

DIGITAL LIBRARIES AS A TOOL TO CONFRONT THE DIGITAL DIVIDE

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ABSTRACT

Purpose: This paper discusses how digital divide has affected the access of quality information of the citizens and how digital libraries contribute to bridge the digital divide. The article also aims to focus on several issues related to digital divide and digital libraries that pertain to the function of service provision of a traditional library.

Methodology: Literature review and observations

Findings: It provides some thoughts to readers to rethink of the revolutionisation of Open Access initiatives (OA), Open Educational Resources (OER) and Scholarly Communication Productions (SCP) for the benefit of their wider user community focusing specifically on underprivileged groups, who cannot easily access to quality information due to any financial, infrastructural, socio-economic dynamics. It also highlights the recent developments in OER in Fiji and the country's effort to draft a national policy on OER to provide directions in the use of open educational resources to increase access to and support quality learning and teaching in Fiji's education and training system.

Key words: Digital Libraries, Fiji, Digital Divide, Information repositories

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vision; cognitive/emotional challenges - bad memory, easily frustrated, "BUT WHY" responders; "lifestyle" challenges - homelessness, poverty, other more important issues"

Also, she describes these challenges in a different angle claiming that she can find two divides.

a.) *"Usability divide*

- *low literacy "40% of the population has lower literacy skills"*
- *seniors - HUGE group, issues with vision, physical impairments, vocabulary (brains less plastic which is fine but need more assistance with terminology - Godzilla)"*

b.) *"Empowerment divide - esp with the social web*

- *90% of users don't contribute, 9% contribute sporadically, and a tiny minority of 1% accounts for most contributions (Wikipedia)*
- *people don't know how to search (am I right librarians??) and SEO is like the national pastime trying to mess with relevance/recall*
- *the less you pay the more you are the product being sold (cheap laptops, free webmail, free apps)"*

Even though we are now in the digital era, the perceptions of the people towards the Internet and access to quality information are still questionable. Even if the general public has not yet completely realised these issues in a more personalised way-how this mentality has affected the day-to-day life/businesses of them- we can grasp a number of grounded factors based on their habits and thoughts. These factors can be attributed as visibility divide, empowerment divide, etc.

The Digital Divide Basics Fact Sheet [n.d] indicates that there are only 6% of the world's entire population which is an estimated 429 million people are online globally. It further describes that

*" 41% of the global online population is in the United States and Canada
27% of the online population lives in Europe, the Middle East and Africa
20% of the online population logs on from Asia Pacific
Only 4% of the world's online population is in South America."*

Thus, it symbolizes a clear picture on digital divide in the globe. Even if researchers claim that the digital divide happens because of the poverty of the communities, there is a study, which found that approximately 60 percent of the richest ten percent of the population in the Great Britain had household access to the Internet, whereas among the poorest 10%, only 6% have household access to the Internet (Cronin, 2002). Another study conducted in 2000 found that only 41.5% of all US homes had Internet access (Digital Divide Network, 2014).

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Digital divide refers to the gap between the people who have accessed to information through Information and Communication Technology (ICT) and those who do not have such access. Governments in almost all countries around the world are now trying to narrow the digital gap in developing numerous mechanisms such as establishing technology centers or digital villages the formation of state owned Information Technology Agencies, etc. The challenges often link up with digital divide are the low level of information literacy, poor knowledge on English language as English has already been dominated on the web, poverty, costs of technology, lack of infrastructure, limited bandwidth, limited or no access to electricity.

However, poverty is one of the main causes of the digital divide even if there are some other reasons linked up with this inequality. Because of poor economies, people in developing countries are unable to access to technology adequately and as a result of it they cannot access to quality information. The surprising factor that we have learnt is that most people in the globe do not even have a phone, either at work or at home. According to BBC [1999], more than 80% of the total population in the world population have never even heard a dial tone, let alone navigated the Web. Thus, the benefits of the emerging technologies have been unevenly distributed among the population in the global arena. Henceforward, universities being in the lead can direct the civil community in playing a vital role to connect the technology with the community to bridge the digital divide. Universities are experts, who can lessen the digital gap, which hinder the abilities and capacities of the people to be exposed themselves to the wider world even in the new information/knowledge based economy. In recognising the importance and requirements of the current era, a number of universities have implemented many initiatives to bridge the gap of digital divide by opening different initiatives such as digital libraries, Open Educational Resources (OER), Institutional Repositories (IR) and Open Access initiatives (OA) enabling stakeholders and civil society to receive the benefits of the globalisation.

