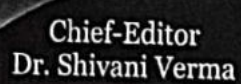


Prospects and Challenges

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Information Communication Technology & Cultural Heritage

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ABSTRACT

This paper studies whether and how information and communication technology (ICT) changes self-construal and cultural values in a developing country. Information communication technology is changing the speed and formats with which cultural elements are distributed. Although the word globalization and development of ICT was not coined until the second half of the twentieth century, the origin of globalization has been traced back to the period between 1450-1500 AD. A period referred to as the mercantilist period and characterized by the development of trade in the quest for commercial empires to broaden their markets. Since then, propelled by incredible advancements in transportation and information technology, globalization has practically shrank the world to one global village. Initially, globalization was seen as an economic phenomenon and in fact, some economists still define it from a purely economic perspective.

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Information communication technology

The advent of ICT has forced libraries and librarians to operate with such concepts and phrases like information society, digitization, computer or information explosion, globalization, cyberspace and information superhighway. These technologies have forced the developed world to operate in a context of change which automatically affects the ways our cultural heritage are documented, preserved and practiced. It has brought the culture, folklore and heritage of western countries into our doorsteps reading tables, desktop or laptop with just a press of the computer key board or a click of mouse.

Culture

Culture is the totality of learned, socially transmitted customs, knowledge, material objects and behaviour. It includes the ideas, value, customs and artifacts of a group of people (Schaefer, 2007). Culture is a pattern of human activities and the symbols that give these activities significance. It is what people eat, how they dress, beliefs they hold and activities they engage in. It is the totality of the way of life evolved by a people in their attempts to meet the challenges of living in their environment which gives order and meaning to their social, political, economic, aesthetic and religious norms and modes of organization thus distinguishing people from their neighbours. To be removed from one's culture is to be deprived of one's identity. To lose one's identity is to be tossed in the wind fluttering along like a leaf separated from its tree." Secondly, culture is considered to be very important in ensuring the survival and development of a community.

Anyone that loses his cultural or linguistic legacy is bound to expire. Culture plays a critical role in ensuring continuity in any given society by helping to transmit values, beliefs, rituals, etc.

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to the other. Since culture usually evolves as human beings attempt to meet the challenges in their environment. One important fact to bear in mind about the nature of culture is that it is therefore subject to change. Since culture evolves as a result of the efforts of human beings to adapt to their environment, it is to be expected that as the environment changes, culture will change.

Moreover, culture is a human thing and as the human spirits become more evolved, their nature of their environment and of right and wrong changes and these ultimately reflect in the nature of their culture. An aspect of the nature of culture that is hotly debated is that of the equality or inequality of culture. There is a school of thought that believes that although cultures differ, they should be considered to be equal.

Cultural Heritage

In The Hague Convention, cultural heritage was measured as assets and come out as an entity for the nation. According to World Heritage Convention, cultural heritage still relates to tangible assets, such as monuments, sites and cultural countryside. "The Convention for the Protection of Intangible Cultural Heritage" separated the intangible cultural heritage from the tangible heritage. Today CH area has been developed into an explicit, specialist and interdisciplinary subject. CH is repeatedly described as artifacts, places, custom, celebration and ritual practices with history.

Nowadays, cultural heritage studies are becoming more focus mainly because of public interest. Cultural heritage is a link to past and present, thus it is a prime key of any community for its identity. Cultural heritage can be valued as it is a key attribute of the landscape, forming a vital component for sustainable development. Different types of approaches to be employed to preserve cultural CH without harming the environment. Tourists from foreign or national want more to discover and experience a diverse variety of cultural heritage, such as monuments, old buildings, arts, festivals, etc. CH is broadly divided into tangible and intangible forms.

Tangible Cultural Heritage (TCH) refers to physical entities, artifacts that can be physically touched and seen. TCH can be further divided into two types.

Movable Tangible Cultural Heritage

Includes monuments, sculptures, buildings, cave, inscriptions and city centers, archaeological, historical and underwater sites, cultural landscapes, geographic spot, natural wealth, domestic birds and animals, activity and aesthetic values.

Immovable Tangible Cultural Heritage

Includes artifacts such as sculptures, paintings, collections and objects; media such as books, plays and consumer and manufacturing goods. TCH presents a solid basis for historical studies, authenticate memories and it is vital for validating to the past and providing a sense of history. Preserving TCH reveals our identity different from other communities.

Intangible Cultural Heritage (ICH) is very delicate and vital in sustaining cultural diversity in the modern era. ICH consists of art expressions, drama, acting, literature, language, traditional cultures, food habits, traditional practices, folktale, folksong, folklore, folkdance, etc. ICH aids in intercultural discourse, promote shared respect among different communities. The most important element of ICH is the transmission of tacit skills that is being passed from one generation to generation. This transmission is very important to sustain the traditional community group so that it strengthens and keeps CH alive, now several ICH are exposed to being endangered by globalization, homogenization, lack of understanding from the younger people, lack of support for preservation, etc.

To protect ICH, youngsters should learn from elders, perform those rituals frequently and

transmit knowledge and skills to the next generation. When ICH is not preserved and transmitted to the next generation it will vanish with the passage of time and will be lost forever. Safeguarding ICH is vital, its process should include identifying, classifying and documenting the traditional cultural heritage; identifying and celebrating festivals; promoting and supporting the sharing of ICH skills and knowledge and researching ICH for community progress (UNESCO, 2009).

