World Digital Library: A Case Study

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Abstract

Purpose: *The study reports the aim and features of the World Digital Library (WDL), one of the pioneer projects reflecting the beauty of digital preservation. The study analyzes the contribution of resources continent wise, type, lingual pattern, time period, subjects covered and institutions to WDL.*
Methodology/Approach: *The study is based on the content analysis of WDL.*
Findings: *The study clearly reflects a growing trend of cultural and heritage resources in WDL.*
Future Implications: *The study can be taken a step forward by researching the digital preservation strategies adopted by WDL to safeguard the global heritage wealth.*
Social Implications: *The study can be an initiator at individual, institutional, regional, national and global level to contribute for enrichment of cultural tastes in WDL.*
Keywords*: Digital libraries; Digital preservation; Heritage; Culture; Heritage preservation; World Digital Library (WDL)*
Paper Type: *Research*

Introduction

T he initial vision of what have become digital libraries originated before the creation of digital storage technologies and the general commercial availability of computers in July 1945 article *"As we may think"* written by **Bush (1945)**. Bush put forth the notion of mechanized file and library for all the records, communications, the books for every individual. In early 1960's J.C.R. Licklider was commissioned to write a monograph that forecasted the *library of the future*. To some extent, this was the first time anyone had identified the conceptual basis for a digital library. Licklider stated that *"we need to substitute for the book a device that will make it easy to transmit information without transporting material and that will not only present information to people but also process it for them, following procedures they specify, apply, monitor and if necessary revise and reapply. To provide those services, a meld of library computer is evidently required"* **(Licklider, 1965).**

By the end of 1980's digital libraries under various names were barely a part of the landscape of Librarianship, Information Science or Computer Science. By the end of 1990's research, practical development and

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general interest in digital libraries exploded globally. As the technology progressed so did the concept of digital libraries. In 1994, the Library of Congress announced plans to create NDL by applying the aforementioned and developing technologies to print and non-print materials in its collection. In 1994, the National Science Foundation (NSF) the National Aeronautics and Space Administration (NASA) and Defense Advanced Research Projects Agency (DARPA) announced a joint effort to support Digital Library Research at six universities. This programme called the Digital Libraries Initiative (DLI) provided over US $24 million in research awards to these six universities between 1994-99. By the accelerated growth of numerous and highly varied efforts related to digital libraries projects continues unabated.

The human greed has put culture and heritage at a constant risk, but the digital domain, to a certain extent, may exacerbate this risk by maintaining resources in formats for long term storage and retrieval. Digital libraries are often the key tool by which citizens can engage with their own history, culture and language while also being of enormous value in restoring cultural artifacts to public view where the original is lost or too fragile for normal display **(Deegan & Tanner, 2006a)** The digital birth of cultural content and conversion of analogue originals in to bits and bytes has opened new vistas and extended horizons in every direction, providing access opportunities for new audiences, enlightenment, entertainment and education in ways unimaginable. The need to deliever cultural and heritage resources, especially from the major cultural organizations such as museums or national libraries, has become an imperative closely associated with the core mission of these organizations to educate and elucidate, to promote and disseminate and to preserve culture **(Deegan & Tanner, 2006b)**. One such important and mushrooming project aimed to enhance the cultural and heritage content is the World Digital Library (WDL), a digital initiative aimed to promote international and intercultural understanding.

Review of Literature

A good amount of research has been carried over the digital preservation and its impact on safeguarding the cultural heritage. **Klien (2002)** provides information on *Philip S. Hench Walter Reed Yellow Fever Collection* and describes it as, a digital project supported by a two-year Institute of Museums and Library Services (IMLS) grant, that contains more than 5.000 documents selected from the collection. Guidelines for the preservation of digital heritage has been portrayed by **National Library of Australia (2003)**. **Hong, Chen, Hung and Hsiang (2005)** describe various phases of the digital museum systems constructed by the National Chi Nan University, Taiwan, over the past few years. The

design concepts and integration issues of essential digital museum modules are addressed in their study. **Cameron and Kenderdine (2007)** have discussed the critical and theoretical appraisal of digital preservation in safeguarding the cultural heritage. **Parry (2005)** stress upon the emergence of digital heritage. Establishing a heritage copy preservation repository at the Library of Congress (LC) has been discussed by **Davenport (2004)**. **Meyera, Grussenmeyerb, Perrina, Durandc and Drapc (2007)** stress upon a web information system for the management and the dissemination of Cultural Heritage data. **Mugridge (2008)** highlights the principles and policies of preserving the digital heritage of selected papers of the International Conference Organized by Netherlands National Commission for UNESCO, National Library of the Netherlands, The Hague. **Gladney (2006)** also highlight the growing need of digital preservation.

