

DIGITAL PRESERVATION OF CULTURAL HERITAGE IN INDIA: A SURVEY

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Abstract

The main purpose of this paper is to identify different types of cultural information archives in Indian museums and analysis of the content of selected Indian Museums' websites. The paper presents a summary of various object type cultural heritages archive in digital form. There are five museums which are located in metropolitan cities like Mumbai, Delhi, and Kolkata. The name of these museums are described as Indian Museum, Kolkata, National Galleries of Modern Art, Mumbai, National Galleries of Modern Art, New Delhi, National Museum, New Delhi, and Victoria Memorial Hall, Kolkata. The total number of objects type collection in all selected museums is 34979. The data were collected from Indian museums web portals. Indian Museum, Kolkata has total 13795 object type collection. The maximum object type collection is available in the Indian Museum, Kolkata (39.44%) and minimum National Galleries of Modern Art Mumbai (4.17%). Indian Museum, Kolkata having plentiful collection of the objects type archive.

Keywords: Cultural Heritage; Indian Museums; Digital Preservation.

1.0 Introduction

Cultural heritages are the reflection of the entire society and thus UNESCO describe that "Cultural heritage is the legacy of physical artifacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations". Also ICOMOS has explain that "Cultural Heritage is an expression of the ways of living developed by a community and passed on from generation to generation, including customs, practices, places, objects, artistic expressions, and values. Cultural Heritage is often expressed as either Intangible or Tangible Cultural Heritage". Cultural heritages are living manners, customs and practices, places, objects, artistic expressions and values of particular society or country. It passes through from generation to generation. Cultural heritage can be divided into two parts tangible and intangible. Tangible cultural heritages are those available in physical form or that can be felt with the sense of touch e.g. famous places and objects, and Intangible cultural heritages are those which can't present in physical form or that can't be felt with the sense of touch only can see, feel and listen e.g. living manners, customs and practices, artistic expressions and values. Preservation of cultural heritage is possible in digital era only in digital formats coming generations. It can be recorded in text, audio, video, and image formats. The National Portal and the Digital Repository for Museums of India are developed and hosted by the Group of Design and Computation Centered in Man, C-DAC, Pune according to the agreement with the Ministry of Culture, Government of India. JATAN software is used to manage digital repository in various museums. JATAN is virtual museum software which is developed by Human-Centred Design & Computing Group. Ministry of Culture, Government of India makes efforts for digitization of cultural heritage. The digitized collection of ten museums was delivered online at the National Portal of Museums of India and the Digital Repository. This portal was developed by C-DAC, Pune in consultation with the Ministry of Culture together with technical assistance from the Art Institute of Chicago in the first phase. There are five types of cultural heritages categorized on museums of India web portal. These are Object type, Material, 3D Gallery Artist, and Techniques. Museums are the repositories of the culture of a nation. They are a witness for the development of a country's culture and heritage over a period of time. The Indian government has mandates to develop and

upgrade the cultural information available in the Museums and Archives within the country under the Ministry of Culture.

