

Digitization in Research for Cultural, Commercial and Scientific Development

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Abstract: *Development brings about changes in ways of life and Digitization is a process of development. Digitization, a process of converting analog information into digital format has made Research a lot easier. The continuous development of digital tools and innovative software has a lot of commercial benefits and has increasingly enhanced the efficiency and performance requirements in research. This has equally aided in the preservation of cultural heritage for commercial and scientific development. This paper has viewed digitization as a veritable tool for enhancing research for cultural, commercial and scientific development. It has come to a conclusion that preservation of cultural heritage not only leads to commercial and scientific development but also enhances sustainable development.*

Keyword: *Cultural heritage, Commercial Development, Digitization, Research, Scientific Development*

Introduction

Digitization is defined as the conversion of the physical format of material into an electronic format. It is a process of converting analog information into digital format. At the end of the process, the digital image contains the same information or data as the analog item. The essence of digitization is to: increase access to the materials and preservation of these materials, (Fox,1999). Digitization is constantly transforming the way we conduct research and it strongly influences the success of research, culture preservation, commercial activities and scientific development. Digital tools and innovative software offer an important key to meet the increasing efficiency and performance requirements in any system. The development of these new tools and technologies requires heavy investment, and it is expected that companies, from small start-ups to large corporations will be offering them as paid services, thereby harnessing their commercial benefits.

The pertinent questions facing the global community in this digital era: how is our society changing, due to the advent of the digital age and, vice versa? How should an increasingly diverse society like ours use digital cultural heritage? How can digital cultural heritage be a force in the global economy? How does digitization change research? (Stephane, 2015). These are few of the questions which are arising in the new era, and these issues require study and analysis to be understood and managed at best. This paper though will not answer these questions specifically but the ideas and discussions emanating from it will give insights towards answering these questions.

Digitization activities have positive impact on the society. They serve the purpose of trailing various cultures to the digital age for the benefit of nations which in turn makes the cultural heritage of various countries more accessible to the citizens. In digitization activities, the collection of item with cultural and artistic value generates benefits to the content owners which create positive impact on the content provider; be it the museum or private body.(Valentina et al, 2016).

Digitization contributes to the conservation and preservation of cultural heritage and scientific resources; it creates new educational opportunities; and can be used to encourage tourism. It provides ways of improving access by citizens to their patrimony. Digital materials such as data bases, catalogues, virtual reconstructions, Web pages, e-mail, digital photographs, Internet, DVD and CD-ROMs can be made available to a broader audience than those who have the sources or ability to travel to see these collections. Infact it reduces stress of moving around thereby bringing the resources at the door step of the citizens who need them.

Below are some pictures of cultural heritage which are possible to view as a result of digitization.



Figure 1. Some Digitization cultural heritage



Figure 2 Photograph from the mid-1930s of a basketball game played in Baltimore as part of the National Youth Administration (NYA) recreation program. From Digital Maryland's "Views of African American Life in Maryland" collection. (https://en.wikipedia.org/wiki/Maryland_Digital_Cultural_Heritage)



Figure 3. Museums, archives and other cultural heritage institutions digitized large parts of their collections, and initiated online services to make these available online.

A strong knowledge-driven society subsists because of access to information. By making digital heritage collections available in an open and innovative way, knowledge can thrive.

Therefore, in attempt to achieve this, some institutions have a policy of creating an electronic image of every item in their collection and placing them, on their Website. The National Gallery in London is one organization that has done so (www.nationalgallery.org.uk/). (Olga, 2004)

Over the past few decades, computing researchers have developed a wealth of new systems to preserve and share cultural resources. More recently, researchers have employed collaborative and crowd-sourced software in the restoration of specific artifacts and environments (such as paintings and archeological sites). These approaches tend to fall within one of these three categories:

1. digitally reconstructing objects and landscapes from the past;
2. broadening access to cultural resources through remote distribution platforms
3. digitally representing and archiving cultural artifacts and media

