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# Digitized Collection in Higher Educational Institutions Around the Globe

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# **Digitized Collection in Higher Educational Institutions Around the Globe**

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## **Abstract**

The development of information and communication technology has paved the way to the development of electronic devices and has changed the traditional libraries to digital libraries. In which digitization of library collection has become a common activity. Digitization has opened up new audiences and services for libraries, that needs to be integrated into the plans and policies of any institution to maximize its effectiveness. With the help of digital technology institutions can share their research output globally by access and disseminate research information. This paper aims to explore and identify the role of digitized collection of the top 20 universities in the world according to the "Times Higher Education" World Rankings 2015-16

**Keywords:** Libraries, Information, Digitization, Collection. Distance education, Learning

## **Introduction**

Today, we are living in the age of Information Technology (IT). The storage and retrieval of information has taken various forms and formats like on-line databases, microfilm/fische, telecommunications facilities, videotext etc. Now, a modern library has to provide a package of many related services with the help of computer networking which enable the interlinking of libraries and information centers to pool resources and services irrespective of their physical location (**Kumar, 2001**). Even the information explosion can be faced only by the application of IT and networks in libraries. We see traffic jam sometimes on the networks because of user explosion. Data Traffic will be more than Voice Traffic on the telecommunication infrastructure. Now Chat Services or Video Conferencing is possible sitting in several countries. IT has an important role in library management (**Jainamma, 2000**). While as, increasing number of

university and college libraries have started digitization programs and there are good reasons why they are doing so. First, we are in the middle of revolutionary change as to how ideas get published and distributed. Over 50 percent of scholarly publishing has gone digital and over 20 percent has gone open access (**Craighton,2013**). Moreover, the main reasons to digitize are to enhance access and improve preservation. By digitizing their collections information become accessible that was previously only available to a select group of researchers. Digital projects allow users to search collections rapidly and comprehensively from anywhere at anytime (**Smith, 1999**). Infact digitization can be defined as the process of taking traditional library materials that are in form of books and papers and converting them to the electronic form where they can be stored and manipulated by a computer (**Witten and David,2003**).Meanwhile in universities, digital libraries serve as gateways to information and knowledge offering essential support for teaching, learning and research. They provide access to the intellectual and scholarly output of the university community and play an important role in promoting the university to the rest of the world by exposing works to the wider community. Access to information and knowledge is made available through the ever-widening range of digital library resources and services, including full-text online databases, faculty research, classroom materials, multimedia digital resources, electronic journals, electronic books and digital libraries from all over the world **Dadzie and Walt (2015)**. Although it is asserted by (**Alhaji,2008**) that the needs for digital libraries become significant when we look for improved information sharing, improved and wider access of library materials, and improved preservation of the same. In addition to this the distance learning considers that the teacher and the students are separate in the spatial dimension and that this distance is filled by using technological resources (**Casarotti, Filliponi, Pieti & Sartori, 2002**). Distance learning, represents approaches that focus on opening access to education and training, freeing learners from the constraints of time and place. Distance learning offers flexible learning opportunities to individual and group learners. This is the most rapidly growing segment of education. The potential impact of distance learning on all education has been emphasized by the development of Internet-based technologies, particularly the World Wide Web. It can be described as learning involving implementation of information, computing and communications technology applications in more than one location (**Webster & Hackley, 1997**). Meanwhile, modern distance learning initially relied on the development of postal services in the 19th century and has been practiced at least since Isaac Pitman taught shorthand in Great Britain via correspondence in the 1840s (**Moore & Kearsley, 2005**).

## **Innovative forms of Distance Learning**

The twentieth century saw the creation and evolution of technologies beyond imagination a century ago. The acceptance of these technologies has led to a new alternative for providing education and training i.e. distance learning, studies shown that its benefits are clear and demonstrable and many forms of distance learning are quickly gaining acceptance (**Belanger and Jordan, 2000** ).Studies shown that introducing new forms of teaching make students spend more time in working on the subject, comparing to other subjects (**Dvorak and Burchanan, 2002** ). Also, online students display widely differing learning styles profile and other characteristics (**Diaz and Cartnal, 1999**). Research direction should be oriented on increasing academic quality among high-grade management and observation, improving information feedbacks of students and external partners, composing quality culture in e-learning and addition of system of distance learning education quality, new developments and academic integration (**Marsap, A. and Narin, M., 2009**). In this connection (**Ellsworth,1994**) proposes the classification of Internet tools in accordance with the types of interaction between the participants in the educational process as follows: interaction between the students and professors in the educational process, interaction between the students and professors while searching for information on the Net, joint activities of professors and the administration, students joint research projects. The various technologies used in distance learning can be roughly divided into four categories: print, audio (voice), computer (data) and video. For example, statistical research on the use of electronic communication in distance learning identified the following types of applied telecommunication media in such programmes: telephone, fax, audio-conference, electronic mail, access to databases (**Euler, Von Berg, 1998**).

