Chapter 13
Significance of Digitization of the Cultural Heritage:
In the Context of Museums, Archives, and Libraries

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ABSTRACT

The digitization of cultural heritage in museums, archives, and libraries is the most important aspect of the digital era. The preservation of cultural heritage is the most important function of the museums, archives, and libraries, so that it can be transmitted to the future generation. The digital materials gathered for multiple storage systems including offsite storage, cloud storage, and so on are necessary to save it from the disasters like floods, fire, earthquakes, tsunami, natural aging, and other factors of deterioration. Digitization is imperative for the modernization and application of all types of technological advancements in various institutions. There are numerous software, hardware, tools, and techniques available for digitization which are described in detail as follows. The information about digitization has been compiled by literature survey and details of the same have been given in the references.

INTRODUCTION

Cultural heritage is a legacy inherited from the past generation and passed on tangible or intangible forms. These valuable heritage materials have been preserved in many places such as museums, archives, libraries, and other repositories which are accessible to the public for ages to come. The conservation and preservation of heritage materials can be done in two ways such as conventionally and digitally. Digitization is the process of converting conventional information into digital format with the aids of

various software and hardware interventions. The digitization of heritage materials is crucial for preserving and conserving various materials housed in museums, archives, libraries, and other institutions to protect future generations. Nevertheless, in this modern digital era, we have cutting-edge technology to make our survival much easier. As a result of being in a severe worldwide lockdown due to the global Coronavirus pandemic in 2020, the museum sector was among the most affected. Yet, digital technology offered countless opportunities via the internet to engage with the public and enable collaboration between the culture and education. This development can bring benefits like stimulating critical thinking in prominent institutions like museums, archives, and libraries and embrace their fundamental role as open, inclusive, and democratic way by incorporating technologies. With the help of information and telecommunication technology, one can communicate even though people are millions of miles away from each other. Digitization not only reduces people's difficulties accessing information but also saves valuable time. For instance, in the education sector, digital resources have made education easier, such as the internet, extranet, online teaching, and virtual libraries, particularly during the recent pandemic situation. However, still, some places where digital technologies are not being fully utilized. Therefore, digital literacy is sensitized and promoted not only among educated persons but also in the general public because its importance will increase day by day.

It is impossible to predict the future or revisit the past, but we can feel the legacy of the past through information and evidence that has been passed down. Whether the information is thousands of years old or about contemporary cultural and natural heritage, it needs some medium to reach us. That media may be organic materials like paper, parchment, leather, textile, or inorganic items like stone, metal, terracotta, and mixed artifacts like paintings. Now, museums, archives, and libraries play an important role in preserving information and heritage materials through digitization. However, we cannot ensure that objects in museums or manuscripts in archives and documents of libraries would be completely safe in the present storage condition. We must not forget that, while on the one hand, there are beautiful and captivating views of this nature, on the other hand, there are terrible disasters which we keep seeing in the form of fire, flood, earthquake, lightning, storms, tsunami which frequently sprang out of human's control. Therefore museums, archives, and libraries that are supposed to preserve valuable and informative documents, manuscripts, and cultural objects may be affected by these devastating disasters in the future also. According to a United Nations report, natural disasters now occur three times more often than fifty years ago. Moreover, trillions of objects housed in museums or documents kept in archives and libraries pose the biggest threat of being damaged due to various factors of degradation such as physical, chemical, and biological phenomenon. Physical factors like temperature, humidity, dust, dirt, atmospheric pollution enhance natural aging which keeps on damaging the cultural property. Besides, biological agencies like microbes, fungi, insects, and rodents are responsible for bio-deterioration, which can only be avoided by digital preservation. Digitization helps not only in the preservation of cultural heritage but also assist in easy access to the public. The preservation of cultural heritage must be done in both forms, digital as well as conventional methods. In this modern era, the invention of the computer has revolutionized our lives, and technology is growing at a tremendous rate. There are many hardware and software which are available to digitize manuscripts, books, photographs, images of objects, and many other valuable heritage materials. The significance of digitization we experienced during the lockdown period due to COVID-19 was most prominent when people could not go from one place to another while libraries, archives, museums, and other institutions were closed down. Many activities were being done online via the internet in a difficult situation. The digitization proved very useful and the digitized materials provided to the students who required them urgently to prepare for examinations. The cultural

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