

DIGITAL CULTURAL HERITAGE AS A STRATEGIC RESOURCE FOR INNOVATIONS

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Abstract. This article explores the role of digital cultural heritage as a strategic resource for fostering innovations across various sectors. Beyond its traditional cultural and historical significance, cultural heritage is recognized as a valuable resource for innovation, necessitating strategic management to unlock its economic potential in the digital era. The article suggests utilizing the intellectual property system to achieve economic realization of digital cultural heritage and foster innovation. The strategic management at the national level is emphasized to yield returns on investments, especially in the digitization of cultural heritage. Recognizing its potential beyond traditional cultural realms, the article emphasizes strategic management to unlock economic value and advocates for innovation in sectors such as education, research, healthcare, and tourism.

Keywords: digital cultural heritage; intellectual property; innovations

Introduction

“Everything new is a well-forgotten old” – an expression attributed to Marie Antoinette’s dressmaker when presenting a new gown that was actually a reworked old model. This often-used tactic breathes new life into old works, practices, and knowledge, which over time acquire new value and application in a different context. In this sense, **cultural heritage serves as an incubator for creativity and knowledge**, which, through technological progress, gain new significance for the economy and society. Such an approach to cultural heritage goes beyond its traditional positioning in the cultural-historical field and its cultural value, recognizing its potential for innovation. The essence of cultural heritage as a *highly limited resource*, requiring significant and continuous investments for its preservation and conservation, necessitates its strategic management to generate income by leveraging its full potential for economic realization in the digital economy. The approach to digital cultural heritage as *a strategic resource* requires its management to foster innovation not only in the cultural sector but also in other sectors such as education and scientific research, agriculture, healthcare, tourism, and regional development. The application of the intellectual property system enables economic realization of cultural heritage in the community of origin, implementing

targeted strategies at various levels to realize its potential as a source of innovation across different sectors.

1. Concept of Cultural Heritage, Types of Cultural Heritage

Although cultural heritage has invariably accompanied humanity since the emergence of human civilization, the current concept of cultural heritage has only taken shape in the last few decades. Industrialization, technological progress, globalization, and the threats arising from them, such as increasingly destructive wars, climate change, cultural assimilation, and migration processes, are factors that necessitate the creation of international and national systems for its conservation and protection. The development of the concept of “cultural heritage” in its present form is a complex process that began with the identification of military conflicts as a primary threat to the destruction of cultural values¹. The international system for the conservation and protection of cultural heritage, initiated by UNESCO conventions, defines the scope of types of cultural heritage: “tangible cultural heritage”², “underwater cultural heritage”³, and “intangible cultural heritage”⁴. The understanding that cultural heritage belongs to humanity as a whole is embodied in the international system for its preservation and conservation. However, cultural heritage is primarily a resource for national states and origin communities.

Digital transformation and digitalization give rise to “**digital cultural heritage**” – a concept that refers to: 1. cultural heritage transferred into digital format and 2. newly created digital cultural heritage, known as “*born digital*”. Digital cultural heritage creates new opportunities for reusing cultural heritage. Due to the specificity of the content of digital cultural heritage, it holds cultural and economic value and serves as a source and generator of creativity and innovation, a strategic resource in the conditions of the digital economy. A strategic resource is defined as “an asset that is valuable, rare, difficult to imitate, and nonsubstitutable” (Barney 1991; Chi 1994). Such perception of digital cultural heritage requires its management as a strategic resource, an asset of national states, by respecting traditions and the creativity of creators and generating income for origin communities. In this sense, the EU’s policy to create a common European cultural heritage as a *strategic resource for a sustainable Europe* is aligned. This involves defining cultural heritage as “**the resources inherited from the past in all forms and aspects** – tangible, intangible and digital (born digital and digitized), including monuments, sites, landscapes, skills, practices, knowledge and expressions of human creativity, as well as collections conserved and managed by public and private bodies such as museums, libraries and archives... These resources are of great value to society from a cultural, environmental, social and economic point of view and thus **their sustainable management constitutes a strategic choice for the 21st century**”⁵.

The recognition of digital cultural heritage as an important resource for various spheres is steadily growing. It enables the preservation of cultural artifacts and traditions in a format that transcends physical boundaries, ensuring accessibility worldwide. Digital cultural heritage stands as a rich source for interdisciplinary research.

