

Preserving the Algerian Intangible Heritage Through Digitalization and Modern Technologies

المحافظة على التراث الجزائري غير المادي من خلال التكنولوجيا الرقمية والحديثة

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Abstract:

The preservation of cultural heritage is an essential component of our lives today. This inheritance provides us with information about our predecessors' producing techniques and manner of living. The delicate nature of intangible cultural assets needs human care. Existence is a dynamic process, and the birth, development, continuance, and destruction of all things, including "intangible cultural legacy," are factual realities. With the continual growth of science and technology, digital capture, storage, remote sensing, and spatial modeling technologies offer a realistic foundation and platform for the conservation of various intangible cultural treasures for future generations. The intangible and physical legacy of Algeria is essential to the nation's economic and social existence. Even while the National Development Policy (NDP) seeks to digitize Algerian cultural heritage, it stresses conserving it via the use of digital technology. This study discusses digital technology's benefits and drawbacks of cultural heritage protection. Also, it explores the use of a range of new information technologies in the conservation of intangible cultural heritage, extensively discusses the difficulties of digital protection, and evaluates its features. In this article, we investigate the qualities of virtual forms of cultural property

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preservation in the Algerian context of interaction between current culture and cultural legacy.

Keywords: Algerian National Planning Policy, Digitalization, Challenges of Preservation, Intangible Algerian Cultural Heritage.

ملخص:

إن الحفاظ على التراث الثقافي عنصر أساسي في حياتنا اليوم. وهذا الإرث يزودنا بمعلومات عن أساليب وطرق عيش أسلافنا. فالتبيعة الحساسة للموجودات الثقافية غير الملموسة تحتاج إلى رعاية بشرية. الوجود هو عملية ديناميكية، والمولد، والنماء، والاستمرار، وتدمير كل شيء، بما في ذلك "الإرث الثقافي غير المادي"، هي حقائق واقعية. ومع النمو المستمر للعلم والتكنولوجيا، فإن التقاط التكنولوجيا الرقمية وتخزينها واستشعارها عن بعد وتكنولوجيات نمذجتها المكانية توفر أساساً ومنبراً واقعياً لحفظ مختلف الكنوز الثقافية غير الملموسة للأجيال المقبلة. إن الإرث المادي وغير المادي للجزائر ضروري لوجود الأمة اقتصادياً واجتماعياً. وعلى الرغم من أن السياسة الإنمائية الوطنية تسعى إلى رقمنة التراث الثقافي الجزائري، فإنها تشدد على حفظه باستخدام التكنولوجيا الرقمية. وتناقش هذه الدراسة فوائد ومساوئ حماية التراث الثقافي في مجال التكنولوجيا الرقمية. كما يستكشف استخدام طائفة من تكنولوجيات المعلومات الجديدة في حفظ التراث الثقافي غير المادي، ويناقش باستفاضة صعوبات الحماية الرقمية، ويقمّم سماتها. ونبحث في هذه المادة خصائص الأشكال الافتراضية لحفظ الممتلكات الثقافية في السياق الجزائري للتفاعل بين الثقافة الحالية والإرث الثقافي.

كلمات مفتاحية: سياسة التخطيط الوطني الجزائري، الرقمنة، تحديات المحافظة، التراث الثقافي الجزائري غير المادي.

1. INTRODUCTION

In a dynamic social setting, cultural legacy is the result of human experiences. Its concrete and intangible features are key sources of social cohesion, worldviews, beliefs, behaviors, and ambitions. In addition, it is the foundation for social mobility and the matrix that facilitates transformation. In light of this, cultural legacy cannot be disregarded in any meaningful attempt toward human and economic growth. Human evolution and the consolidation of human knowledge and civilization have produced superb national culture, which is an intangible cultural legacy. Intangible cultural legacy in distinct areas reflects both the region's cultural development and global intangible cultural heritage. Safeguarding intangible cultural legacy is humanity's enduring strength. It is a cultural legacy. Fast growth and significant social changes have changed people's lifestyles, manner of production, and external living environment. This alteration will undoubtedly have a detrimental effect on the living environment and the sustainable and healthy growth of intangible cultural heritage and may even lead to its extinction. The progress of the times has rendered the old means of protection ineffective in emergency circumstances.

