

DIGICULT – ERSTE ERGEBNISSE: BREITE ERSCHLIEßUNG DES WERTS KULTURELLEN ERBES

DIGICULT – PRELIMINARY RESULTS: UNLOCKING THE VALUE OF THE CULTURAL HERITAGE SECTOR

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Zusammenfassung:

Mit der strategischen Studie "Technological Landscapes for Tomorrow's Cultural Economy (DigiCULT)" soll europäischen Archiven, Bibliotheken und Museen eine Orientierungshilfe zur Verfügung gestellt werden, um besser für die technologischen, organisatorischen und politischen Herausforderungen der nächsten Jahren gewappnet zu sein. Basierend auf dem übergreifende Ziel, den Wert digitaler Kulturressourcen durch breitere Verfügbarkeit und besseren Zugang zu erhöhen, wurden in der Studie mit Hilfe von über 180 internationalen Kulturexperten die wesentlichen Problembereiche identifiziert und konkrete Empfehlungen für die wesentlichen Entscheidungsträger formuliert. Für diese Präsentation wurden vier Schlüsselthemen ausgewählt und im Detail diskutiert: Nachhaltigkeit von e-Services, technische Interoperabilität als Voraussetzung zur Suche in verteilten Datenbanken, die drohende Technologieschere, und Humankapital als Schlüsselfaktor in Kulturinstitutionen.

Abstract:

The strategic study "Technological Landscapes for Tomorrow's Cultural Economy (DigiCULT)" aims at providing European archives, libraries and museums with a roadmap with regard to the technological, organisational, and political challenges they need to face within the next five years. Based on the overall objective to increase the value of digital cultural heritage resources by making them more easily accessible to a broader audience with the use of ICT, the study, with the help of 180 international experts in the cultural heritage sector, identifies the most pressing issues and challenges in this process and provides recommendations for the relevant stakeholders. In this presentation, a selection of four key issues, i.e. sustainability of e-services, technical interoperability as basic requirement for cross-sector search, the threat of a technology gap, and human capital as key factor of cultural heritage organisations, will be discussed in more detail.

I. Technological Landscapes for Tomorrow's Cultural Economy: The DigiCULT-study

Today, archives, libraries and museums (ALMs) all over Europe face similar challenges as they try to take advantage of information technologies in the emerging digital cultural economy. While the conversion of all sorts of contents into bits and bytes opens up totally new opportunities for interoperability and information exchange between the formally separated "memory institutions" and other sector, it also causes challenging problems and difficulties that are not only of technological but also of organisational and political nature.

To provide memory institutions with better information on how to face these challenges, the European Commission, DG Information Society, Cultural Heritage Applications D2, in July 2000

issued a Call for Tender for a strategic study on "Technological Landscapes for Tomorrow's Cultural Economy", short DigiCULT. The DigiCULT-study should provide the cultural heritage sector, and particularly archives, libraries and museums with a technological, organisational and political roadmap to be prepared for future development within the next five years, pointing out and describing the new tools they would need in the future cultural economy.

At the end of January 2001, the DigiCULT study was launched with the objective to ...

- provide an in-depth analysis of the state-of-the art of technologies, content, cultural services and applications as well as (user) demand in the sector of European digital archives, libraries and museums (ALMs);
- highlight the surrounding framework and its necessary evolution as there are organisational chances, financial aspects, legal implications with regard to intellectual property rights as well as
- give a detailed account on national policies and initiatives as they provide a strong impulse for a positive development of the cultural heritage sector, to finally and most importantly,
- draw conclusions and formulate recommendations both for players in the ALM industry and policy makers on the national and EU-level, on measures to be taken in order to exploit the opportunities and to overcome current technological impediments.

Focusing on four topical areas - technology, national policies and initiatives, organisational and financial issue, as well as exploitation and services & demand – the study tried to identify the essential issues that will govern future development, and as such, are crucial for any strategic organisational, technological and political planning.

Over a six-month period, international experts from the cultural heritage sector participated in the DigiCULT study in 24 interviews, six expert round tables and two online Delphi surveys and shared with us their opinions and views on the key issues that most likely will influence future trends and thus, future planning. Overall, over 180 international experts of the cultural heritage sector have been engaged in the study.

In this paper, I would like to share with you some of the findings of the DigiCULT-study.

II. A paradigmatic shift: from building collections to providing access

Being digital for European cultural institutions is not an option but a reality. Despite the fact, that only a small amount of the digital data produced daily is of long-term value and subject to the attention of archives, libraries and museums, it creates a major challenge to our memory institutions. Today, cultural institutions are confronted with a virtually exploding amount of digital cultural information of all types and formats, including, digital images, audio and video recordings, electronic text, interactive and multimedia applications, as well as geographic information.