## **Objectives**

- To identify the collection available in the digital format of the top 20 selected universities
- To identify the types of sources available in digital formats in these selected universities
- Comparison of collections affiliated with different universities as sources available in digital form.

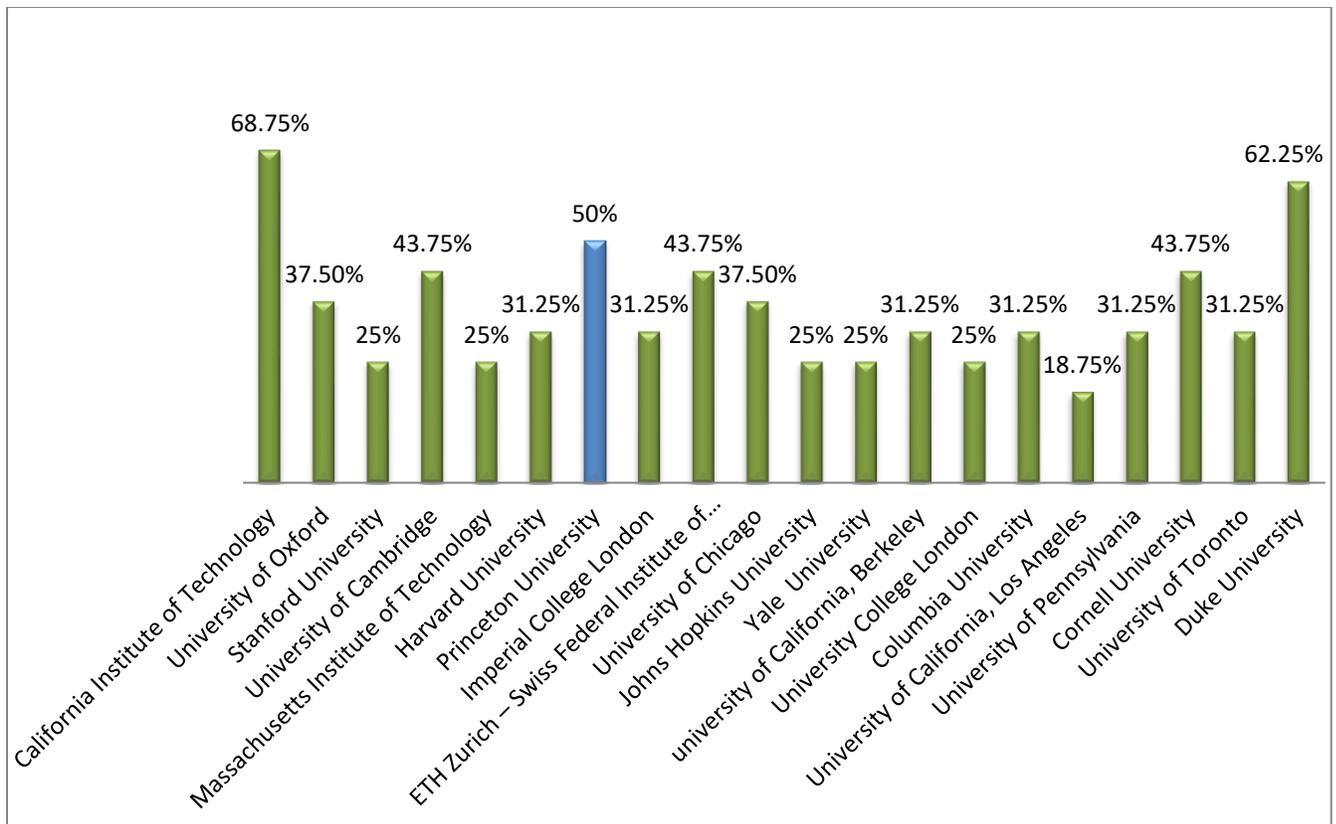
## **Methodology**

The present study was confined to top 20 world Universities according to the “Times Higher Education world universities ranking 2015 -2016”. The observation method was used to collect data from all the University websites. Each university was manually accessed to check the presence of digital formats of the collection on the websites. The collected data was tabulated and analyzed using Microsoft Excel.

