
- ☐ The format of the model (e.g. online tool, paper based)
- ☐ Payment for the use of the model
- ☐ The support available to users of the model
- ☐ The level of detail required to complete the model (high level with limited information requiring a breakdown in costs as specified by the model)
- ☐ Is the model easy to use and adaptable
- ☐ Other (please specify) .....

28. *How do you determine the costs of Digital Preservation within your organisation? [Single choice]*

- ☐ Through a cost model
- ☐ Estimated budget (by experience)
- ☐ Cost units (Monitoring)
- ☐ Other (please specify) .....

29. *Do you think that the current business model used by your organisation for digital preservation is capable of meeting current and/or short term needs?*

- ☐ Yes (JUMP TO Q42)
- ☐ No (JUMP TO Q42)
- ☐ I am not sure/Don't Know (JUMP TO Q42)

<b>NO DIGITAL PRESERVATION</b>
--------------------------------

30. *What do you think the 3 main criteria should be for selecting digital material to be preserved? [Multiple choices]*

- ☐ Aesthetic value
- ☐ Historical value
- ☐ Usefulness
- ☐ Provenance
- ☐ User demand
- ☐ Reputation and authority of producer or vendor
- ☐ Added-value and advantages over other formats (e.g. searchable)
- ☐ Currency and validity of information and updates
- ☐ The cost, both current and on-going is within the funding capacity
- ☐ Other (please specify): .....

31. *What are the reasons for not being active in Digital Preservation activities in your organisation? [Multiple choices]*

- ☐ Lack of know-how
- ☐ Lack of technology
- ☐ Lack of funding
- ☐ Lack of policy
- ☐ Not in our mission
- ☐ Other (please specify)

32. *How important do you think the "lack of know-how" is in starting up Digital Preservation activities in your organisation? [Single choice]*

- ☐ Extremely important
- ☐ Very important
- ☐ Important
- ☐ Slightly important (JUMP TO Q35)
- ☐ Not important at all (JUMP TO Q35)



[illegible]

37. *How important do you think the “lack of funding” is in starting up Digital Preservation activities in your organisation? [Single choice]*

- ☐ Extremely important
- ☐ Very important
- ☐ Important
- ☐ Slightly important (JUMP TO Q39)
- ☐ Not important at all (JUMP TO Q39)
- ☐ Don't know

38. *What do you think are the best ways to get funding for DP activities? [Multiple choices]*

- ☐ Institutional budget
- ☐ Regional/Governmental funding
- ☐ Project(s) funding
- ☐ Sponsorships
- ☐ Revenues
- ☐ Other (please specify):

39. *How important do you think the “Lack of policy” is in starting up your own DP activities? [Single choice]*

- ☐ Extremely important
- ☐ Very important
- ☐ Important
- ☐ Slightly important (JUMP TO Q41)
- ☐ Not important at all (JUMP TO Q41)
- ☐ Don't know

40. *What kind of policy do you think could move your organisation towards DP activities? [Multiple choices]*

- ☐ Institutional mandate
- ☐ National mandate
- ☐ Institutional recommendation
- ☐ National recommendation
- ☐ Other (please specify):

41. *Do you have plans to implement Digital Preservation in the following timescales?: [Single choice]*

- ☐ 2 years
- ☐ 3 Years
- ☐ 4 Years
- ☐ 5 Years
- ☐ Longer
- ☐ No Plans

**COST/BUSINESS MODEL FOR BOTH – DP AND NON DP-**

42. What characteristics should a sustainable business model have for Digital Preservation in your opinion? [Multiple choices]

	Yes	No	Don't Know
Funding commitment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper cost/benefit analysis tool	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper selection & appraisal procedure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organisational commitment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standard procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Risks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investment Analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Revenue system (e.g. fee by membership, subscriptions etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Right incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clear partners/stakeholders roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

43. Do you believe that your organisation has the resources and the know-how to be further involved in cooperation with other organisations for Digital Preservation activities? [Single choice]

- ☐ Yes
- ☐ No
- ☐ I am not sure

44. How do you find the idea of providing Digital Preservation services to others? [Single choice]

- ☐ A good idea
- ☐ A good idea that we might try in the future
- ☐ A good idea that unfortunately we cannot implement
- ☐ Not a good idea for our organisation (JUMP TO Q46)

45. Could you tell me the 2 main reasons why it is a good idea to provide Digital Preservation services to others? [Single choice]

- ☐ Effort sharing
- ☐ Commitment to a common purpose
- ☐ Knowledge dissemination
- ☐ Technology sharing
- ☐ Cost-sharing
- ☐ Pay off your technology
- ☐ Generate revenues
- ☐ It will let me implement digital preservation and further in time to perform it internally
- ☐ Other (please specify) .....