Culture, knowledge, belief, art, morals, law, custom, and as a member of society, and any other capabilities and habits acquired by the challenge that comes with the unit. Tim has carried out the study which showed the management of cultural heritage in British Columbia. There are other types of cultural resources management project was undertaken. Cook agricultural World Heritage Site and one-third of the growing trade and observations about the management of the cultural heritage sector would not be a generalized Simbai Valley, discussed among the community heritage project (Tim Denem, 2017). Access to the artists, presentation and storage of historical archival collection had this problem. To solve these problems, the author during the summer of 2013 at the National Gallery in Washington, DC Art Library describes the systematic resettlement plan developed during the internship. This study presented an example of digital preservation of ephemera for any type of institution. (Smith, K. A. 2016). In the computer age, it is very important to make aware of the recent technologies. If we will talk about the 3D reconstruction then it becomes a big query for the research even we are passing through the digital era and the vision of computer or technological pedagogy. As per Leonardo Gome, 3D construction is very effective, attractive, colorful informatics tool to grab out the logic and ideas from the structure of arbitrary objects or the scenes. 3D reconstruction is not the easy task in the context of digital preservation of cultural heritage. Cultural heritage objects and sites greatly differ from each other therefore the importance of the 3D requirement is the core idea to be implemented (Leonardo Gomes, Olga Regina Pereira Bellon, and Luciano Silva, 2014). Nor Izzati Mohd Rozdi has clarified in his study that the tourism is all set its leg into the development of the country as it gives a larger contribution to the economy. Tourism has become a huge sector which affects the GDP directly and indirectly. Therefore, we can say that the cultural heritage is a very important part of the economy of any country (Rodzi, N, & ect.2013). Cultural heritage, its cultural values, is also seen as an economic resource. This is a fragile resource, and often irreplaceable, and that requires a careful approach. cultural preservation of digital information will direct and indirect economic benefits. Cultural heritage can be considered as a set of tangible and intangible property. Rare cultural heritage Algeria is considered as a single resource (Necissa, Y.2011). This paper based on Challenges of digital preservation for cultural heritage institutions. There are four major issues are discussed for digital preservation of cultural heritage within cultural heritage institutions. These are digitization, metadata indexes, management of intellectual property rights and business models. These four things are interrupting the process of digital preservation of cultural heritage. Digital preservation of cultural heritages is method of reproduction and reshaping of cultural information in digital format. Digital form of cultural information easily disseminated and accessed without geographical and time boundaries. Institutions are investing in digital preservation methods, systems and technologies for cultural heritages preservation. It plays an important role within this knowledge society (Ross and Hedstrom, 2005). This study focused on Strategy for the Management of Cultural Heritage in Africa. Africa is both fortunate and unfortunate when it comes to cultural heritage management. This country is fortunate because the continent is a storehouse of heritage resources. It is very unfortunate that Africa is too poor to deal with such vast treasures of cultural heritage (Mabulla, 2004).

2.0 Brief Profile of the Museums of the Study

2.1 Indian Museum, Kolkata

The Indian Museum situated at Chowringhee Kolkata. It was established by Asiatic Society of Bengal in 1814 and now it's all activities is operated under Ministry of Culture, Govt. of India. It is the largest and oldest museum in India. Nathaniel Wallich was one of the first curators of this museum. The museum shows social, cultural and scientific achievements and heritage of our country. It has unique collections of antiques, armor and ornaments, fossils, Mughal paintings, skeletons, and mummies. The gallery of this museum is divided into seven major sections there are Archaeology section, Art section, Anthropology section, Geological section, Botany section, Zoological section and Latest image section. For visitors, the museum provides the following facilities these are library services, photography, museum shop, training programs, educational film shows, temporary exhibitions, an exhibition of the month, virtual tour, inter-state exhibition, cultural programs and guide services.

2.2 National Gallery of Modern Arts, Mumbai

The National Gallery of Modern Art is situated at the famous Cowasji Jehangir Public Hall, M. G. road Mumbai. This hall was donated to the city by Sir Cowasji Jehangir in 1911. The gallery was open to the public in 1996 by the ministry of culture Govt. of India. The hall was inaugurated as a heritage building by Shri S. R. Bommai, HRD Minister. The main aim of this gallery is to promote modern Indian art in the country. The Gallery preserves collection from 1857 to present. Collection of this gallery includes paintings, sculptures,

drawings, graphics, and photographs. The digital collection of this gallery is also accessible from Museums of India: National portal and repository.

2.3 National Gallery of Modern Arts, New Delhi

The National Museum of Modern Art was founded by the Ministry of Culture. In order to meet the needs of various disciplines such as Indian art history, art criticism, art appreciation, etc. on March 29, 1954 at Jaipur House in New Delhi, the Art Reference Library of the Museum of Contemporary Art includes paintings, sculptures; there are books on minor art such as graphics and architecture. The library subscribes to magazines of 32 magazines of India and international origin. The most important of them are Burlington Magazine, Leonardo, Art News, Art in America, Studio.