In each of these categories, researchers position digitization techniques to support cultural preservation. However, among these technological developments, researchers often miss a key element which is cultural practices. (<http://en.unesco.org/>). Even as our cultural artifacts and media carry on digitally for future generations, our reasons for reading books, exploring contexts for understanding artwork, and developing ways to share and celebrate everyday practices remain relatively rare. For some good reasons, as computing researchers find it difficult to identify, codify, and digitally record cultural practices, cultural practices do not figure as squarely in the language of computation as many abstract and theoretical models. They emerge as forms of memory, in which the public remembers and forgets the past as lived and constantly mutating collective experience. In this regard, researchers do not conserve cultural practices in the sense that they freeze them in time by making them explicit, rather they preserve cultural practices by "enacting" tradition and experience. Digitization can thus enable and extend the work of preservation. In making this argument, it is important to understand the concept of human practices. We look at practices as arrays of human activity which could be temporally situated events involving rehearsed, materially mediated actions and embodied social relations. The United Nations Educational, Scientific, and Cultural Organization (<http://en.unesco.org/>) identifies practices as "very fragile by their very nature." While they bring to life some of our most celebrated cultural forms, they are easily overlooked by the public. (Daniela et al, 2016) Hence, there is the need for preservation of these cultures for future generations and for continuity purposes.

For instance, due to the support provided by national and international programs, in the past years almost everywhere in Europe efforts were put in place by public institutions and private bodies for converting the "physical cultural heritage" into "digital forms". This happened not only for documents and images, but also for audio/video resources, for the performing arts, for sports and folkloristic customs and for the monuments and landscapes. Also intangible cultural heritage such as oral memories, food and drink, local traditions went digital, so that no aspect misses to be present in the digital world. After digitizing, the content is also made available on the Web, thus over-flooding internet with zillions of digital objects of cultural, artistic, scientific value. Besides that, we also see a growing impact of user-generated content that is converging on the Web and that represents a new frontier of our "global" culture. Therefore this study will look at digitalization as it affects Cultural, Commercial & Scientific Development.

Digitization in Research for Cultural Development

This section will be better discussed based on the understanding of cultural heritage. Cultural Heritage can be viewed as a human creation intended to inform (Feather, 2006). It 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. In the past, cultural heritage has been told from generation to generation by word of mouth. The disadvantages of such practice is that the cultural description disappears when those who knew it die; and as the cultural heritage is passed on to others by those who know it, the chances are, it

would either be exaggerated or distorted or even not be any more in the original form. After some time, the practice of recording part of the cultural heritage in writing started but, there were a few of such authors who could do the job exhaustively. Therefore, much of the cultural heritage could be missed out. Even with the existing few cultural heritage individually owned, the owners have the right to decide how to use it or not to use it. (Sarah,2015). World cultural heritage information is becoming more widely available for tourists and scholarly use. Cultural Heritage is often expressed as either intangible or tangible cultural heritage (ICOMOS, 2002). The presence of digitized cultural heritage on internet allows its spread on a wide area and also made available for the public. It then serves as material for user according to users' need (Silvia, 2002).

In Tourist Organization, one of the most important niche markets is the market of cultural heritage tourism. There is a close relationship between tourism and cultural heritage. On one hand, cultural heritage can serve as tourism attractions, while on the other hand tourism can lead to financial and political support. (Olga,2004) Digitized cultural heritage contribute to marketing of cultural institutions, which enable them to offer consumers the value they seek; that is not offered by other cultural activities. This helps to build relationships between consumers and institutions, which is the most important element of the so called relationship marketing. The way in which the cultural experience is carried on has not changed much for centuries. Digitized culture heritage can be used for sustainable development of cultural tourism. An important element of the sustainable development of cultural tourism is visitors' behavior at the place of location of a cultural heritage. There are various channels for raising visitors' awareness and encouraging specific behavior. From this point of view, the interpretation process, in which digitized cultural heritage is used, can play an important role.

