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Web 2.0 Tools in Indian University Libraries

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Abstract

Web is intrinsically a global medium. Web has grown from a group work tool for scientists at CERN into a global information space more than billion users. Currently it is both as a read, write tool as well as a more social and participatory platform. The continuously changing trends have led to enter a new, improved web version 2.0. It is actually just an extension of the original ideas of the web. The web 2.0 has gained substantial momentum in the last decade. The influence of web 2.0 principles and technologies has fuelled an explosion of information and media content on the web and individual and corporate adoption of the technologies continues to rise. The present study has been carried out to identify, usage and application of different web 2.0 tools of the top 100 universities according to the “Ranking web of universities” 2020.

Keywords: Web 2.0 tools, Social Media, Indian University, Facebook, Twitter, YouTube.

Introduction

Internet-based technologies, specifically the web 2.0, nowadays plays a significant role in the societies in which people learn, access information and communicate with one another. Web 2.0 is ultimately about a social phenomenon – not just about networked social experiences, but about the distribution and creation of web content itself, characterized by open communication, decentralization of authority, freedom to share and reuse, and the market as a conversation (**Abram, 2005**). Web 2.0 refers generally to web tools that, rather than serve as a forum for

authorities to impact information to a passive, receptive audience, actually invite site visitors to comment, collaborate, and edit information, creating a more distribution form of authoring in which the boundaries between site creator and visitor are blurred (**Oberhelman, 2007**). Web 2.0 has been referred to by others as: a second generation of web designed to facilitate social relationships, information sharing, interoperability, and communication (**Tripathi & Kumar, 2010**). It also facilitates a means for users to create dynamic content and engage in two-way communications (**Stephens, 2006**). According to **Holmberg, Huvila, Kronqvist-Berg and Wide'-n-Wulff (2009)**, Web 2.0 is about a variety of innovative web-based tools, which allow social interactions among users on the web. As a result, it is also referred to as the “Social web” (**O’Reilly, 2005**), “read/write web”, “two-way web”, and “participatory web” (**Stephens, 2006 a**). For many others, Web 2.0 refers to a group of technologies such as blogs, wikis, podcasts, RSS feeds and so forth, where everyone is able to add and edit the content, creating a socially networked web environment (**Anderson, 2007**). These technologies provide many unique and powerful information sharing and collaborative features in teaching as well as with colleagues, administrative and libraries’ staff (**Grosseck, 2009**). Information is very crucial for the acquisition of knowledge and development. In the present scenario, information has become an available asset for progress and development of every nation. The internet which has begun as primarily a communication tool, has become a very important information resource. The latest web innovations and technologies which has made into a ‘Platform’, are being increasingly applied in the e-commerce, online advertising and other services. It has widened its scope in every field over the years, libraries being no exception. The last two decades have witnessed the rapid transformation of the library in applying information technology.

Libraries have developed and diversified their services based on advanced information communication technologies. A typical technology is Web 2.0 which has recently emerged as second generation of web based technologies for communication. Web 2.0 was reportedly first conceptualized and made popular by Tim O’ Reilly and Dale Dougherty of O’ Reilly Media in 2004 to describe the trends and business models that survived the technology sector market crash of the 1990’s (**O’ reilly, 2005 a**). the term is now widely used and interpreted, but Web 2.0, essentially is not a web of textual publication, but a web of multi-sensory communication i.e., it allows people to create, manipulate, share or exchange information, ideas and picture/videos in virtual communities (**Rodriguez, 2011**). The main aim of Web 2.0 is to create social interactions,

between different user communities irrespective of their geographical location. Broadly, Web 2.0 encompasses (a) Social networking sites such as Facebook, Twitter and LinkedIn (b) Media sharing sites such as Youtube and Flickr (c) Creation and publishing tools such as wikis and blogs (**Greenhow, 2011**). Like other information organizations, university libraries are also constantly finding new ways to use Web 2.0 applications to fulfill their mission of engaging and sharing knowledge with their constituents. To keep pace with latest technology, librarians use different software applications including blogs, wikis and podcasting media sharing tools such as Youtube, Flickr and social networking services like Facebook and Twitter (**Hinchliff & Leone, 2011**) to market their resources and services. Social web tools provide libraries with the ability to engage with users in two-way communications and information sharing on a range of Library related issues, promote library resources and services and extend services beyond the physical boundaries of library buildings, by taking library services to patrons (**Buigues-Gar'cia & Gimenez-Chor'net, 2011**). Moreover, these tools enable to reach out to patrons, attract new patrons to use library resources and services and deliver improved patron-driven services (**Casey & Savastinuk, 2006**).