2.4 National Museum, New Delhi

The National Museum New Delhi as a very interesting story of its origin. It didn't come into existence suddenly. It took many exhibitions, building inaugurations and committees' acceptance to accomplish it. Maurice Gwyer Committee has introduced its blueprint of the establishment at Delhi in May 1946. With the help of Government of India and Britain, The Royal Academy of London has organized an Exhibition of Indian Art, which consist selected artifacts from various museums of India. First this Exhibition displayed in the galleries of Burlington House, London in 1947-48, and then the same collection was displayed in Delhi, before the return of exhibits to their respective museums. The story has taken a turning point when an exhibition was organized in the Rashtrapati Bhawan (President's residence), New Delhi in 1949. This event showed the importance of the creation of Museum in the India. At present, Museum holding about 2,00,000 objects of various nature form India as well as Foreign and the respective holding covers the time of more than 5,000 years of Indian Culture Heritage. At present the National Museum is under the administrative control of the Ministry of Culture Government of India.

2.5 Victoria Memorial Hall, Kolkata

The Victoria Memorial Hall is India's largest and one of its oldest museum libraries situated in Kolkata. It was established in 1906 on the memory of Queen Victoria and was formally opened to the public in 1921. Now it is the administrative control of Ministry of Culture, Govt. of India. The architecture of the Memorial Hall was designed by British architect William Emerson. He was the first president of Royal Institute of British Architects. The architectural design of this memorial hall is basically based on Indo-Saracenic revivalist style but it also reflects British, Mughal, Venetian, Egyptian, Deccani and Islamic architectural designs. The present secretary and curator of this hall are Dr. Jayanta Sengupta. The collection of this hall can be explored by Western paintings, rare photographs, Indian paintings, Manuscripts, Miniature, Sketches, Rare Book, Lithographs/Aquatints, Textile, Arms, and Armory. The galleries of this hall are Royal, Calcutta, Durban, Entrance, Portrait and Queens Hall.

3.0 Objectives:

- i. To identify various types of cultural information archives in Indian museums.
- ii. To present the content analysis of the websites of the selected Indian Museums in the metropolitan cities of India.
- iii. To present a summary of the cultural information archive in digital form in the Indian Museums

4.0 Scope and Limitation of the study

The paper is limited to the museum's archiving cultural information in digital form in the major metropolitan cities in India. The scope of the study comprises the analysis of the following important Museums of India function under the control of the Ministry of Culture.

- i. Indian Museum, Kolkata,
- ii. National Galleries of Modern Art (NGMA), Mumbai.
- iii. National Galleries of Modern Art (NGMA), New Delhi
- iv. National Museum, New Delhi, and
- v. Victoria Memorial Hall, Kolkata.

5.0 Research Methodology

Online survey method is used to complete this study. Data collected from museums of India web portal. There is all museums information available on the single platform. Data collected during September 2017.

