

The Digital Future of Intangible Cultural Heritage – Challenges and Initiatives

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Abstract. Access to digital resources and overcoming the digital divide are key factors in the development of today's society and affect education and culture as much as economic development. The intercultural dialogue and the preservation and development of the cultural diversity of each country and region are fundamental principles of the cultural policy of the European Union (EU). A special focus is put on the strategic framework for the EU's cultural policy and the main priorities regarding empowering digital change in the cultural sector. The paper also presents some initiatives supported by the European Commission aiming to strengthen and foster European identity creation as well as to support active citizenship, increase cultural participation and promoting common values, inclusion, and intercultural dialogue within Europe and in a global perspective.

Keywords: Digitalization, Cultural Heritage, Intangible Cultural Heritage, Cultural Sector, Digital Change in Cultural Sector.

1 Introduction

New technologies and digital communication are changing the consumption patterns and power relations in economic value chains but also, they transform dramatically our lifestyles and society. In this changing landscape at the European level, there is a broad consensus about the important role of culture as an ideal means of communicating across language barriers, empowering people, and facilitating social cohesion (European Commission, 2018).

Cultural heritage is of great value to European society from a cultural, environmental, social, and economic point of view (European Commission, 2018). The promotion of cultural diversity and intercultural dialogue, the promotion of culture as a catalyst for creativity, for growth, employment, innovation, and competitiveness and as a vital element of international relations are outlined as main EU strategic objectives.

Constantly evolving digital technologies provide newer and more sophisticated ways to present, process, store and disseminate cultural and scientific content, as well as opportunities to preserve human values and achievements throughout the history of civilization.

This digital transformation has a significant impact on the cultural sector, encompassing different ecosystem interactions as well as different processes, factors, and transactions both within and outside cultural organizations.

2 European Agenda for Culture

The EU as a party to the 2005 UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (UNESCO, 2005), the main legislation in this area, follows the principles and philosophy of this agreement formally recognised by the global community to develop a European Agenda for Culture which has been lastly updated in 2018.

The EU's strategic goal is a European identity to be created to encourage the sharing and appreciation of Europe's cultural heritage, raise awareness of common history and values, and reinforce a sense of belonging to a common European space.

Such kind of creation process cannot be a natural consequence and a natural product either of the creation of a common market or of the acceptance and observance of common political and civil rights and freedoms. European identity. It is necessary to successfully build and create a common European cultural memory - a phenomenon that implies the opportunity to share, learn about and recognize the individual national and ethnic cultural heritage which according to UNESCO definition does not end at monuments and collections of material objects but could also include traditions or living expressions inherited from our ancestors and passed on to our descendants, such as oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts – Intangible Cultural Heritage (ICH) (UNESCO, 2011).

Through the digitization of individual cultural heritage, the first and most important step towards achieving the strategic goal will be realized - the sharing and active inclusion of local and national cultural heritage in the virtual culture of Europe. In the information space of the network society, cultural diversity is not only publicly available for observation, but also recognizable and easy to use for research and cooperation at the local national and international level.

Any digitization processes involve the use of hardware and software systems and platforms. Digital systems are based on clearly and precisely set parameters and precisely defined requirements and specifications, based on established and generally accepted standards.

On the other hand - cultural phenomena, especially ICH assets, are difficult to classify strictly, as they are organized into dynamic structures whose functional, social and ideological elements intersect and intertwine and rarely have strictly defined boundaries. This initial contradiction can only be resolved through the joint work of a team of scientists from different fields of knowledge to create a dynamic model that ensures

conservation, i. e. reliable storage using various media, as well as the adequate presentation of cultural artefacts in a global aspect by supporting subsequent operations today and in the future for the visualisation of various technical means.

This is a complex task that requires the definition of a common framework for digitization of cultural heritage and the ability to systematize various cultural phenomena and artefacts in different formal, temporal, functional, semantic sections, etc.

The process covers full registration of tangible and intangible entities of cultural heritage while protecting intellectual property rights and complying with both international standards and national legislation.

3 Empowering Digital Change in Cultural Sector – European Perspective and Priorities

The Europeana is an initiative of the European Union, financially and politically supported by the European Commission since its launch in 2008. Europeana is the result of the inspiring idea that Europe should take ownership and responsibility of its past and make it an integral part of its future.

The Initiative receives crucial backing of all EU Member States and is run by three interlinked expert organisations who share the vision of a cultural heritage sector transformed by digital, and a Europe transformed by culture (Europeana, n.d.):

- Europeana Foundation – acts as the operator of the core service, with a consortium of partners and in close collaboration with the Europeana Aggregators’ Forum and the Europeana Network Association;
- Europeana Aggregators’ Forum - a network of national, domain and thematic aggregators who support cultural institutions providing data and content to Europeana.
- Europeana Network Association - a strong and democratic community with a mission to expand and improve access to Europe’s digital cultural heritage.

Europeana empowers the cultural heritage sector in its digital transformation through the development of expertise, tools, and policies to embrace digital change and encourage partnerships that foster innovation. Putting a special focus on the digital transformation of the European cultural sector and cultural heritage safeguarding have made Europeana an important agent of change over the past decade.