As a result, many archives, libraries and museums have turned into hybrid institutions that take care of both, analogue and digital cultural collections. Besides dealing with the traditional analogue materials like books, sculptures, paintings and official records, they collect, manage, store and provide access to a variety of digital cultural artefacts, including digitised legacy resources, digital data about cultural resources, and born-digital cultural resources.

While dealing with digital information has been daily practice within European archives, libraries and museums for quite some time, institutions still find themselves struggling with understanding the full implications of new technologies on their institutions, their clients and the public.

The initial enthusiasm about digital information and its promise to both rescue and permanently preserve our endangered cultural heritage, while opening up the gates to a "library without walls", has worn off. Instead, cultural institutions have started to realise that the organisational and

financial problems related to managing ICT-based cultural resources are greater than expected, and that the technological solutions to capture, store, search and retrieve digital cultural information are far from being fool-proof.

What is emerging slowly, however, is awareness within the cultural community about the real strengths of digital information. Above all, the advent of the Internet has opened up and brought to the limelight one particular function of memory institutions in a so far unknown dimension and quality: providing access. Through the networked and distributed nature of the World Wide Web (WWW) and ICT-based end user devices such as mobile phones or PDAs, archives, libraries and museums have now the potential to reach and be reachable for completely new audiences worldwide. Over the networks, users of cultural information can potentially search and retrieve innumerable resources, without the limitation of geographical, institutional or sectoral borders.

The tenor among experts suggests that **providing access** to the rich European cultural heritage resources has become a new focus for European memory institutions. They stipulate that cultural collections and holdings kept in archives, libraries and museums all over Europe are at their best when used. As a result, what we can observe within the community of European heritage institutions is a paradigmatic shift **from building collections to providing access**.

Yet, providing access is not sufficient to truly unlock the value of cultural heritage institutions. It is actually only the basis of a process that involves also other stakeholders to bring cultural heritage resources and the knowledge resting within cultural heritage institutions to the attention of a broader public.

Thus, the question remains:

How can we make better use of the immense cultural heritage resources and bring them to the attention of a broader public?

III. Unlocking the value of cultural heritage: a four layer model

Providing access is only the first step in a four-layer value-model to fully unleash the value of the cultural heritage sector. However, given changing patterns and modes of cultural consumption in the Information Society that will centre around communicating over computer and wireless networks, cultural heritage resources will only be valuable in the future, if they are easily available in digital form. Thus, a basic requirement is to integrate cultural objects into the digital domain through digitisation.

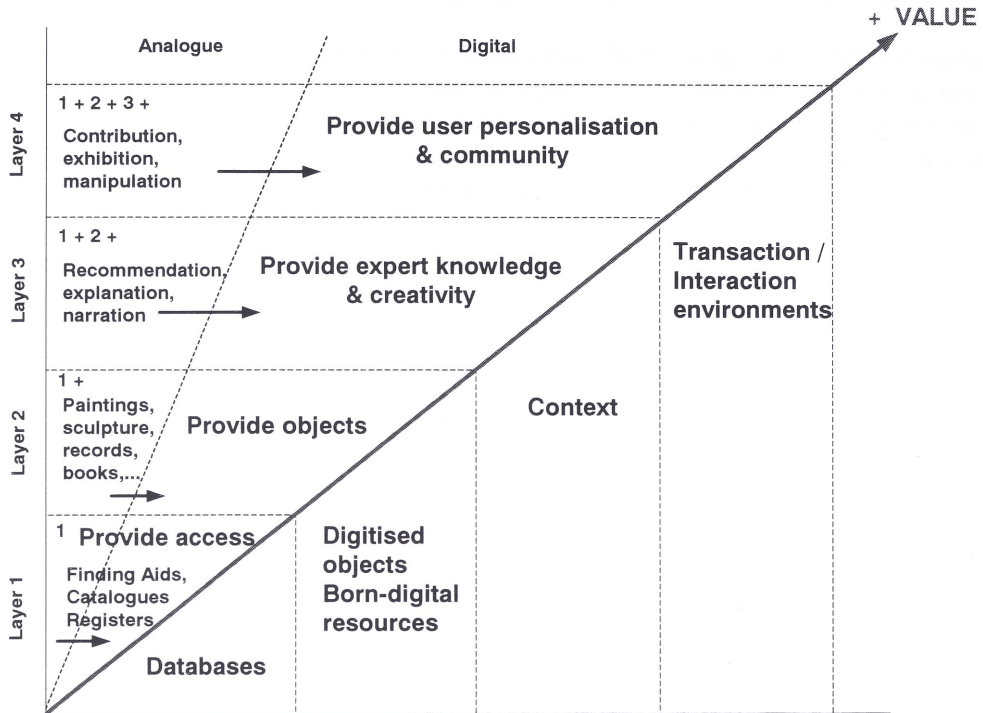
At present, European member states take different approaches in formulating cultural heritage policies, yet despite their difference they all follow the same objective: to digitise cultural heritage resources, make them accessible for a broader audience and thus increase their value. Nevertheless, as with providing access, digitisation does not guarantee that cultural heritage resources are used more broadly. Instead, what we found is that these digital resources actually remain within a very limited user group, namely the scholarly community.