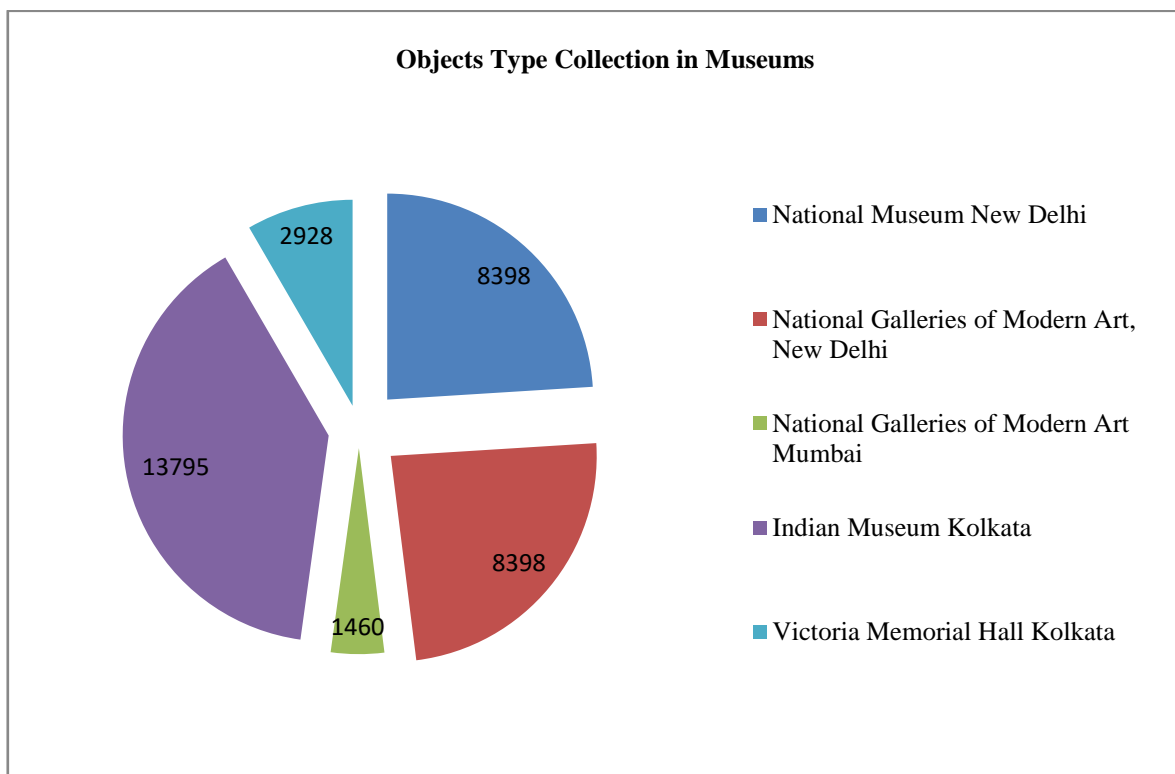
6.0 Data Analysis and Interpretations

Based on the content analysis of the websites of the selected Indian Museums in the metropolitan cities of India, the analysis of the data is given in subsequent tables.

Table 1 Object Type Collection in Museums

S. No.	Objects Type Collection in Museums	National Museum, New Delhi,	National Galleries of Modern Art, New Delhi	National Galleries of Modern Art, Mumbai.	Indian Museum, Kolkata	Victoria Memorial Hall, Kolkata.
1.	painting	4317	4317	1393	1103	2501
2.	drawing	1647	1647	4	0	0
3.	sketch	1404	1404	0	0	0
4.	photograph	619	619	1	0	49
5.	print	304	304	0	0	0
6.	sketches	48	48	0	0	0
7.	collage	41	41	0	0	0
8.	sculpture	18	18	62	1142	0
9.	effigy	0	0	0	236	0
10.	masks	0	0	0	231	0
11.	coin	0	0	0	1571	201
12.	educational artifacts	0	0	0	200	0
13.	decorative art	0	0	0	2972	0
14.	ornaments	0	0	0	864	0
15.	textile	0	0	0	660	8
16.	decorative arts	0	0	0	564	0
17.	domestic appliances	0	0	0	561	0
18.	crystal casket	0	0	0	1	0
19.	travel & transport	0	0	0	1	0
20.	architectural fragments	0	0	0	1	0
21.	gaming tools	0	0	0	89	0
22.	arms and armouries	0	0	0	89	41
23.	appliances of narcotics	0	0	0	83	0
24.	textiles	0	0	0	54	0
25.	epigraphs	0	0	0	49	0
26.	gems	0	0	0	175	0
27.	pottery	0	0	0	170	0
28.	metal cast	0	0	0	149	0
29.	household objects	0	0	0	130	0
30.	musical instruments	0	0	0	102	0
31.	fishing implements	0	0	0	16	0
32.	patachitra	0	0	0	11	0
33.	relic casket	0	0	0	5	0
34.	fishing equipment	0	0	0	2	0
35.	travel transport	0	0	0	47	0
36.	agricultural implements	0	0	0	47	0
37.	basketry	0	0	0	42	0