## **Data analysis**

The websites of 20 university libraries were analyzed. The collected data is presented and analyzed with the help of charts .which shows a general availability of digital resources, rate of digitized resources, digital technology and specify the collection in these leading 20 universities in the world

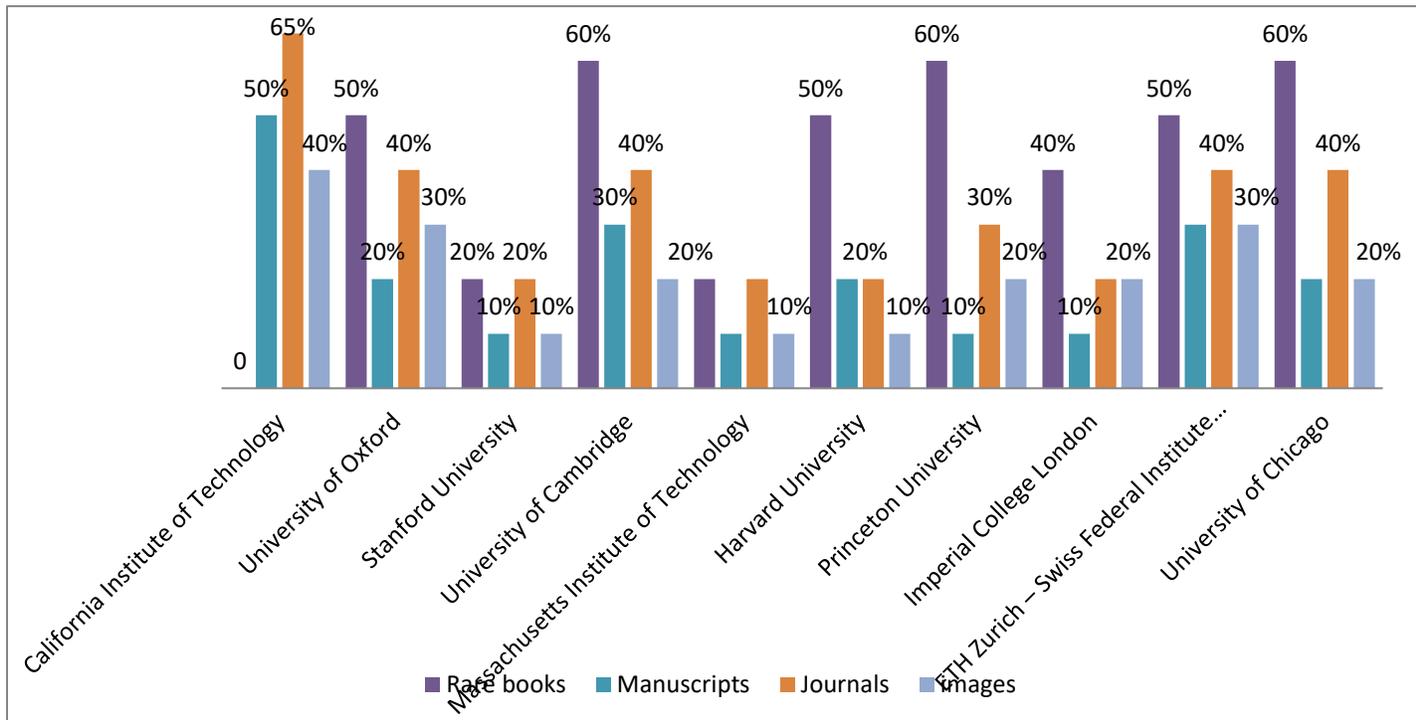
From fig 1 it can be depicted that California Institute of Technology possessed 68.75% of digital collection in the form of rare-books, manuscripts, archives, digital media collection, audio visual artifacts while as University of Cambridge has 43.75%. The collection includes digitized photographs, maps, manuscripts, lithographs, prints, rare books, and posters related to a variety of topics. University of Oxford has 37.5% of digital collection which includes rare books, manuscripts, journals images, exhibitions on the other hand. While as Stanford University and Massachusetts Institute of Technology has 25% of such collection which possesses images, manuscripts and archives electronic music respectively. Princeton University has 50% of digital collection consists of rare-books manuscripts, journals, archives, photographs while as ETH Zurich – Swiss Federal Institute of Technology Zurich includes 43.75% of digital collection consists of rare-books journals, thesis, archives, digital media collection and 31.25% in Harvard University and Imperial College London includes digital collection of rare-books, manuscripts, archives, journals, thesis and photos. university of California, Berkeley and Columbia University possess 31.25% of digitized collection includes journals rare-books articles and images, exhibits while as Johns Hopkins University, Yale University, University College London contains 25% of digitized collection comprises of rare-books, journal dissertations , manuscripts, photos articles, archive. Duke University has 62.25% digital collection consists of rare-book, journals, theses, dissertation, newspapers, articles, audio visual, archives, images. While as Cornell University has 43.75% of such collection including books, journals, archives, images on the other hand University of Pennsylvania has digitized collection of 31.25% contains books journals audio visual arts and same percentage has been found in the University of Toronto containing books journals articles audio visual as part of their digitized collection and University of California, Los Angeles possess 18.75% of such collection archives