Today, it is mainly researchers and scientists who use their knowledge and expertise to generate new content by contextualising cultural heritage resources. The results of this process are usually scholarly articles printed in journals or published electronically, in e-journals. These publications are, again, the material that memory institutions pick up and integrate into their pool of cultural resources. Thus, new knowledge based on cultural resources is created, yet this knowledge largely remains within a particular user community, i.e. universities and scholars. To increase the value of digital cultural resources, all stakeholders in the cultural heritage sector should seek *to break out of this cycle of knowledge generation* by (supporting) building contextualised presentations for new target groups based on the expert knowledge that resides within memory institutions.

Yet another step forward in unlocking the value of cultural heritage resources expands the concept of creating narratives and contexts to users of digital cultural heritage resources. By putting future users into the position of building their own environments and/or to actively contribute and participate in this process of establishing knowledge communities, they will be able to establish a sense of ownership they could not develop otherwise.

This process of unlocking the value of cultural heritage resources can be expressed in a four layer model:

Unlocking the value of the cultural heritage sector



Considering the four layers of increasing the value potential of cultural heritage resources - providing access information, retrieve digital objects, provide expert knowledge and creativity, and finally, user personalisation and community - libraries, archives and museums play different roles according to their core functions. While libraries and archives primarily work in the two bottom layers, providing access information and retrieval of digitised objects (and long-term preservation), museums operate also on the third level when creating contextualised presentations based on expert knowledge.

Yet, to follow through these stages and thus substantially increase the value of cultural heritage resources demands both, entirely new organisational structures and skill sets only a few cultural heritage institutions possess today, as well as new policies and legal frameworks. Here are some of the issues, the experts participating in the DigiCULT study have highlighted.

III.1. Unlocking the value through political action

Sustainability is the key for bringing cultural heritage to the attention of a broader audience,

There is a growing expectation of national governments that (digital) cultural resources can be commercially exploited, up to the degree that cultural heritage institutions are, to a certain degree, self-sustainable. According to estimates of experts, however, only about 5% of the cultural heritage resources archives, libraries and museums take care of are commercially exploitable. In addition, as current examples show, building up exploitable services requires a considerable amount of initial investment most cultural institutions do not have at their disposal. Unlike in the United States where other financing sources such as donations, sponsorship or public-private partnership are more readily available, European institutions likely will not receive more than 10% of their revenue from these sources. As a consequence and with some exceptions, also in the future cultural heritage institutions will receive 85 – 90 % of their financing out of public funds.

If not self-sustainability, what can be expected, however, is that cultural heritage institutions try to increase the overall margin by increasing usage of cultural heritage resources. Thus, memory institutions will be able to benefit from economy of scale with regard to digitisation and resource management costs. The initial investment for digitising and making accessible cultural heritage resources will be leveraged through intensive use: The cost for storage, maintenance and delivery of digital cultural resources can be justified more easily the higher the number of actual users.

Recommendations:

National governments need to express a clear commitment to future sustainability of cultural e-services that make use of digital objects without expecting cultural heritage institutions to be self-sustainable. Governments should be clear about that, after all, what the public purse will pay for is the intellectual value, not the commercial value of cultural heritage resources.

III.2. Unlocking the value through technology

With regard to increasing the value of cultural heritage resources, archives, libraries and museums today are largely concerned with solving the problems related to providing access, i.e. the issues of standards to enable technical and semantic interoperability for cross-sectoral search and retrieval.

Historically each of the three sectors has over the centuries developed different data structures to best fit their needs. Although considerable progress has been made within some sectors, for example within the library community, cross-sectoral and international database searches still cause technological problems. These technological issues are well known among domain experts.

Today's biggest obstacles to providing seamless access to heterogeneous databases are:

- the different, sector-specific information exchange standards (data structure standards),
- a variety of cataloguing rules (data content standards),
- lack of authority files and thesauri,
- and, multi-lingualism.

Standard compliance is crucial in the effort to provide seamless access. Yet, as standards evolve constantly, one of the major challenges for memory institutions is how to keep track of the rapid development without jumping on the wrong technological "bandwagon". Many different international bodies and standard consortia are involved in defining and issuing standards, but none has the final authority. Thus, the question remains for ALMs whom to trust, especially for small institutions that are:

- still unaware of the implications of adopting inappropriate or proprietary standards,
- and, that do not have access to the relevant material, as many of the guidelines are either unknown or not available in native languages.