Due to its richness and variety, Algerian cultural heritage is one of the primary strands of global heritage. Yet, neither local authorities nor the private/public sector pays any attention to this rich intangible legacy. Hence, this unintentional disregard for our cultural heritage might result in their loss and irreparably damage the country's local growth. With the fast growth of digital technology, especially digital photography, video, audio, and panoramic, it has been used in many aspects of work, study, and life and has helped preserve and restore cultural treasures. Digital intangible cultural asset preservation offers numerous new technological techniques. Algeria is gradually developing the corresponding protection consciousness and development mode, but there are still some outstanding issues in the digital protection of Algeria's intangible cultural heritage, such as neglecting local characteristics and insufficient application of digital protection technology in relatively poor and backward areas.

Following this first experience, the Algerian National Development Policy has attempted to solve its digitalization challenges and make the initiative profitable by updating its work plan and purchasing new technology. Thus, how to better protect intangible cultural heritage and how to better utilize digital technology for the conservation of intangible cultural heritage have become hot topics in the Algerian context at the current time.

2. Objectives of the Study

This study aims to shed light on the challenges that are caused by when digitization of the intangible cultural heritage in Algeria. In addition, the study clarifies the National Development Policy's future planning to create a successful digitization preservation program.

3. Research Methodology

This study is based on an analytic literature review analysis that sheds light on the various appearances of Algerians in/tangible cultural heritage potentials evaluated from a collection of theoretical references and sources (national and international "UNESCO") from books, magazines, articles, websites, documents, and bibliographic databases. The following phases comprise the approach of a literature review on Digital Technology in Intangible Cultural Heritage:

- Study questions (Qs) development. Based on the study goals outlined in the section Research objectives, research questions are formed, for which the answers will be sought during the literature review. They specify the obtained data's scope and the analysis of the findings.
- Development of search queries; defining a query to bibliographic databases to look for publications carrying the findings of theoretical and practical research in the field of Digital Technologies in the Algerian Intangible Cultural Heritage.
- The selection of accessible sources to be used in a review, as well as the search and selection of publications. This process includes the usual procedures of searching for publications, deduplicating search results, and applying inclusion and exclusion criteria.
- Study conduct. This phase involves analyzing the content of the

publications chosen in the preceding phase. The analysis is conducted using several sets of classifiers that correlate to the content of the study questions.

3.1 Research Questions

Due to the lack of similar studies in the area of Digital Technologies and Intangible Cultural Heritage in the Algerian context, based on the aims defined in the study's objectives, the following questions can be formulated:

1. Is the employment of digital technology in ICH developing in Algeria currently?
2. What modern technologies are used in the Algerian ICH-related digital technology research?
3. What are the advantages and challenges of modern digitization in protecting the Algerian Intangible cultural heritage?

4. The Relationship between Computer Digital Technology and Intangible Cultural Heritage Preservation: Its Development Status in the Algerian Context

Intangible cultural heritage is protected digitally. Digital technology allows electronic information systems to recognize complicated and dynamic information and produce binary data of different A-series technologies. Based on summing up and absorbing various definitions, this study defines digital preservation of intangible cultural heritage as the comprehensive use of digital technology means and methods to preserve, present, restore, and regenerate intangible cultural heritage through the digital collection, storage, analysis, and transmission and to preserve it in a new form, unaltered." Lui (2020)

After the end of World War II, the struggle left lasting scars on the psyches of all nations' citizens. The conflict devastated history's material and cultural treasures. The war's devastation has disoriented many. Almost all of Europe built public housing and metropolitan regions after World War II. (e pace of large-scale housing reconstruction and development has caused a wave of nostalgia, and many old structures and cultural assets may go from the city overnight. The government enacted the Law on the Preservation of Cultural Property in 1950, which introduced the notion of

intangible cultural property (or intangible cultural heritage). Since more than a century ago, Japan's historical and cultural legacy has been safeguarded. According to H. Dowding (2014) & S. Anasi (2013): “regarding the effects of digitization on intangible cultural assets, Madill and Absalyamova pointed out that digitalization has two sides. Using museums as an example, the growth of digital technology will reduce staff flow in physical museums and cause a museum crisis.