**Fig:1 Availability of collection in digital format**

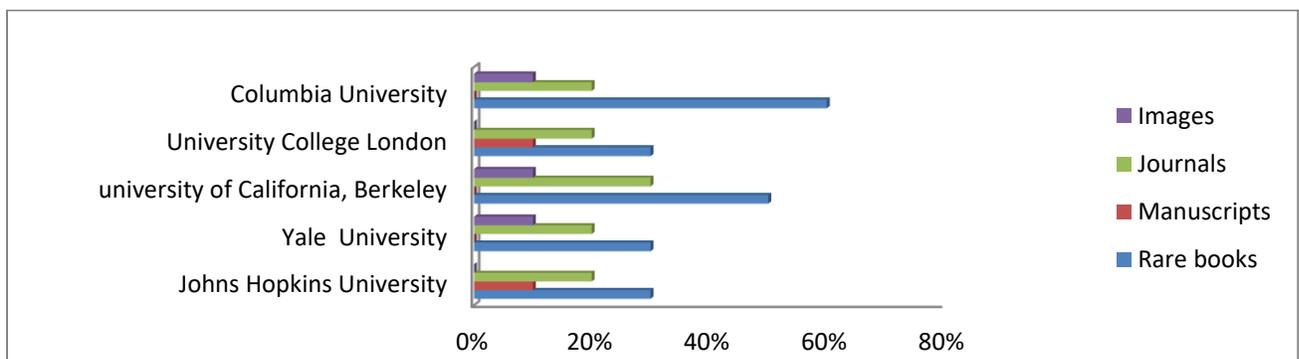
Fig 2 shows California Institute of Technology contains 70% Rare books 50% Manuscripts 65% Journals 40% images in the digitized form while as University of Cambridge possess 60% Rare books 30% Manuscripts 40% Journals 20% images in the same form. University of Oxford has 50% Rare books 20% Manuscripts 40% Journals 30% images digitized. on the other hand Stanford University contains 20% Rare books 10% Manuscripts 20% Journals 10% images. Massachusetts Institute of Technology has 20% Rare books 10% Manuscripts 20% Journals 10% images in the digitized form. Princeton University has 60% Rare books 10% Manuscripts 30% journals 20% images included in the digital form . ETH Zurich – Swiss Federal Institute of Technology Zurich possess 50% Rare books 30% Manuscripts 40% journals 30% images Harvard University has 50% of Rare books 20% of Manuscripts 20%of journals 10% of images as part of their digital collection while as Princeton University 60% Rare books 10% Manuscripts 30% journals 20% images Imperial College London 40% Rare books 10%

Manuscripts 20% journals 20% images University of Chicago 60% Rare books 20% Manuscripts  
 40% journals 20% images