Objectives
➢ To understand aim, objectives and features of WDL.
➢ To assess the contribution (resources) continent wise.
➢ To gauge the type of resources available.
➢ To determine the Lingual Pattern of Archived resources.
➢ To review the period & subjects covered.
➢ To appraise institutional contribution.

Scope & Methodology
The data was culled from the website of the WDL from a period of February 15 - March 3, 2012 and was analyzed as per indicators enumerated in the objectives.

World Digital Library (WDL)
The idea of WDL dates back in June 2005 when James H. Billington, Librarian, Library of Congress (U.S) in his speech to the U.S National Commission for UNESCO proposed the establishment of WDL. The basic idea was to create an Internet-based, easily-accessible collection of the world's cultural riches that would tell the stories and highlight the achievements of all countries and cultures, thereby promoting cross-cultural awareness and understanding. UNESCO welcomed the idea as a contribution toward fulfilling UNESCO's strategic objectives, which include promoting knowledge societies, building capacity in developing countries, and promoting cultural diversity on the Web.
The Experts Meeting led to the establishment of working groups to develop guidelines for the project, and to a decision by the Library of Congress, UNESCO, and five partner institutions - the Bibliotheca Alexandrina, the National Library of Brazil, the National Library and

Archives of Egypt, the National Library of Russia, and the Russian State Library - to develop and contribute content to a WDL prototype to be presented at the UNESCO General Conference in 2007. Input into the design of the prototype was solicited through a consultative process that involved UNESCO, the International Federation of Library Associations and Institutions (IFLA), and individuals and institutions in more than forty countries.

Aim of WDL
The aim of WDL is to provide the access free of charge via internet. It encourages users to explore the historical treasures from around the world.

Features of WDL
 Following are five main features of WDL:
➢ **Consistent metadata**: Each item is described by a consistent set of bibliographic information (or metadata) relating to its geographical, temporal, and topical coverage, among other requirements. Consistent metadata provides the foundation for a site that is easy and interesting to explore, and that helps to reveal connections between items. The metadata also improves exposure to external search engines.
➢ **Description**: Among the most impressive features of the WDL are description of each item, answering the questions: "What is this item and why is it significant?". This information, written by curators and other experts, provides vital context for users and is designed to spark the curiosity of students and the general public to learn more about the cultural heritage of all countries.
➢ **Multilingualism:** The metadata, navigation, and supporting content (e.g., curator videos) are translated into seven languages: Arabic, Chinese, English, French, Portuguese, Russian, and Spanish. This feature lengthened site development and complicates maintenance, but brings WDL closer to the goal of being truly universal.
➢ **Digital library technical development:** The WDL team's work with state-of-the art tools and technologies led to advances in cataloging and multilingual Web site development.
➢ **Collaborative network:** The WDL emphasizes openness in all aspects of the project: access to content; technology transfer for capacity building; and partner, stakeholder, and user participation. Technical and programmatic networks are seen as vital to WDL's sustainability and growth.

Partners
The partners of WDL are libraries, archives or other institutions with collections of cultural content. The Institutions, foundations and private companies that contribute to the project in other ways e.g. sharing technology, convening or co-sponsoring, meeting of working groups or contributing financially. The study reveals that 137 Institutions are the Contributors/partners of WDL.

Analysis of data
Continental Contribution
Europe contributes 54% of content resources in WDL, followed by Middle East and North Africa (13%), East Asia and Central and South Asia (8% each), Latin America & Caribbean (7%). Content wise contribution to WDL from Africa and North America amounts to 4% while as minimum contribution is from Oceania & Pacific and South East Asia (1% each).

Content Types
WDL presently hosts seven types of content resources. Prints and photographs form 61%, followed by the books (13%), maps (9%), manuscripts (8%) and newspapers (7%). Journals, motion pictures and sound recording form a meager portion in the collection and are put under Others category amounting to a total of 2% of the whole content.

Content: Continent wise contribution
- *Prints & Photographs:* Prints and Photographs are contributed maximum by 6 continents as compared to other type of resources. Europe contributes 2080, followed by Middle East & North Africa (267), Central & South Asia (255), Latin America and Caribbean (174), North America (115) and South East Asia (22). Oceania & the Pacific contribute with Print and Photographs amounting to (14).
- *Books:* Europe leads by contributing 219 books followed by East Asia (141) and minimum by South East Asia (15) and Oceania and the Pacific (12).
- *Newspapers:* Out of nine continents only four have contributed to WDL. Europe scores maximum with 210 newspapers followed by Middle East & North Africa (66), Latin America & Caribbean (32) and East Asia (18).
- *Manuscripts*: Middle East and North Africa contribute maximum (135) followed by Europe (124), Central and South Asia (46), East Asia (38), North America (23), Latin America and Caribbean (19) , Africa (12) and less than 5 manuscripts by Oceania and pacific and South East Asia.
- *Maps*: Three continents have contributed more than 100 maps to WDL i.e. Latin America and Caribbean, South East Asia and Europe.