The digital protection of Algerian intangible cultural heritage began later than in industrialized nations such as the United Kingdom, the United States, and the European Union. However, in recent years, with the support and guidance of national policies, the digital preservation of the intangible cultural heritage in the Algerian context has developed rapidly, with great success and numerous accomplishments, such as the creation of a digital database of the country's intangible cultural heritage. Algeria ratified the Convention for the Protection of the Intangible Cultural Heritage first in 2003. In addition, Algeria drafted the Algiers Declaration on Cultural Diversity and Preservation of the Identity of People and Heritage, which was accepted by the Islamic Conference of Ministers in December 2004. In addition, Algeria participates in eleven Euro-Med Heritage initiatives devoted to the preservation of cultural assets. Algeria, which has a physically advantageous position, has been affected by population migrations from many regions over turbulent historical periods.

In September 2021, a new project was announced titled “Towards the digitization and economic operationalization of intangible heritage”. The plan of action of the Government approved by the Council of Ministers for the registration and digitization of intangible heritage was approved to “promote people's cultures in all their diversity and linguistic expressions” and will soon be presented to Parliament for discussion and enrichment, to preserve and value the tangible and non-tangible heritage and activating its economic, social, and educational role.

5. The Primary Forms of Digital Cultural Heritage Preservation

According to the study done by researchers Antonina A. Nikonova and Marina V. Biryukova (2017): Two avenues are identified by experts for the application of electronic technology in the protection of cultural heritage:

- a) e-form (electronic copies) of traditional cultural storages (such as electronic museums, libraries, exhibitions, databases, etc.)
- b) electronic forms of new cultural objects (computer programs, networks, technologies, digital works of art, etc.), which may eventually become objects of cultural heritage, but according to the method of preservation are similar to the category of intangible heritage.

Each of these categories has distinctive qualities. Formally, they are remarkably similar and complement one another. The majority of researchers³ agree that the primary aesthetic novelty of digital storage is interaction, which is not always present in physical museums and galleries. For the analysis of electronic features of perception of reality in the interpretation and actualization of cultural heritage, one should utilize 3D reconstruction, a contemporary technology actively employed in cultural heritage preservation (three-dimensional virtual historical reconstruction).

Virtual objects provide information and visuals for historic site exploration. Electronic simulation models seem to provide a new technique for simulating historical processes or monuments. The subsidiary character of such digital projections impacts cultural object perception, establishing a narrative of "angle of view" and focusing on historical facts. Visitors with enough historical knowledge or imagination may see these models. These replicas' visual conventions do not hinder historical information or visitor perception. Computer simulation models, first used to generate scientific data, have been mass-produced and lost their epistemic value.

5.1 Historical Overview of the Development of Cultural Heritage Digitization Technologies in Algerian Museums

Cultural heritage is the nation's memory and has persisted throughout the ages. Digitization is a channel for the transmission of cultural heritage from the past, through archives, to the present, via means of communication and storage. In the future, the web and other digital technology and innovations will dominate. After the national independence (1962), the cultural legacy of Algerian museums was digitized using conventional methods. It is connected to the recording of all information about the

masterpiece, such as its history, origins, and trajectory², on specially prepared technological cards, so the digitization procedure just included the photographic side, where antiques are photographed and extracted in white and black.

As modern technologies develop and cope with them, the International Council of Museums has established an International Documentation Commission. Its aims to assist museums in finding solutions for documenting and disseminating information, by creating an information system for each museum according to its specialty. It was approved by the Committee in 1989. It contributed to the preparation of a summary of the criteria for documenting the collections in the framework of Afri-Com³. Its mission is to work together and unified in Africa to strengthen the capacity of the partner State, as well as strengthen regional security and stability, eliminating conflict and protecting the interests of the United States and the coalition forces.