Interpretation process is a communication process designed to reveal meanings of cultural and natural heritage, which play a major role in providing a quality visitors experience, facilitating sustainable visitors flows. The importance of digitized cultural heritage was pointed out at the European Conference of Minerva, held in Parma in 2003. There, a lot of papers were devoted to the question of the quality of cultural Websites and the possible applications of the digitized cultural heritage to preservation, education and cultural tourism (Sarah, 2015).

Digitization of Cultural Heritage for Commercial and Scientific Development

Cultural heritage tourism is increasingly being used as a tool for stimulating regional development in rural and urban areas. Cultural tourism brings increased revenue to the heritage sites and, more broadly, to the community and country that hosts them. It can be an engine of economic growth. Heritage management enables the critical balance to be maintained between the needs of the resource and the needs of the visitor. (Ebru et al , 2012). Apart from the commercial benefits accruing to it, it can also be a source of scientific development such that, through education, entertainment and the enjoyment derived from heritage attractions like nature reserves, national parks, museums, historic houses and gardens, villages or towns by people of all ages and socio-economic groups with different life-styles, it is possible to develop a climate of conservation awareness. (Ebru et al, 2012). Considering the numerous benefits to all stakeholders involved in cultural tourism arising from the digitization of cultural heritage; its publication online, and its re-use, the opportunity for cultural institutions to self promote, and equally promote tangible and intangible cultural heritage, both well and less-known it increases the flow of tourists, visitors, and website visits. This thereby leads to diversifying the offer depending on the target group (age, level of interest, language). Digitization of cultural heritage provides the opportunity for creative industries to exploit the potential of the digital cultural heritage to design innovative tourism services and to avail themselves of highly skilled and specialized professionals. This enhances both scientific and commercial benefit for sustainable development. (Rosella, 2014)

CONCLUSION

This paper has overviewed the concept of digitization in research for cultural, commercial and scientific development and posits that digitization is not only necessary for preserving the cultural heritage of people concerned, for commercial and scientific development but it also enhances sustainable development.

REFERENCES

Fox, Edward A.(1999) The Digital Libraries Initiative - Update and Discussion, Bulletin of the America Society of Information Science, Vol. 26, No 1

Valentina Bachi, Antonella Fresa, Claudia Pierotti, Claudio Prandoni (2016) The Digitization Age: Mass Culture is Quality Culture. Challenges for cultural heritage and society. [http:// www.promoter.it](http://www.promoter.it)

Daniela Rosner, Marco Rocchetti, Gustavo Marfia (2016) Communications of the ACM, Vol.57 No. 6, Pages 82-87 10.1145/2602695.2602701

Stephane Berghmans (2015). The evolution of open science – how digitization is transforming research <http://en.unesco.org/>

Olga Hadzic, (2004). Tourism and Digitization of Cultural Heritage. Review of The National Center for Digitization 5: 74–79. <http://eprints.rclis.org/11865/>

Silvia Fillipini Fantoni, (2002) Visiting with a personal touch: a guide to personalization in museums, Maastricht McLuhan Institute

ICOMOS,AAA (2002). International Cultural Tourism Charter. Principles and Guidelines for Managing Tourism at Places of Cultural and Heritage Significance. ICOMOS International Cultural Tourism Committee.

Sarah Kaddu (2015) Collaboration in Digitizing Cultural Heritage as a strategy to sustain access and sharing of cultural heritage information in Uganda. www.ifla.org/...research/.../sarah_kaddu_ifla-paper_for_research_award_march_2015.

Feather (2006) What is Cultural Heritage.http://www.cultureindevelopment.nl/Cultural_Heritage/What_is_Cultural_Heritage

Rosella Caffo (2014) Digital Cultural Heritage and tourism recommendations for cultural Institution. google accessed 12/10/2016

Ebru Günlü , Kamil Yağcı and İge Pınar (2012) Preserving Cultural Heritage and Possible Impacts on Regional Development: Case of Izmir <http://www.regionalstudies.org /tourism-regional-development-and-public-policy/gunlu>.

Digital Maryland's "Views of African American Life in Maryland" collection. (https://en.wikipedia.org/wiki/Maryland_Digital_Cultural_Heritage)