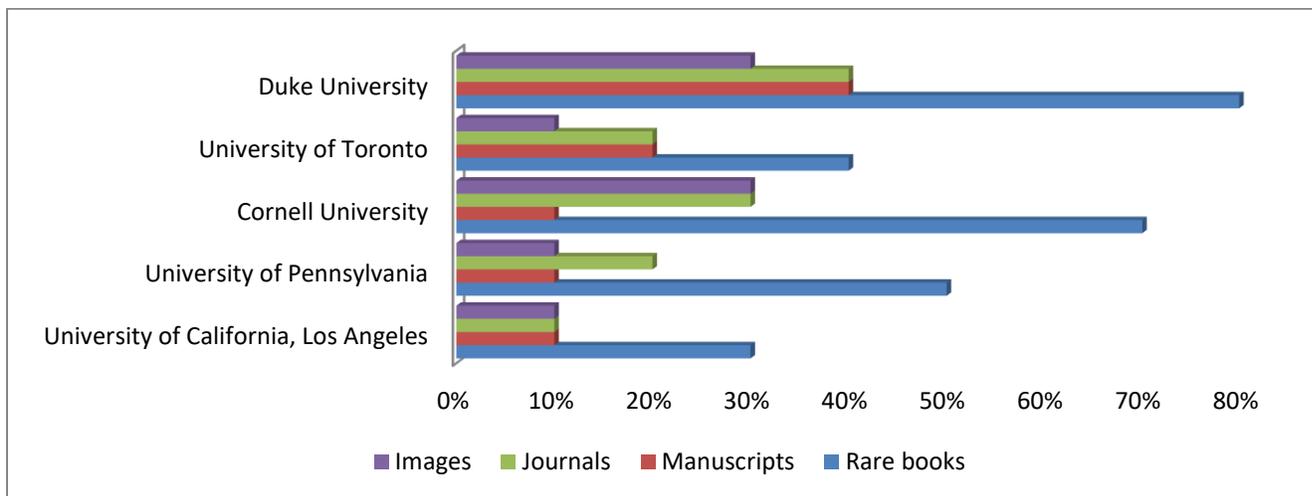
**Fig 2-4: Sources available in digital format and comparison of the collections**

Fig 3 shows university of California, Berkeley has 50% Rare books 30% journals 10% images as a part of digital collection while as Columbia University include 60% Rare books 20% journals 10% images Johns Hopkins University includes 30% Rare books 10% Manuscripts 20% journals in digitized form Yale University includes 30% Rare books 20% journals 10% images in such form University College London possess 30% Rare books 10% Manuscripts 20% journals.



**Fig 3 : Sources available and comparison of the collections**

Fig 4 Indicates Duke University includes 70% Rare books 40% Manuscripts 50% journals 30% images in digitized form .Cornell University has 60% Rare books 50% journals 40% images as digital collection as part of their digital collection while as University of Pennsylvania includes 50% Rare books 30% journals 10% images as such collection . University of Toronto has 40% Rare books 20% Manuscripts 20% journals 10% images in such form on the other hand University of California, Los Angeles possess 20% Rare books 10% journals in digitized form



*Fig 4 :Sources available in digital format and comparison of the collections*

## Conclusion

In this study, which is designed to identify the collection available in the digital format of the top 20 selected universities, the types of sources available in digital formats and do the comparison of collections affiliated with different universities as sources available in digital form to observe the extent to which they can support open and distance learning. Technology has provided new dimension for the modern society .It has given new modes of studies, organizing accessing, disseminating and communicating information to the users of the same. However the great impact seems to have been made on modern library. Libraries are engaged in creating and maintaining digital libraries. The present study identifies the various digital sources present in the leading University libraries of the world. The Results revealed that highest digital collection is found in California Institute of Technology (68.75% ) followed by Duke University (62.25%) and least were found in University of California, Los Angeles possess 18.75%. The study further revealed that rare books are digitized at the highest rate followed by journals while as

images were digitized at lowest rate.. Showed that California Institute of Technology possessed the highest digital collection also revealed that rare books followed by journal were available in digital formats at large scale on the other side manuscripts and image collection is somewhere lacking behind. Presence of such collection can offers a myriad of advantages which can be evaluated by technical, social and economic criteria. Also, the use of resources and technologies of the Internet is very important as it increases education accessibility. Taking the huge scale of the Internet into account, the creation of mechanisms designed for effective navigation of the Internet, and the collection, analysis, exchange and distribution of information for the specific use of education acquires great importance (UNESCO, 2002)

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