In the 1990s, several systems were completed in Europe, all aimed at simplifying and fine-tuning the standards for documenting museum collections and preparing an accurate and detailed description of the masterpiece. According to Mu'zuz Abdul Haq (2014: 173), "The best system invented was the "MICROMUSEE" which is similar to the "MOBYDOC" system". It is a multi-disciplinary system, which can be used in all types of museums according to the Algerian researcher Warfly.T (2014:19). In recent years, Caesarean museums have considered consolidating digitization. The existence of archaeological collectibles by standardizing artifacts' technical cards of artistic or archaeological value. This project is being carried out under the auspices of the Algerian Ministry of Culture in keeping up with the technological development in this field.

The families' tangible cultural heritage is as young as their ancestors,

²DahdouhAbdelkader, Digitization of Algeria's Material Heritage, Reality and Challenges, in Research Journal, May 2014, p.165

³Mu'zuz Abdul Haq, Documentation in the Optimal Management Service of the Masterpiece, in Research Journal, No. 3, 2014, p.173

their fathers, and their mothers. The books soon became blogs by researchers such as G. Camp, who codified certain funeral beliefs and rites at the dawn of history in his book “Aux Origines de la Bérberie: Monument et Rites FunérairesProtohistoriques”. In her book (Brides of Algeria), Ms. ZainabMelli precisely described the brides' dress in all regions of Algeria, explaining the customs of each region. The author made a whole collection of dolls for which she wore traditional costumes and gifted them to the “Bardo National Public Museum” to remain preserved for future generations. In her book “Constantine etsesécrivains voyageur”, the author explains some of the customs and traditions of the Constantine region.

The researchers (Bernard GianietTawia) codified some of the stories and tales traded by the Tuareg in southern Algeria in their book entitled “CompteTouaregs et Bérbéres”. In his book “Le culte des saints dans L'islammaghrébin”, researcher “Emile Dermenghem” explained the beliefs and how Muslim reformers dealt with Moroccan society and their contributions to the reform of society. Although many writers have written down the tangible heritage, the practice of the same traditions is difficult in the absence of a simultaneous image and sound. This requires the conservators of the heritage to develop the methods of qualifications to preserve it, especially as it is on the way to disappearance. Researchers at Algiers' National Prehistoric and Anthropology Centre initiated research and recorded all the videos and sounds that could be obtained concerning the tangible heritage and thus formed a database in which all intangible heritage that would be accessible via the Internet would be recorded and stored. (Project in progress. In a recent work, the researchers NadjiaGhamouh&MeriemBoulahlib (2015) discussed the projects of digitizing the cultural heritage in the Algerian National Library. Due to manuscript degradation while reading, they claimed this activity was necessary. Digitizing Algerian manuscripts and rare books is the focus of their case study. The Algerian National Library's goals for digitizing manuscripts and rare volumes are also explained in this report.

5.2 Digitization Forms Adopted in Preserving the Algerian ICH:

5.2.1 In form of Text:

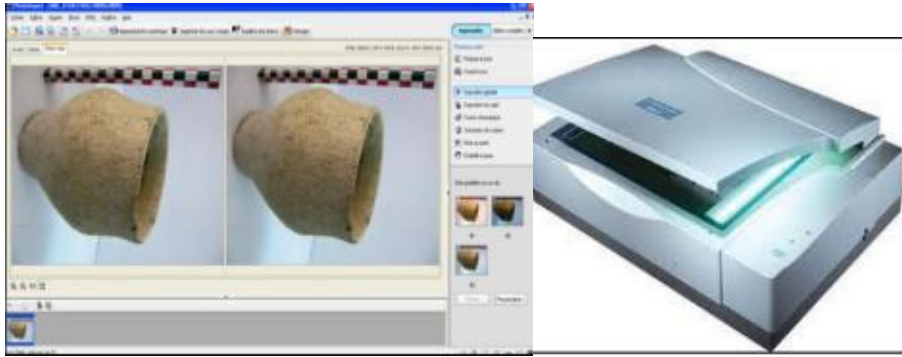
Where can some conversions and modifications be made after the text has been processed with the help of a letter recognition program? Such as MICROSOFT OFFICE and ppt, doc, and xlsx with its multiple programs. Whether to write, calculate, perform graphics and curves, prepare lectures, photocopy OCR, and appear continuously on the computer screen. Belloussif Rasheed (2014:222).