38.	religious articles	0	0	0	18	0
39.	tools	0	0	0	1269	0
40.	seals and sealings	0	0	0	1246	0
41.	dress and headgear	0	0	0	477	0
42.	toys	0	0	0	280	0
43.	philately	0	0	0	0	2
44.	busts and statuary	0	0	0	0	1
45.	maps and plans	0	0	0	0	22
46.	medals	0	0	0	0	49
47.	medals & badges	0	0	0	0	15
48.	books	0	0	0	0	11
49.	documents	0	0	0	0	6
50.	others	0	0	0	2	0
51.	miscellaneous artifacts	0	0	0	0	8
52.	manuscript	0	0	0	0	14
	Total	8398	8398	1460	13795	2928



The above table shows that object type collection of selected museums in India. The object type collection is available in various types like painting, sketches, collage, sculpture, coin, textile, decorative arts, domestic appliances, arms and armouries, pottery, metal cast, household objects, musical instruments etc. are mention in the table. National Museum, New Delhi, and National Galleries of Modern Art, New Delhi both have the almost same collection. These collections are paintings (4317), drawing (1647), Sketch (1404), photograph (619), print (304), sketches (48), collage (41) and sculpture (18).

The total object type collection is 8398 in Museum, New Delhi, and whereas National Galleries of Modern Art, New Delhi total collection is 8398. National Galleries of Modern Art, Mumbai has total 1460 object type collection. It has the painting (1393), drawing (4), photograph (1) and sculpture (62).

There is total 13795 object type collection in Indian Museum, Kolkata. It has paintings (1103), sculpture (1142), effigy (236), masks (231), coins (1571), educational artifacts (200), decorative art (2972), ornaments (864), textile (660), decorative arts (564), domestic appliances (561), crystal casket (1), travel & transport (1), architectural fragments (1), gaming tools (89), arms and armouries (89), appliances of narcotics (83), textiles (54), epigraphs (49), gems (175), pottery (170), metal cast (149), household objects (130), musical instruments (102), fishing implements (16), patachitra (11), relic casket (5), fishing equipment (2), travel transport (47), agricultural implements (47), basketry (42), religious articles (18), tools (1269), seals and sealing (1246), dress and headgear (477), toys (280), and other (2).

Victoria Memorial Hall located in Kolkata. There is 2928 object type collection available online in digital format. It has paintings (2501), photograph (49), coins (201), textile (8), arms and armouries (41), philately (2), busts and statuary (1), maps and plans (22), medals (49), medals & badges (15), books (11), documents (6), miscellaneous artifacts (8) and manuscript (14). Indian Museum, Kolkata has exclusive object type collection in digital format. This is accessible online on Indian museums website.

Table 2 Summary of Objects Type Collection

Name of museums	Objects Type Collection	Percentage
National Museum New Delhi	8398	24.01
National Galleries of Modern Art, New Delhi	8398	24.01
National Galleries of Modern Art Mumbai	1460	4.17
Indian Museum Kolkata	13795	39.44
Victoria Memorial Hall Kolkata	2928	8.37
Total	34979	