5. Digital Preservation Of Cultural Heritage

Digital preservation is a substitute and auxiliary to physical CH objects. UNESCO (2001) defined digital heritage as a distinct wealth of human being's knowledge, understanding and expression. Digital preservation is best defined as safeguarding and administering digital objects for long term usage. It embraces cultural, educational, scientific and administrative resources as well as technological, legal, medical and other kinds of information created digitally or converted into digital form, from existing analogue resources.

Digital preservation swathe variety of issues, ranging from short to long-term access on the use of digital objects. It influences all individual citizens in the information society. Considering its application, digital preservation has developed into an interdisciplinary research area, joining subject experts from library science, cultural studies, archival science, museology, anthropology, law, IT professionals, etc. This research will effectively raise our understanding of preservation issues and examine on a different perspective.

5.1 Advantages of Digital Preservation

Cultural heritage preservation could be given special treatment based on the collection types. Digital preservation increases wider access by breaking all existing physical boundaries. The preserved collections can be accessed locally and remotely via internet by students, teachers, researchers and common public. It provides administrative stability, i.e. recognition, preservation and safeguarding by ensuring administrative continuity. CH contents are converted into different digitally formats that need to be held and protected. CH digital preservation promotes reuse and it aids in lawful obligations of document preservation and protect from lawsuits. CH digital preservation forms heritage for upcoming generations. Digital preservation of CH generates revenue for the society through the use of images, audio and video contents in the form of publications.

5.2 Applications of Digital Preservation

During the current electronic era, we have undergone a revolution in identifying, classifying and preservation of cultural heritage using ICTs. Many archives, museums and libraries use computers to preserve cultural heritage. In this regard Vilbrandt, et al. listed the following points such as converting identified objects into digitize text and images from active records; rebuilding misplaced cultural work of art like photographs, paintings, arts, drafts, written evidence, archaeological result; cultural heritage digital depiction of all figures of existing objects such as sculptures, monuments, buildings, natural environments, etc. founded on dimensions and 3D examination; designing and developing cultural heritage online or virtual exhibition for wider accessibility to the larger audience that can be viewed through the internet.

5.3 Approaches to Cultural Heritage Preservation

According to Vilbrandt, the following different approaches to CH preservation can be carried out using ICT. The shape of the object, internal and external structure and other factors can be a reason for preserving CH under different approaches.

» Quantification and drafting

A number of existing entities are traditionally recorded by the measurement and 2D outline representation and these are not computer replica objects.

» Quantification and modelling

This approach utilizes all obtainable recorded documents and measurements to create a 3D dimension model to present internal and design logic of the object. This approach is best suitable

execute if the object is lost, damaged or destroyed so that the model can be restored.

• Exterior scanning

This approach is supported by lasers, resonance and structured radiance. In this technique, processed data provides the paramount way of actual representation.

• Exterior scanning and interconnect

Generally a multilayer network is produced rooted on the raw data. This approach best used when the dimension tools does not present point coordinates in a straight line.

• Volumetric scan and modelling

Volumetric scanning equipments sample the physical features of items to be archived in condensed mathematical models. This approach employs techniques such as Magnetic Resonance Imaging (MRI), Computed Tomography (CT) or Computed Axial Tomography (CAT) scanning, sound and very responsive and deep infiltration and high resolution named Tray spectroscopy.

6 Technologies for Preservation of Cultural Heritage

Techniques for preserving CH can be done using different preservation techniques such as technology preservation, emulation, replication, migration and encapsulation. These are general methods/techniques used for preservation of all types of digital materials which could be used for CH contents. There are 6 technologies/methods of digital preservation that are being suggested by various experts as given below

• Refreshing

Refer to transfer of data from two kinds of the identical storage standards to avoid variation of the data.

• Emulation

It focuses on recreating the environment considering the originality of the digital object created.

• Replication

Replication is a digital preservation technique of copying documents without loss of bits of information and store manifold copy of files for preservation.

• Migration

The migration technique refers to the cyclic transfer of digital resources from one software and hardware configuration to a new configuration or migration from one computer generation to a next generation. Migration technique is successful against media, software malfunction, and hardware malfunction and obsolesces.

• Encapsulation

This technique consists of creating the authentic application that was deployed to access the digital entity on the future generation computer platform. Encapsulation can be accomplished by means of physical or logical formation named containers to present a link between all information mechanism of digital entity and various supporting information with metadata.

• The Digital Tablet

This technique would have a self-controlled command source; display the accumulated information on a screen as symbols of a printed language proper for the information. The digital tablet is a new equipment preservation method and its practical execution is yet to be proved.

Cultural Heritage & Digital Preservation Problems

Research in ICT has promoted in the development of novel technologies. Nevertheless, such equipments create significant software and hardware problems and data vivacity. The main areas in digital CH preservation are file formats, technology, storage media, infrastructure, financial, organization and administration. File format presents a critical responsibility in preserving digital objects.

• Lack of Funds

Finances continue to be crucial challenges for libraries, archives and museums. Funds are required to run traditional services for libraries, archives and museums and other novel service demands.