In the COVID-19 pandemic situation, cultural heritage institutions have been facing immediate and real issues and challenges - how to realize successfully numerous online initiatives to stay connected to their audiences through the digital culture. Acting as a common multilingual access point to digital European heritage and as a powerful platform for storytelling, Europeana enables cultural heritage institutions to transcend cultural and national borders and place their collections in the European context as a part of the story of Europe.

In 2020 has been published Strategy 2020 -2025 related to the empowerment of the digital change in cultural sector (Europeana, 2020). This strategy has been developed by the European Commission and Member States. It will be delivered by a collaborative approach led by the Europeana Foundation under a service contract with the European

Commission, with the Europeana Network Association, the Europeana Aggregators' Forum, and their network of data partners.

For the strategic positioning in the evolving cultural and creative landscapes to be assured the three groups of priorities have been set in the Strategy (Europeana, 2020).

3.1 Infrastructure Strengthening

Inefficiencies in technical infrastructure make it harder for institutions to share their collections online effectively. To face this challenge based on the will be developed more efficient aggregation infrastructure comprising ingestion platform and the related services based on an agreed strategy considering the national, regional, and domain/thematic peculiarities.

Another important aspect is the development of better services for data providers and aggregators. It is crucial the cultural heritage institutions and aggregators to be offered a fully working and efficient set of tools for searching, presenting, and interacting with stored metadata, annotations, etc. as well as tools for measuring the use and impact of their content in Europeana. Thus, the cultural entities' reuse and the engagement of different stakeholders in the creative industries, research and education sectors will be significantly facilitated.

Finally, a good indexing mechanism for Europeana content will enable greater access via search engines making it easier to find and browse content.

3.2 Data Quality Improvement

The lack of sufficient high-quality content and structured descriptive metadata highly affect the visibility, reusability, and the access to digitized cultural objects. Europeana will invest in activities related to metadata and content improvement based on usage of new technologies like machine-learning algorithms to enrich metadata records automatically or semi-automatic in a faster and scalable way. It will be used a thematic approach regarding content development.

A special focus will be put on the provision of support for institutions to raise their competency levels in digitization and the creation of high-quality content. Thus, the aggregators and cultural heritage institutions will be actively involved in its production and will be able to count on the support of related thematic projects.

Europeana will promote the benefits of using well-described data shared through a common API with a common query language. When cultural heritage content and metadata are prepared using interoperable formats and according to sector standards, they can be used in and across a wide range of systems, including but not limited to the Europeana platform.

In the framework of Europeana ecosystem is planned the setting up a space in which aggregators and institutions can provide and share annotated datasets that will enable the training and evaluation of machine learning algorithms that process high volumes of data, and the outcome can be validated and/or corrected by the domain experts.

The improvement of multilingualism is another important objective. In this regard the use of the eTranslation service and its application to cultural heritage metadata will be experimented with and tested via related thematic projects.

Europeana will integrate and use crowdsourcing platforms such as those of Enrich Europeana (Enrich Europeana, n.d.) and CrowdHeritage (CrowdHeritage, n.d.) and will promote them among aggregators and institutions, who can actively contribute to the validation of automatic enrichments or directly involve users in manual enrichments of published metadata.

3.3 Capacity Building

It is difficult to achieve consistency in digital output and mindset across the cultural sector because the needs of cultural heritage institutions are many and vary depending on their size, domain, mission, staff competency levels, budget, and the influence of national policies and infrastructure. Cultural sector institutions will be supported in their digital transformation via the improvement of their understanding of the importance and the added value of digitization, adoption of standards, best practices, and common solutions in making quality content that is useful for the global online audience and that fosters innovation.

The capacity for the digital transformation of the cultural heritage professionals will be improved through the development of training and skills as well as via offering knowledge and guidelines on topics such as digitisation, metadata enrichment, semantic interoperability, content creation, licensing, reuse, innovative solutions, and business models.

4 Digital Presentation and Preservation of Intangible Cultural Heritage – Case Study

The Digital Agenda of the Europe 2020 Strategy (European Commission, n.d.) set as the main objective the development of a digital single market in order smart, sustainable and inclusive growth to be generated. The cultural heritage digitization turns Europe's cultural resources into an important building block for the digital economy and provides Europe's Cultural and Creative Industries (CCIs) with a competitive edge. The pace of innovation, the changing nature of the sector, and the importance of culture to the European economy require the employed in the CCIs to have relevant digital skills and competences as well as practical guidelines and easy to use tools.

Digital Presentation and Preservation of Intangible Cultural Heritage (DigiCult) is a thematic project launched with the financial support of the European Commission under the framework of the programme Erasmus+. In this project participate eight organisations from four EU countries – Bulgaria, Greece, Italy, and Latvia.

The partner organisations in the DigiCult initiative have focused their efforts on the elaboration and promotion of an innovative framework for digitization and efficient and cost-effective training on digital presentation, preservation, and popularisation of the ICH of Europe in a global aspect and from a long-term perspective.