Middle East & North Africa, North America, Central and South Asia and Oceania and Pacific have contributed between 40-12 maps.

- *Journals*: Only three continents have contributed journals to WDL, with Europe contributing 34 journals followed by Middle East and North Africa and North America.
- ***Motion Pictures and Sound recordings:*** This type of resources possess total of 1% of WDL. Only three continents have contributed to this lot, with North America contributing 14 motion pictures and sound recordings followed by Europe (9) and South East Asia (1).

Contents: Distribution by Time period

WDL content is searchable by eight time periods covering from 8000 BC - 2010 CE. Maximum resources belong to the time period of 1900-1949 CE followed by 1850-1899 CE and minimum during the period 8000 BC- 499 CE with 93 resources **(Fig 1)**.

Fig 1: Contents Distribution by Time period
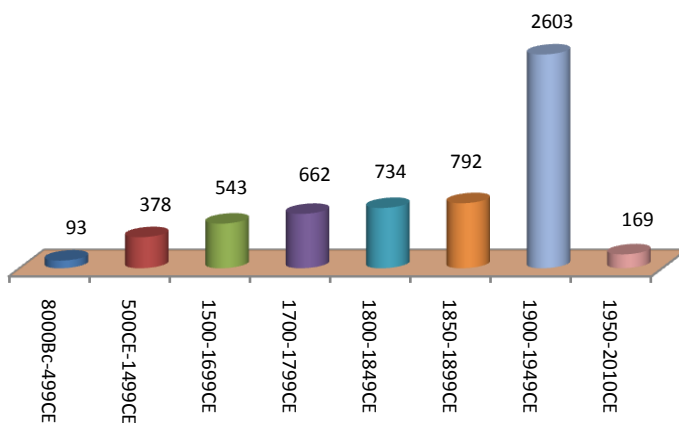
Subject Coverage

Since WDL is highly reflective of safeguarding culture and heritage, thus there is limited subject coverage. The ten broad subjects covered under the flagship of WDL are *Arts and Recreation, General Works & Computer Science, History and Geography, Language, Literature, Philosophy and Psychology, Religion, Science, Social Sciences, and Technology*. As per data the hay of resources pertains to History and Geography (3581) followed by Arts and Recreation (1496) and minimum number is in Philosophy and Psychology (38) **(Fig. 2).**

Fig. 2: Subject Coverage
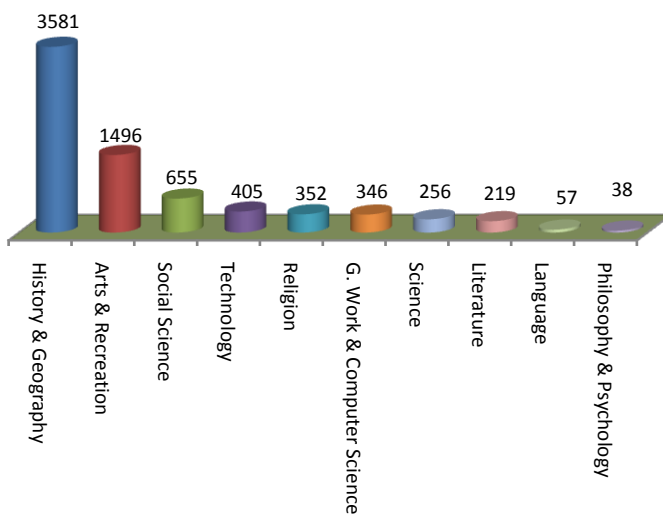
Lingual Diversity

WDL covers the resources in more than 70 languages. The study includes languages which have more than 58 resources, thus includes only 10 top languages. The English leads with 505 resources, followed by German (308), Russian (293), French (288), Arabic (263), Japanese (189), Chinese (187), Portuguese (122), Latin (78) and Italian (59). About 40 languages have less than 5 resources in WDL.

Institutional Contribution

The study reveals that 137 institutions have contributed towards resources development in WDL. 10 top institutions contributing to WDL include Library of Congress with maximum of 2929 resources, followed by Berlin State Library Russian Cultural Heritage (276), National Library of Russia (160), National Library of Brazil (143), University of South Carolina (93), Iraqi National Library & Archives (86), Columbus Memorial Library, Organization of America (69), Bibliotheca Alexandrina (64), State Library & Archives Florida (51) and National Diet Library (44).

Conclusion

WDL is a true treasure replacing faithfully the original culture and heritage of globe on the digital canvas. The reflections are gleam like the morning sun and shower the culture and heritage in the bit and byte mode on the globe. As a part of its remit to preserve content that contribute to the global heritage. WDL is a promising platform that is

trying to cluster together the historical wealth of the world that had set dust over the times. WDL is unveiling the hidden treasure of the world with a promise to expand the horizons and circumference of its content and services.

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