It is one of the first forms used in documenting heritage, as the man went from writing by hand to writing on a deciduous machine and then to using the computer. Its software has evolved, allowing for the digitization of cultural heritage to be facilitated, and after the text was written alone and the images were intervened alone, the researcher could combine them all into a single file using a single program. All recent developments of digitization and software modernization have become its sole goal of facilitating the use and profiting time, money, and accuracy.

Computer discovery has radically changed the field of digitization of cultural heritage, facilitating the heritage researcher's registration and conversion of all written texts on books and papers into electronic documents that facilitate his research and expeditious retention and storage of information. It also helped the Internet to obtain information and improve research.

5.2.2 In form of Photos:

Is a digital transformation of the landscape of realistic space, using several modern means and mechanisms. Like scanners, digital cameras, etc. Its cost is low compared to the text and maintains the writer's idea. It is also recommended for the following types of documents: manuscripts, maps, paintings, film miniatures, and films. "Belloussif Rashid. Documentation is one of the first forms to emerge compared to other forms that date back to the 18th century. The first images were black and white but thanks to technological development they became colored, their accuracy and ease of use are improved over time as they are included in all widely used devices such as mobile.



Photos 1 and 2:Left; photocopier.

Right: (impact photo) image processing program intended to digitize it

5.2.3 In the form of Voice:

It is the digital conversion of speaker sound and recording after its processing and optimization in the form of WMA, MP3... etc. For example: hearing the sound of a Quran cartel on a computer, which is only a digital conversion of the original cartel sound, where it is recorded with the audio recorder, and then processed with special software for high quality.

This form of digitization is necessary to record the different voices of reading, poetry, and singing and greatly helps document the intangible heritage such as the songs of our prophet Mohammed peace be upon him, the songs of heritage weddings, poetry delivered in weddings, and other occasions in the old. It is one of how the grey heritage is best preserved.

5.2.4 In form of Audio-Visual:

It is a combination of two previous forms: We get at the end of a video, in the form of Avis, DVD... etc., digitization is done in this case using digital cameras to shoot documentaries according to the researcher "Dahdouh Abdul Kader, 2014 p. 165." This form of digitization is a result of the development of previous formats and their inclusion with each other, which produces an integrated form of writing, audio, image, and what is currently noticed in the filmmakers as it contains an image, writing, and

sound. What helps to scrutinize the preservation of cultural heritage and communicate its ideas to the viewer contributes greatly to the preservation and delivery of cultural heritage, especially non-material as it is to the public. This form is also the most used in promoting and publicizing our heritage at the global level.

5.3 Means Used in Digitization ICH Process in the Algerian Context:

5.3.1 Material Means

Mainly automated media: computers, scanners, digital cameras, and others. Characterized by its speed and accuracy in processing big data on storage.

5.3.2 Automated Systems (Programmes):

The collection, processing, and operation of data used in those computers in their automated entity and programming entity Therefore, the Automated Information System is the system that processes data, convert it into information, and provides it to the workers in the field, The outputs of this system are used for decision-making and various organizational and control processes within the organization. and therefore, the automated information system consists of the human, computer, data, and software used to process this information to achieve the basic objective for which it was developed within the organization. Among the most used programs we find is MICROSOFT OFFICE with all its programs whether to write texts, create tables and calculations, or prepare lectures. Such as PHOTOSHOP which is used to process and audit images. It is also represented by 3.4.5 images and multiple programs for recording and video and audio processing.



Pictures 3, 4, and 5 display some Programs Used to Digitize Intangible Cultural Heritage

5.3.3 Database

They are in the form of written texts, tables, images (note photos from 6 to 8), audio clips, videos, antiquities or historical sites, and others. We could call it the raw material or the original material.