DigiCult aim is to contribute to meet common challenges related to the digital shift and the need for encouragement of innovation in the cultural sector. In this regard, of key importance is the provision of relevant and tailored to the needs of the CCIs professionals training in ICH digitization which covers related internationally adopted standards, methods, tools, and best practices.

The following activities are considered as crucial regarding the achievement of the aims and objectives of this thematic initiative:

- development of a framework of standards and models for digitization, presentation and preservation of intangible cultural heritage as well as a web-based tool for annotating ICH objects and their components. The outcomes are developed considering the national frameworks of the countries involved and are based on the Europeana Data Model (EDM) taking into account the recommendations of Europeana regarding the EDM profiles, mappings, and templates (Europeana Pro, n.d.);
- designing the technological educational model and setting up the DigiCult virtual learning environment (VLE) based on the contemporary educational technology, innovative teaching and learning approaches, and high-quality digital learning contents;
- development of e-learning courses to deliver theoretical modules about the ICH digitization as well as practical (“how-to”) modules related to the application and usage of the proposed methodology for digital presentation, storage and promotion aiming at the improvement of the domain-related digital competencies of the trainees;
- piloting the developed e-learning courses in DigiCult VLE and collecting user feedback, given the future development of the proposed methodology.

The main beneficiaries of DigiCult outcomes are the human resources of the partner cultural organizations, the students from the partner educational organisations who are trained in the field of presentation, preservation and dissemination of ICH, the staff of the institutions from the cultural sector, domain-related professional networks and employers' unions, and associations.

During the first stage of the project was conducted comprehensive research among more than 50 organisations where 30 of them were museums. The first phase of the project included a documentary study of the legislation and regulations on the digitization of cultural heritage in the partner countries, as well as a study involving more than 50 organizations in the cultural sector, more than 30 of which were museums. The results of the study, together with the recommendations and prescriptions of Europeana, were considered in the development of the methodology, model, and tools for digitization of intangible cultural sites.

The feedback provided by 174 professionals from the CCI organizations participating in the study was analysed to determine which domain-specific digital competencies needed to be improved. The results of the analysis also determined the design of the training itself in terms of content topics, training strategies, delivery methods, etc. so as to achieve maximum compliance with the identified needs and available opportunities and resources. On this basis, self-paced e-learning courses in English, Bulgarian, Greek, Italian and Latvian languages addressed to the target groups representatives have been

developed. The courses are with modular structure. The e-learning content have been developed according to the following principles of adult learning, i.e. andragogy (Knowles, 1984):

- Participants in the training are voluntary learners and they learn because they want to. They learn best when they have decided they need to learn for a particular reason.
- Teachers need to see that the subject matter and the methods are relevant to their activities and to what they want to learn.
- Educators come with rich life and job experience that needs to be acknowledged: They should be encouraged to share their experiences and knowledge.
- Adults learn best when new information is reinforced and repeated. They need time to master new knowledge, skills, and attitudes. They need to have this mastery reinforced at every opportunity.
- Adult learners learn better when information is reinforced and repeated as well as presented in different ways – usage of different contents’ formats and variety of teaching techniques.

The self-paced e-learning courses are delivered to the participants in the training via tailored virtual learning environment (VLE). The core technologies behind the VLE are Open-Source and include PHP, MySQL Database, Apache Web service and RED5 Media Server. The object-based and modular nature VLE and the services built on it allow for flexible combining of the available modules. The e-platform is accessible for all registered participants via project website.

The e-learning courses cover the following modules:

- Intangible Cultural Heritage
- Text Documents Digitisation
- Photographs and Images Digitisation
- Digitizing and Editing Audio Recordings
- Digitizing and Editing Video Recordings
- Data Storage and Management
- Copyright and Data Protection
- The e-learning material delivered through the DigiCult VLE, is developed in the form of learning objects (LOs) that can be used independently or in combination (in different learning contexts) to cover the learning needs of the users on demand at any place and at the right time. For every topic, included in any of the course modules, the following types of LOs have been developed:
- Multimedia lessons - Interactive learning content built up by an audio explanation synchronized with a visual components and provided with a hypertext index allowing the learner to navigate the lesson. All multimedia lessons are developed in line with the requirements and recommendations of the broadly accepted e-learning standard SCORM. The tracking system marks the activity as completed when the lesson is reviewed from the very beginning to its end.
- Lecture Notes are textual documents presenting in detail the lesson’s topics and /or different perspective of the contents already explained as well as list of

referent materials. These contents are converted in PDF format and are downloadable to be used in off-line modality.

- Slide objects are standard presentations about the module topics realized by the subject domain experts and converted in PDF format. This content also is downloadable to be used in off-line modality.

The developed courses have been piloted by more than 290 professionals from organisations operating in culture sector and creative industry domain.

The great interest in the proposed training proves that the people employed in the CCIs are aware of the importance and the crucial role of cultural heritage digitalization as well as the need to develop and/or expand their competencies in this field in order to be actively involved in the process.

The high level of commitment demonstrated by the target groups' representatives involved in the piloting process also is a clear indication that the DigiCult initiative is the right step to the promotion of active citizenship, common values, inclusion, and intercultural dialogue within Europe and across the globe.

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