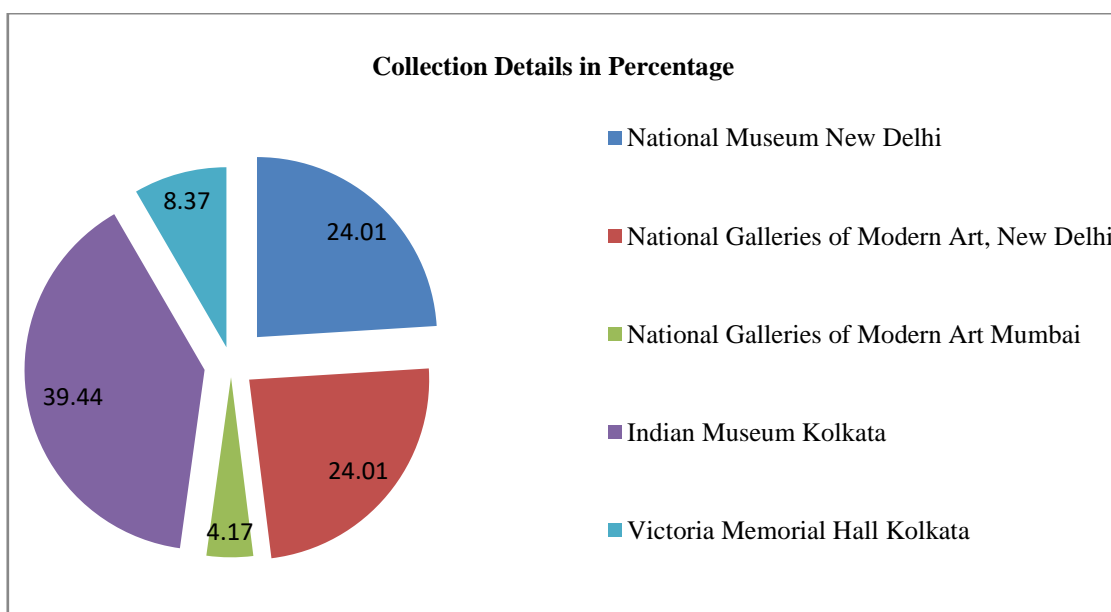


Table 2 presents that summary of objects type collection of selected museums. The percentage of a collection is given to each museum in the table. The maximum objects type collection is available in the Indian Museum Kolkata (39.44%) which was a part of oldest as well as largest Bengal Presidency; also, Victoria Memorial Hall Kolkata (8.37%) is reflecting ample collection of Indian Cultural Heritage. Above table is also showing about the similarity between the collection of National Museum New Delhi (24.01%) and National Galleries of Modern Art, New Delhi (24.01%) and minimum National Galleries of Modern Art Mumbai (4.17%).

7.0 Findings and conclusion:

This study carried out on digital preservation of Cultural Heritage in India. It is a survey-based study. The main purpose of this paper is to identify different types of cultural information archives in Indian museums. The paper presents a summary of objects type cultural heritages archive in digital form. Five museums are selected in this study. Only object type collection of selected museums is the part of the study. It is found that Indian Museum, Kolkata has exclusive object type collection in digital format. National Galleries of Modern Art, Mumbai have least objects type collection. Cultural heritage is living manners, customs, and practices, places, objects, artistic expressions and values of particular society or country. It passes through from generation to generation. Museums and Archives are playing an important role to preserve cultural heritage for coming generations. The innovation of Information and Communication Technology (ICT) has quite changed in society. It also impacts on Museums and archives. Cultural heritage can be preserved in digital format. It can be preserved in the different digital format like the image, video, etc. Whereas, the image format is suitable for the preservation of objects type cultural heritages. The Indian museum websites and portals are able to carrying the detailed information of cultural heritages in the image format. There are sufficient details given related to objects like Title, Museum Name, Gallery Name, Object Type, Main Material, Manufacturing Technique, Country Origin Place, Find Place, Period / Year of Work, Tribe, Dimensions, Detailed Description etc. A web technology has changed the visiting way of museums. Now, we not need to move towards the museum for the information related to the collection available, because of museum's collection available on the web portal is easily accessible. Website of Indian museums works as the mirror for museums because it shows whole image of museums online. It eliminates geographical boundaries and the opening timing of museums for users. Digital preservation of cultural heritages meets past with the present and creates future.

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