Images 6,7,8: Collection of records and maps as a source of digitized data

Specialists see several benefits in the use of digitization in museum institutions as a preservation system. These benefits are summarized below:

- Preservation of rare documents
- Help maintain scarce and perishable documents, without hiding them from researchers and making it difficult to research and study, such as

technical cards. For example, our museums retain a collection of rare, if permanently displayed, artifacts that are damaged and only a few specialized researchers can see them.

For example, the British Library in London maintains the only version of Beowulf's medieval manuscript, which was allowed to be seen only by a few specialized researchers. Until a researcher from an American university filmed it. A national library in Tokyo has also created 1,236 digital copies of wooden prints and heritage art wraps for researchers to examine without prejudice to the original.

- Algerian museums facilitate access to these museums by providing them in the form of photos and videos. A new method of photography is currently used, a three-dimensional technique that enables the preservation of antiques and facilitates the researcher's process of viewing and examining the masterpiece untouched but hypothetically. This process has also proven its effectiveness on monuments and histories.

- Easy Search: Digitization of cultural heritage allows us great ease of research. It is arranged based on the paper archive, but its retrieval maybe by the subject matter of the personality or chronology of the document's geographical area. There are therefore possibilities for easy returns that are not available in manual classification methods. It also helps show new information, which was not expected.

- Show details: Showing details cannot be seen on the document. For example, the researcher who photographs the manuscript mediated by the scanner, using three different sources of light, shows us details that are not seen by the naked eye. They are three images, the first taken by ordinary light scanning, the second by UV backlight, and the third by ultraviolet light. These three images reveal details that do not appear in the manuscript. When you look at it with the naked eye, where researchers can check the manuscript online while the manuscript stays safely in storage. It also helps us to know the state of conservation and to identify some types of damage caused by microorganisms.

- Provision of space in the warehouse: Electronic copies occupy only a simple space, where millimeters of storage disk can save meters of shelves. Paper documents can be kept far away, and electronic copies are available

to researchers, making the benefit of these benefits even higher in the future. If we know that most museum warehouses have problems in the storage place, we find in the transition to digital systems an appropriate solution to the problem of small storage space and to reduce the cost of storage.

- Saving time: If documents are digitized, one can retrieve them in seconds instead of several minutes, as well as several people can read the document itself, or see the image itself at the same time. The archivists will also rest on the process of bringing in and restoring antiques, the risks they entail, and unloading the compilation and accurate indexing of museum documents, allowing for easy retrieval. On the other hand, digital versions of documents will allow researchers to access them online, without having to attend the museum or teach in person. What helps to save time for the researcher? Good preservation of archaeological collections, from decreasing the severity of their circulation to researchers where the accuracy of the digital image, and showing it to every detail of the masterpiece, provides an incentive to facilitate both research and preservation.

- Investing the educational process in a better complaint: Thanks to digital materials a study group of digital software can be formed, where things can be clarified more clearly and simply by rounding and enlarging things. Look at it every time and wherever you choose how information is digitized depends primarily on the strategy or policy that is identified as well as on the size of the budget and the financial appropriations allocated for this operation, the availability of the trained working body, the size of the process and the limitations of the techniques associated with the nature of the source of information, transfer of text collections, techniques, the physical equipment used and expertise, the previous experiences of the institution and the distance between the places of the external digitized institution's workshops and the locations of information sources within the museum. Besides costs, control the quality of the information sources it has been digitized outside the museum and how to protect them. Develop ad hoc programs.

6. Challenges and Problems for Digitization

Even though there have been some achievements in the digital preservation of intangible cultural material throughout the country, digital preservation methods for intangible cultural assets are still in their infancy in many places. (e inheritance of traditional handicrafts cannot adapt to the speed of modern life, and inheritors' cultural level is generally low, which cannot adapt to the application of digital preservation technology, resulting in inheritors gradually losing their voice in the process of intangible cultural heritage and digitalization. Digital legacy preservation is slow.