46. How do you find the idea of receiving Digital Preservation services from others? [Single choice]

- ☐ A good idea

- ☐ A good idea that we might try in the future
- ☐ A good idea that unfortunately we cannot implement
- ☐ Not a good idea (JUMP TO Q48)

47. *Could you tell me the 2 main reasons why it is a good idea to receive Digital Preservation services from others? [Single choice]*

- ☐ Effort sharing
- ☐ Commitment to a common purpose
- ☐ Ease implementation of digital preservation
- ☐ Provide the capability of digital preservation
- ☐ Knowledge accumulation
- ☐ Technology sharing
- ☐ Cost-sharing
- ☐ Pay off your technology
- ☐ Spread the risk
- ☐ Other (please specify) .....

48. *Would you be interested in participating in a system that would ask you to preserve information that you have not created or you don't control? [Single choice]*

- ☐ Yes
- ☐ No (JUMP TO Q50)
- ☐ It depends on the schema (structure, leadership, etc.)

49. *Could you tell me the 2 main reasons why you would participate in such a system? [Single choice] (need to be checked)*

- ☐ Effort sharing
- ☐ Commitment to a common purpose
- ☐ Knowledge dissemination
- ☐ Technology sharing
- ☐ Cost-sharing
- ☐ Pay off your technology
- ☐ Other (please specify) .....

50. *If participation costs existed, what would be an ideal way to calculate your share? [Single choice]*

- ☐ A standard annual fee
- ☐ A standard fee per service unit
- ☐ An annual fee estimated on the size of my organisation
- ☐ A fee per service estimated on the size of my organisation
- ☐ Other (please specify) .....

51. *How would you envisage a coordination mechanism for common digital preservation initiatives? [Single choice]*

- ☐ A national agency
- ☐ An international agency

- ☐ A consortium of peer organisations
- ☐ Other (please specify) .....

## 6.2 ANNEX II: DISTRIBUTION OF SURVEY RESPONDANTS BY COUNTRY AND RESEARCH LIBRARY TYPE

The table below lists the respondents by country and organisation type; this table also comprises geographic distribution by region performed in order to ease segmentation and analysis of survey data.

REGION	COUNTRY	National Library	Regional & University Library	Research Institute	Government	Other	Total
<b>Eastern Europe</b>	Armenia	1					1
	Bulgaria		1				1
	Cyprus		1				1
	Czech Republic	1	2	1			4
	Hungary		2		1		3
	Poland		2				2
	Romania		1				1
	Turkey				1		1
	Ukraine		1				1
<b>Northern Europe</b>	Denmark	2					2
	Finland	2	1	1	1	1	6
	Iceland	1					1
	Ireland	1				2	3
	Isle of Man	1					1
	Norway	2	1	1			4
	Sweden		1	1	1		3
	United Kingdom	4	6			1	11
<b>Southern Europe</b>	Albania	1					1
	Croatia	1	1				2
	Greece		2	2	1	1	6
	Italy	1	2				3
	Malta	1					1
	Montenegro	1					1
	Portugal		1			1	2
	Serbia		1				1
	Slovenia	2					2
	Spain		6	1	1	1	9
<b>Western Europe</b>	Austria	1	1	1			3
	Belgium				2		2
	France		4				4
	Germany	1	3	2			6
	Netherlands	1	1				2
	Switzerland	1	1			1	3
<b>Other Regions</b>	USA	1	2	2			5
	Bhutan	1					1
	Palestine			1			1
<b>Total</b>		<b>28</b>	<b>44</b>	<b>13</b>	<b>8</b>	<b>8</b>	<b>101</b>