2. OPEN ACCESS INITIATIVES

In recent years, we have witnessed a significant increase of concerns among the people with the revolutionisation of open access initiatives and scholarly communication productions. One of the timely requisites of universities of the day with information dissemination is to bring the scholarly information back to the researchers, who created the knowledge and help them deposit/archive their research outputs in a global knowledge common or their own institutional repositories providing access to information for wider user community. Theoretically, open access initiatives facilitate to make scholarly information freely available on public domains on the Internet, permitting any users to read, download, copy, distribute, print, search, or link to the full text articles as confirmed in the Budapest Open Access Initiative in 2002. There have been a number of attempts by relevant parties to achieve open access, and nowadays universities and university libraries are particularly making every effort to respond to open access, by developing their institutional repositories, digital libraries and open access journals establishing very proactive and productive partnerships with the stakeholders. This is important in the present day, as many researchers in developing countries do not have

adequate facilities to access to quality research literature caused by shrinking budgets in libraries/organisations. This is one of our most pressing problems in universities and other research organisations that should be immediately dealt with. Thus, Universities and research organisations should take a leading role to promote open access to fulfil the needs of the researchers in different disciplines. The mission of any university should necessarily foster to create knowledge, to disseminate it to all parties and empower the common citizens to be the informed citizenry. Open Access obviously help universities to fulfil this mission. Having university research open and show cased to the world potentially boosts a university's profile and enables the uptake and use of the results of research effort funded for the benefit of society.

To promote OA, some universities have introduced digital libraries, which essentially contain institutional repositories, open access publications, and Open Educational Resources (OER) that are mainly open for everybody. Also, some librarians who want to help post-secondary educators and students promoting quality open educational resources have joined to support each other and share their knowledge and experience. One example, the British Columbia Open Education Resource team of post-secondary librarians, has initiated some ways to collaborate on supporting faculty in adopting, using, and creating OERs. The group started identifying and developing assessment tools for quality OERs, and began working to find aids for specific academic disciplines. It is obvious that the digital environment offers many services today for a creative and collaborative engagement of learners with digital contents, for example, collaborative creation, evaluation and sharing of open content and learning experiences. However, some researchers are not in the opinion of that the main reason for the digital divide is the poor technical infrastructure. Paul (2002) mentions that a major problem in ASEAN countries related to digital divide, is mainly on the usage compared to the ownership of computers, etc. He further argues that the major reason caused to poor information usage is poor information literacy next to the work culture and habits. In many countries specially in the developing world, the work culture does not allow people to spend adequate time with the Internet as most of the typical day-to-day businesses are based more on the traditional approach of paper documents and telephone or written communications.

3. PUBLIC LIBRARIES

Importantly, public libraries are more into community services unlike the other libraries such as academic and research libraries. Morris (2011) argues that the significance of public libraries is that they bring all kinds of services to their communities calming that they are more than just technological supporters that include computers, Internet, etc., but they are more into help their community to gather information, explore information, interact with information, and think based on information. Public libraries have realised that building digital libraries vastly contributes to lessen the digital divide and many libraries have initiated numerous strategies to develop and promote their digital library programmes for the benefits of their community. Many digital libraries can now be seen in the developing world too. China, Singapore, India, etc., are at the forefront, but other countries are also following the same as their

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counterparts. These Libraries are now more into digital collections as these resources can be easily reached a wider community in a more effective and efficient way. Thus, they are more into electronic publications than printed pieces of work. However, the burning problem of almost all libraries today is the cost of those resources in which the costs are exponentially exalted. These resources are very expensive. It has been estimated that commercial scholarly publishers on average have a profit margin - ranging from 10% to 25% annually and non-profits averaging 10%. A possible cause of this growing shift explicates that the ordinary citizens do not receive the benefits of the academic “gift economy” as it incautiously leads to the commoditisation of intellectuality of the scholars even some research studies have been funded by the public. At best, this public funded research should freely be available to the wider audience in the community as the public should necessarily receive the benefits of public funds. Thus, all publicly funded research should be considered and kept as a public good, to be used by all without any obstructions to be accessed.