Despite the importance of this process and the advantages it confers, it is usually shocked by many challenges, whether they are budgetary and ad hoc financial challenges, technical issues related to the adoption of the best standards and forms of information source files, issues related to the technical structure of the digitization project, and agreements to overcome problems associated with authors' and publishers' rights. Material capabilities play an important role in this process, imposing conditions and limitations that must be considered, especially physical capabilities, technical and technical equipment, and various programs to be obtained. Look at it closely during the preparation of a digitization strategy and policy.

Technical challenges relate to all material hardware and software that are indispensable for the organization of electronic information sources, their preservation, and retrieval. The main problem, however, is the issue of the rapid aging of electronic information encounters, as they evolve rapidly and uninterrupted. Next, we find it difficult to access information recorded on old storage media, for example, existing computers that do not have a disque lecturer.

It should be noted that the techniques specialized in the digitization process are still newly created and at all times effective retrieval of information resulting from the digitization process remains a major challenge as it depends on the efficiency of access to information sources. In certain parts of Algeria, digital conservation of intangible cultural resources fails to preserve and enhance local culture. Due to the limits of digital transformation technology, if sufficient steps are not implemented to conserve cultural components with local characteristics during the digitization of intangible cultural material, homogeneity will frequently

occur, resulting in the loss of local cultural features (Y. Yao and L. Chu, 2018). Some researchers assess and comprehend beautiful art from a scientific perspective while digitalizing intangible cultural property, neglecting local cultural components. This leads to the reconstruction of cultural meanings and may even devalue the asset.

On the issue of access to digital information sources from the perspective of the techniques used, modern digitization techniques, the method of presenting information, should be selected. Depends on the target audience. It is also necessary to use appropriate techniques and devices in case of desiring prompt and effective access to the target to be reached, such as in electronic archives and structured databases. On the other hand, the beneficiary's location is mainly a factor in the selection of the data used. Low-speed internet users will not be able to view the digitized images in high quality, but in return, they can view the text and move between them with links. After highlighting the most important obstacles and challenges related to the digitization process, we can say that digitization has more advantages than negatives, especially in the field of the cultural heritage of all kinds, and we can summarize its advantages through these points:

- ✓ Good knowledge of antiques and their preservation status
- ✓ Limiting the transfer and circulation of antiques in the hands of researchers
- ✓ Control the conduct of museum groups and all activities related to heritage.
- ✓ Good preservation and easy access to information obtained.
- ✓ Facilitate the process of disseminating information, exchanging options, and saving time and money.

7. CONCLUSION

Algeria is a multiethnic nation comprised mostly of Arabs and Berbers. The Berber minority consists of the Kabyles, Chaouis, Chenouas, Mozabite, and Tuareg ethnic groups. Intangible cultural inheritance handed down from generation to generation is an important cultural resource in the development of society. It is defined by its activity, community, and

invisibility. Every intangible cultural treasure is representative of a specific national memory. With the rapid development of the Internet, digital technology offers sufficient assurance for the safeguarding of intangible cultural assets with scientific, honest, and genuine qualities.

This research reviews the current state of intangible cultural heritage conservation, the drawbacks of old techniques, and the benefits of digital technologies. It may be inferred that the digital preservation of intangible cultural assets is essential and gained from internal circumstances, external conditions, and presenting outcomes. The use and strategy of computer digital technology in intangible cultural assets are possible. Yet, several issues remain in the application procedure. Digital technology is becoming part of intangible cultural heritage. Survival is vital. The ultimate goal of intangible cultural heritage protection is to let it develop and continue freely without protection measures, and the ultimate goal of digital protection is to make the outside world feel no trace of digital technology but is closely related to the life of intangible cultural heritage.

Intangible culture, generated by numerous ethnicities, is a significant aspect of Algerian culture and a long history and knowledge of the country. Digital, resource storage, retrieval and management, visualization, and other technologies are needed to collect, categorize, store, manage, and exhibit intangible cultural heritage. By the use of different digital technologies, it can efficiently disseminate and share intangible cultural heritage materials and conserve huge intangible cultural assets.

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