Current research projects in this field focus on overcoming the “standards jungle” by establishing technological gateways that can work with different kinds of standards used in cultural heritage institutions. This is achieved by strictly separating data structure and presentation format. The technological basis is the XML-standard. Despite the progress made in this area, there are general concerns if the data structures that developed over the centuries are adequate to fit the needs of the Information Society.

With regard to authority files and (multi-lingual) thesauri, the challenge is not so much a technological than an organisational one. Success in this area depends on the ability of cultural heritage institutions to agree across sectors, on a limited set of requirements.

In addition, the issue of semantic interoperability, i.e. the fact that similar cultural objects are described differently, with different meanings, have not yet been solved. Also the problem of multi-lingualism still remains a challenge for future research.

Recommendations:

The European Commission, special interest NGOs, international standard consortia and ALMs together will need to co-operate to establish sector standards. Experts visualise different stakeholders for standard synchronisation. These are a central EU standards authority, NGOs, national bodies and international consortia. Therefore, a first step is to establish consensus about an international standard authority and its tasks. To do this, all relevant stakeholders need to be involved to develop a viable model on how to best reach agreement on sector standards and dissemination of results.]

National governments as primary funders should actively promote the use of announced or open standards by making standard compliance a requirement for future funding of cultural heritage projects.

National governments need to establish mechanisms for a successful dissemination of standard guidelines also to regional cultural heritage organisations to avoid that these organisations are disconnected from the general development. Two viable models how this might be done are:

- setting up a central help desk, i.e. within one of the large national cultural heritage institutions,
- establishing national cultural R&D centres: These centres should be members of all important standard consortia, participate in test beds and finally, translate results and existing guidelines to make them widely available also to regional cultural heritage institutions. In addition, these R&D institutes would monitor and test new technologies to issue recommendations and provide support in technological questions to small archives, libraries and museums.

The European Commission as primary funding body should actively promote the use of announced or open standards by making standard compliance a requirement for future funding for proposers of cultural heritage projects.

Closing the technology gap is the basic requirement to avoid a technological divide within the cultural heritage sector.

Archives, libraries and museums who have already become hybrid institutions have developed a fairly good understanding of what the technological challenges of the digital domain are. Although they still struggle to solve the problems involved, they at least have entered the value chain of making cultural heritage resources more readily accessible. Experts estimate, however, that only maybe 25 % of all cultural heritage institutions in Europe are actually in the position to participate in the digital era. Yet the big majority of memory institutions - the local museum focusing on the history of a village, the community or church library or the highly specialised historic archive, do not

even possess the resources, human, financial and technological, to accomplish the most basic things, such as digitally cataloguing their holdings.

In fact, with focusing research and development efforts exclusively on technological innovation, the threat of technology becoming the essential separator between those cultural institutions that are publicly visible while others are not, is growing. This would even widen the gap between those institutions working with technologies and those, who don't.

Recommendations:

Future EC R&D programmes in the cultural heritage sector should leave room for initiatives that focus on consolidation and sustainability rather than on technological innovation.

Similar to programmes supporting SMEs, the European Commission should launch take up measures particularly targeted at small cultural heritage institutions to enable them catch up on technology. Teaming up with organisations who already have great experience and using them as centres of excellence, could be one way of approaching the widening technology gap between cultural heritage institutions.

III.3. Unlocking the value through organisational measures

Human capital is a key resource of cultural heritage institutions.

Cultural heritage institutions need to constantly train their staff and invest into the organisation's "human capital" to increase the knowledge, competency, and skills of management and personnel. It must be clear, that the essential intellectual capacity of cultural heritage institutions in the knowledge society lies in the value they add to "born digital" or digitised cultural resources. This value rests mainly in the knowledge and expertise they bring to digital objects, not in the digital objects themselves, i.e. descriptions, contextualisation, explanation, interpretation, and stories, that really involve potential users. In addition, even if they do not understand themselves as commercial companies, they need to develop business skills to better address the needs of their future audiences.

Cultural heritage institutions must be oriented towards future challenges and therefore constantly monitor, develop, incorporate and share new competencies they need in the digital environment. What would be essential for them in this environment is to develop and implement new ways of how the real value of the institution, i.e. knowledge and expertise, can be incorporated into the technological infrastructures itself (e.g. to be able to recommend information sources or to contextualise cultural heritage objects online).

Recommendations:

Cultural heritage institutions should constantly monitor and incorporate new competencies they need in the digital environment, particularly in order to develop new concepts, services, and products for the knowledge society.

To guarantee sustainability, national governments need to provide the "training facilities" for cultural heritage institutions to develop in particular their project management skills and the basic know-how to participate in the digital domain.