4. OPEN ACCESS JOURNALS

It has been noted that 72% of papers are, on average, cited twice as often as the remaining 28% that do not have free versions. Open access papers have 50% more full-text downloads than non-open access papers. Thus, it develops an idea that universities should adjust their institutional policies and related strategies to foster the availability of the research outputs of their researchers for the benefit of potential users which may in turn maximise the visibility and scientific impact of the research. Universities will also make use of this opening to be ranked in most renowned and accredited university ranking systems based upon the visibility of its own researchers’ research outputs. Thus, a need has arisen that university institutional policies should be categorically included that their researchers must self-archive their scientific productions in university’s institutional repositories following the acceptance of the publication by a journal publisher. All unpublished research outputs should also be made freely available in their institutional repositories enabling all users to access quality information without any boundaries. The Harvard Faculty of Arts and Sciences and the Harvard Law School have unanimously adopted a policy that their faculty members should grant Harvard a non-exclusive right to make their scholarly articles simply available for non-commercial use.

University institutional policies should also explore the avenues that can be used to support its researchers for "Author Pays Model" (APM) of open access enabling them to publish their scholarly materials in high quality open source journals or hybrid journals with high impact factors. Open access journals have the similar impact to other journals, and prospective authors should not be reluctant to publish in these journals considering only their access modes. For example, BMC Bioinformatics – an open source journal, with an impact factor of 5.42, has reinforced its reputation as one of the best journals in their field. This is a good example that will help dissolve the guilty mentality of traditionalists that the publications in newer open access journals will not be perceived as prestigious as those in conservative subscribed journals.

Putting research in public domains by facilitating other researchers to access, will allow the researchers to be great and to build on new ideas. The policy makers need to make every possible effort to unlock the existing padlocks to advance to state of the field. Incontestably, it is apparent that universities have a propounding role to play in this endeavor and they need to develop a greater dialogue between relevant stakeholders and policy makers about strategies for dealing with open access and the best practices.

5. OER in Fiji

“Open educational resources (OER) are freely accessible, openly licensed documents and media that are useful for teaching, learning, and assessing as well as for research purposes. Although some people consider the use of an open file format to be an essential characteristic of OER, this is not a universally acknowledged requirement” (Wikipedia, n.d.). Recently in Fiji, the Higher Education Commission and the Ministry of Education had a consultation to provide an opportunity to policy makers, industry, trainers, educators and practitioners to explore the idea of Open Educational Resources and its impact on Fiji. Eventually, participants were able to contribute to a draft national policy on OER as Fiji government started drafting a national policy on OER. The purpose of this draft policy is to provide directions in the use of open educational resources to increase access to and support quality learning and teaching in Fiji’s education and training system. It specifically intends to prescribe the procedure that to make educational resources, particularly those that are developed using public funds, freely available for reusing and repurposing through the use of open licenses. The use of OER is bound to aid in the development of an open culture of information sharing and research amongst schools, teachers, principals and higher education institutions with the objective of supporting Fiji’s key strategic policy of developing a knowledge based society. Then, most of the educational institutions in Fiji may have the benefits of these resources and these educational institutions may use these resources in their digital libraries providing access to their wider user community. Changing dynamics in Fiji are now trying to give a new confidence for teachers and students to develop OER for their teaching and learning purposes. Thus, this policy will also allow all stakeholders to access quality information in reducing the gap of digital divide whilst the government’s ICT related policies promote a strong ICT infrastructure enabling everybody to have access to right information resources through effective Internet connections. A number of organisations are now keen on promoting Creative Commons, which will reinforce the existing legal backgrounds in putting more sensitise approach to wider community for intellectual property and copyright law. Higher Education Commission and universities are trying to take a lead role to promote these initiatives for the benefits of all civilians in the country.

6. DIGITAL LIBRARIES

Today’s librarians have realised the importance of digital libraries. Digital libraries are needed to cater the needs of users providing new and improved services and to confront the financial constraints and cost crises. Dreams of computer-based libraries, which are hailing from decades and decades ago (Bush 1945) are now practical. A number of libraries can be found that they are spending millions of money for purchasing