2. Cultural Heritage and the Intellectual Property System

Although cultural heritage is not considered as an object of intellectual property, the intellectual property system provides a toolkit for managing the economic rights of individual cultural heritage objects as intellectual property objects while preserving the profit from their economic realization in origin communities. **The potential of digital cultural heritage as a strategic resource for innovation is revealed through the intellectual property system.** “When it comes to intellectual property, the term ‘innovation’ is used to denote the process of introducing valuable new products (goods and services) to the market, i.e., the stage from formulating an idea/concept to the successful launch of a new or improved product in the market or the result of this process” (Aleksandrov 2023). The importance of SMEs as a source of economic growth largely depends on their innovation activity. It is widely acknowledged that innovation is the key to success (Takov, Velev 2021). The economic realization of digital cultural heritage in the conditions of the digital economy leads to the creation of innovations based on the knowledge and creativity of our ancestors. When “the identified knowledge meets the legal requirements for this, it can be protected as an object of intellectual property” (Papagalska 2022). The protection of cultural heritage objects through the intellectual property system allows for innovations beyond their traditional reuse in creative industries and tourism, for economic realization in other sectors such as education and scientific research, agriculture, healthcare, the environment, etc.

The intellectual property system provides protection for objects of *industrial property* – inventions (patents), utility models, industrial designs, geographical indications, trademarks, know-how, unfair competition, trade secrets; objects of *artistic property* (copyright protection) – works of literature, art, and science; and *new objects of intellectual property* – databases, domains, traditional knowledge. The most common characteristics of protection are the registration regime for objects of industrial property, the automatic protection for objects of artistic property, and *sui generis* protection for some new objects of intellectual property. Understanding the possibilities offered by each of these protections provides various economic advantages in terms of investments made, the duration of protection, and the emergence and management of property rights. Such an approach should continuously consider changes in the regulation of various intellectual property objects – e.g., trademarks. For instance, one of the main changes brought about by the new European legislation, implemented in the EU Member States, is the “elimination of the graphic representation requirement from the definition of EU and national trademarks. Such change leads to accepting new types of trade marks, filed in formats not previously provided for by national or regional systems, namely: sound marks, pattern mark, hologram, position mark, motion mark, multimedia” (Todorova 2021).

Managing digital cultural heritage as a strategic resource for creating innovations through the intellectual property system should be a priority for national states. For example, besides the possibility of positive (normative) protection of intellectual property objects, defensive protection is applied for traditional knowledge,

finding application through the creation of digital databases. The potential of intangible cultural heritage and traditional knowledge as an incubator for innovations in healthcare and pharmaceuticals is undeniable. Defensive strategies are applied by Asian cultures, known for their millennia-old knowledge in traditional medicine, protecting them from foreign corporations. India created the Traditional Knowledge Digital Library (TKDL) aiming to prevent the illegal appropriation of traditional knowledge through the registration of patents – the so-called “biopiracy”. Providing access to various national patent offices to digitized literature related to Ayurveda, Yoga, Unani, and Siddha and the ability to search through innovative tools prevent the appropriation of traditional knowledge. A similar defensive strategy is applied in China (Xia 2023), where the share of traditional Chinese medicine is about 30% – 50% of healthcare (Zhong, Chen, Cho, Meng, Tong 2012). China has created several databases, with the largest one established by the Institute of Traditional Chinese Medicine Information (the Traditional Chinese Medicine Database) having around 48 sub-databases and 120,000 elements, and the State Intellectual Property Office compiling and maintaining a database for patents in traditional Chinese medicine (China Traditional Chinese Medicine Patent Database), which includes over 22,000 records (Xia 2023).

The protection of cultural heritage objects through the intellectual property system promotes *ethical practices* in the utilization of digital cultural heritage. Defensive strategies, like establishing digital databases to protect traditional knowledge, play a key role in preventing unauthorized exploitation of this strategic resource, ensuring the enduring preservation of cultural heritage. Commonly employed legal mechanisms for the protection of digital cultural heritage objects and control over their reuse by right holders encompass digital watermarking, technological measures, licenses, and permissions. The protection of intellectual property for digital cultural heritage is paramount for fostering innovation and promoting sustainable development.

3. Strategic Approach to Digital Cultural Heritage

The management of digital cultural heritage as a strategic resource for innovation should be recognized as a priority by national states. The EU recommends the **creation of an integrated strategy for cultural heritage** that “combines the need for immediate growth and jobs with the understanding that cultural heritage is a long-term resource that requires a sustainable development plan”⁶. A similar strategy should be directed towards identifying the potential of digital cultural heritage for innovations at various levels – national, regional, and community. National policies for managing digital cultural heritage should invariably be among the priority areas for development in a *long-term program for industrial and scientific development* across different governmental mandates, with guaranteed funding (Krushkov 2023).

The strategy for managing digital cultural heritage as a strategic resource for innovations should encompass its sustainable use in various directions:

1. Education: Utilizing digital cultural heritage in the educational process in an interactive environment through the digital storytelling toolkit. This tool can be actively used when working with students from minorities and traditional communities to stimulate creativity, promote cultural diversity, and engage in preserving cultural heritage for future generations. Educational institutions, educators, and teachers should produce interactive content, taking into account regional heritage and representation from traditional communities and minorities to encourage intercultural dialogue.