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printed materials, which are not really used by the readers due to limited accessibility linked up with the non-availability of technological infrastructure, limited time due to busy schedules, etc. In addition, today's libraries have accepted the notion that the traditional acquisition practices are almost impossible due to their institutional monetary constraints. They look eagerly to the new technology as a solution. That is merely a digital library, which consists of several collections of electronic documents arranged in a more organized way enhancing users to find correct information at correct time easily. These collections may include free publications available in public domains subscribed resources and hybrid combinations of publications. However, it is rather noticeable that the current scholarly publication industry is gradually collapsing. Libraries are not in a correct position to afford the rising costs of the resources. The Mellon Foundation finds that between 1970 and 2000 the typical US academic research library will lose nearly all its purchasing power (Cummings, 1992). It has become a reality now. Increases in journal and monograph price, currency shifts, and increases in the number of publications are all making it harder for libraries to afford their previous level of purchases. Nearly every university in the world is reviewing its acquisitions of materials and cancelling some journal subscriptions. Due to these reasons, two problems viz., incapacity of acquiring sufficient newer materials and failure to keep enough old materials in libraries have arisen and these issues have been negatively affected the affordability of acquisition of scholarly publications in present libraries compared to the situation that they used to be in several years ago. Electronics can, in principle, be an answer to both. Thus, a development of Institutional Repositories has given a good solution to the problem.

One clear difference between traditional libraries and digital libraries is that digital libraries offer greater opportunity for users to deposit information as well as use information. Thus, students and teachers can easily be publishers as well as readers in digital libraries. The most important advantage of digital libraries is advancing informal learning, which has been widely used by public libraries. The same benefits can be accrued to learning in classrooms as well as the people, who pursue their own learning that has been widely used by distant educators and academicians. Clearly, digital libraries have important roles to play in teaching and learning.

It is quite apparent that digital libraries do face many challenges – information asset security, interoperability, multiple types of information, 24/7 operation, multi-culture and multi-legislation situations, multi-language, ever changing digital formats, digital preservation, and Intellectual Property Rights. Digital preservation and Intellectual property rights seem to be the most crucial. A number of efforts can be ascertained in the literature that the researchers have tried to find some solutions for the problems related to the use of digital contents. In addition, it provides opportunities to digital preservations. The goal of any digital preservation system is that the information it contains remains accessible to users over a long period (Rosenthal et al., 2005). This has been the general view of the digital preservation community. Moore (2008) comments that the concept of preservation can be characterised as communication with the future. He further suggests that in order to enable us to communicate with the past data in a future time, the preservation environment will need to incorporate new types of storage systems, new protocols for accessing data, new data-encoding formats, and new standards for

characterizing provenance. Researchers in the digital library community have also worked towards this end. For example, Mischo (2005) mentions that for years, information service providers were trying to develop some systems to convert the myriad of distributed digital collections into true digital libraries with the essential services. This is a timely need to transform the less usage into more usage these digital libraries useful and productive for the consumers. Some research and development activities focusing on different aspects of digital preservation have taken place over the past few years.

7. COPYRIGHT ISSUES

Having successfully installed and configured a digital library does not qualify a library to automatically populate all its digital collection into the digital library. If we need to put the publications there, we need to obtain publisher's consent and copyright permissions for the same. Also, digital library software usually accepts standard digital formats such as PDF, HTML, RTF, Word or PPT even though that majority of the publishers supports e-book reader formats. Thus, text extraction will be an impossible task because of the differences pertaining to format issues. Also, a vast majority of the scholarly research outputs in journal publications cannot be easily incorporated into institutional repositories of the digital libraries due to copyright issues. Scholar institutions in must put more attention towards this area in adopting open access policies. Governments of countries must create an enabling environment by enhancing the legal framework of open access and copyright law empowering researchers to publish their research outcomes in public domains, which facilitate wider community that necessarily includes underprivileged community, to access quality information without any restrictions.

8. DISCUSSION

The challenges that include some economical, legal, strategic and organisational issues can be found and they should be considered for a successful implementation of a digital library. Institute support, business and operational planning, strong library leadership with research and development process are of very important. It is also important to develop a culture to provide best support for implementation and use of digital libraries. A proper plan should be made in principle to layout the necessary framework to develop individual business plan to implement digital repositories.

“To be information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate and effectively use the needed information” (ACRL, 1989).

Digital libraries in the first instance should support the informational needs of the users with quality information. Then, the people can be information literate. The only literate population will bridge the digital divide. Compared to the past, now most countries have made significant progress in expanding ICT access enabling their communities to access information. Policy makers cannot be complacent, but they need

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to put more attention towards the infrastructure and new imperative strategies to bridge the digital divide in their manifestoes. Digital divide could separate the nation from the real world. Stagnation of development can be seen in countries which have not yet addressed the issue of digital divide as they symbolizes their inability to compete economically in the international arena.

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