2. Scientific Research: Leveraging cultural heritage as an incubator for innovations, directed towards new approaches for preserving and conserving cultural heritage in a changing world through digital technologies, as well as inventions based on traditional knowledge. Conducting targeted development activities in collaboration with various types of innovative industries and participants in innovation industries (Pacheva 2022). Areas where cultural heritage incubates innovations include ecology and the environment, medicine, and agriculture.

3. GLAM Institutions (Galleries, Libraries, Archives, Museums): Proper management of intellectual property for digital records of cultural heritage objects using standardized formats and metadata standards is crucial for cultural institutions. Digital cultural heritage offers new opportunities for audience interaction and accessibility, with the application of new business models relying on interactivity, allowing “user control over the communication process, as they interact not only with the source of communication but also with the content of the message” (Strijlev 2019). Virtual tours, augmented reality, and multimedia exhibits, built upon digital heritage assets elevate visitor engagement in GLAM institutions and bolster local economies.

4. Creative Industries: The impact of creative industries on economic growth has naturally triggered a significant policy interest across the globe (Gantchev 2022). Digital cultural heritage opens up new possibilities and offers vast content for reuse by the creative industries. Managing the intellectual property rights of newly created creative products while respecting the specifics of the creative sector is crucial. For example, a film “has a complex essence, as it is built upon multiple objects of intellectual property, whose authors have invested their targeted creative efforts, contributing to the finished product and, respectively, its success” (Nachev 2022). Strategic management as a resource at the national level will yield returns on investments in the country of origin, taking into account the return on investment, such as in the digitization of cultural heritage.

5. Cultural Tourism and Regional Development: Developing innovative tourism tools and services that meet the changing needs of cultural tourism consumers, stimulating the local economy. Such an approach also impacts real estate businesses, which can be used for “analyzing the situation beyond the industry and sectors directly related to the activities of real estate agencies in the country” (Tsankova 2022). Digital cultural heritage can be applied in innovative products and services of real estate agencies, showcasing the cultural value and attractiveness of different regions, attracting tourists and investors.

6. Entrepreneurship: The digital cultural heritage emerges as a source of inspiration for entrepreneurs. Therefore, it is crucial to intentionally spotlight it in entrepreneurship, with a particular focus on women's entrepreneurship. "Women's entrepreneurship marks a dynamic development with increasing importance for socio-economic progress" (Georgieva 2022). The World Intellectual Property Organization actively promotes women's entrepreneurship with traditional knowledge in traditional communities.

7. Security: Managing digital cultural heritage as a strategic resource for innovations should be planned with consideration of current threats to the created infrastructures for its storage. Such an approach requires continuous monitoring to identify current risks and threats. Developing a "highly effective security model through a systematic analysis and assessment of the changing environment, implementing a broad range of measures against identified threats, and continuously testing the effectiveness of the implemented security system" is essential (Krushkov 2020). An important international aspect is using digital cultural heritage to prevent illicit trafficking in cultural property.

When strategically managed and leveraged, cultural heritage becomes a powerful and dynamic resource. The strategic approach to digital cultural heritage aims at its preservation, accessibility, innovations, cultural and economic sustainability. Its implementation necessitates the involvement of all stakeholders, including local communities, for maximizing its potential for innovation.

Conclusion

Cultural heritage is the essence of human civilization, a finite resource, and a common good inherited from previous generations. The current scientific approach to it goes beyond its traditional positioning in the field of culture and its cultural-historical value, acknowledging its potential for innovation and economic realization in various sectors. Applying the intellectual property system for the economic realization of digital cultural heritage provides opportunities to preserve the wealth of cultural heritage in the communities of origin. Recognizing and investing in the strategic potential of digital cultural heritage is essential for fostering sustainable development. Digital cultural heritage as a strategic resource for innovation, requires targeted management with continuous monitoring of changing threats and new opportunities in the digital environment. Its impact extends beyond preserving the past; it becomes a driving force for innovation, education, and economic development in the present and future. This is the primary challenge facing digital cultural heritage – to reach the next generations, and to be a resource for creativity and knowledge beyond our time.

NOTES

1. Convention for the Protection of Cultural Property in the Event of Armed Conflict, UNESCO, 1954.

2. Convention concerning the Protection of the World Cultural and Natural Heritage, UNESCO, 1972.
3. Convention on the Protection of the Underwater Cultural Heritage, UNESCO, 2001.
4. Convention for the Safeguarding of the Intangible Cultural Heritage, UNESCO, 2003.
5. Conclusions on Cultural Heritage as a Strategic Resource for a Sustainable Europe. Council of the European Union, May 2014, Available from: <https://resources.riches-project.eu/conclusions-on-cultural-heritage-as-a-strategic-resource-for-a-sustainable-europe/>.
6. Report Towards an Integrated Approach to Cultural Heritage for Europe. 2015, European Parliament, Available from: https://www.europarl.europa.eu/doceo/document/A-8-2015-0207_BG.html#_part2_ref1.

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