Since Web 2.0 is gradually becoming more popular in higher education, it is important to examine the occurrence of Web 2.0 tools in different university libraries. The current study aims to explore whether the university libraries incorporate with new technological innovation- Web 2.0.

Problem

Web technologies are becoming more popular nowadays and are being used not for social networking but also to facilitate communication and increase knowledge sharing. The academia at global level can effectively be benefited by the effect of Web 2.0 as the technologies associated with it provide exciting opportunities for education. In this context present study is undertaken to explore various Web 2.0 tools employed by various universities (**top hundred**) of India.

Scope

The scope of the present study is confined towards analyzing the occurrence of Web 2.0 tools on the websites of top hundred ranked universities of India.

Objectives

The main objectives of the study were:

- 1) To study the various Web 2.0 employed by the university libraries.
- 2) To check the most widely used Web 2.0 tools used by the university libraries.

Methodology

A study was made to identify a comprehensive online directory, “Ranking web of universities” listing top 100 ranking universities of Indian region that were actively making use of Web 2.0 tools. The directory provides a list of universities arranged according to a composite index derived from their web presence and the web impact of their contents (**Ranking web of universities, 2020**). For the current study, only top 100 universities were taken from Indian region. The data was collected by visiting the library websites from 01 May 2020 to 20 May 2020. The library websites were accessed through links on their university websites. For libraries whose links were not accessible via the directory, search engines were used to discover their library websites. Library websites were studied for the availability of any social web tools.

Review of Literature

Anderson (2007a) defines Web 2.0 as a collective term for a group of web based technologies that broaden user’s communication capabilities and options. Many studies indicate an increasing and rapid adoption of Web 2.0, especially social networking sites (SNS) such as Facebook and Twitter. **Schneckenberg (2009)** says that the rate of adoption of Web 2.0 applications is very high because these are very easy to use and intuitive and enable the direct and immediate online publication and distribution of user content. **Wenger (2004)** says that Web 2.0 is having a dramatic effect on how people work, communicate and collaborate. It opens a whole new world of social interconnectivity in which academics, experienced professionals and students alike can now much more easily network with each other for life-like collaborative knowledge construction. **Maxymux (2007)** emphasizes that the technological advancement compelled libraries to adopt online media for their survival (**as cited in Arif & Mahmood, 2012**). **Aharony (2009)** explored whether librarians working in school, public and academic libraries were

familiar with the technologies of Web 2.0 as they used them in the libraries. It was disclosed that library manager as compared to librarians were more inclined to incorporate Web 2.0 technologies to offer new services in the libraries. However, librarians were quite exposed to these changes. **Xu, Ouyang and Chu (2009)** found that only 42 percent of institutions had introduced Web 2.0 tools in their libraries. **Morris and Bosque (2010)** surveyed on Blogs, Chat, RSS, Tag clouds, Tagging, User reviews, Wikis and Youtube and found them most adopted tools in US academic libraries. **Chua and Goh (2010)** studied 120 academic library websites. The findings suggested that the order of popularity of Web 2.0 applications implemented was: blogs, RSS, instant messaging, social networking services, wikis and social tagging applications. **Yong-Mi and Abbas (2010)** studied the adoption of Library 2.0 functionalities in academic libraries by randomly selecting 230 library websites and discovered that RSS and blogs were widely adopted by the libraries. **Garoufallou and Charitopoulou (2011)** studied the use of Web 2.0 tools by Greek students. The study revealed that Youtube and Flickr were the second most used Web 2.0 tools after Facebook by the students.

Indian libraries are far away from Web 2.0 technologies. The adoption rate by libraries of the elite universities is found to be far below than that of the developed world. A study on the presence of Web 2.0 applications on the library websites of IIT's and IIM's are yet to integrate Web 2.0 in their websites. **Kumar and Ranjan (2014)** revealed that the main reasons of non-adaptation of social media in libraries were lack of computer literacy, unavailability of computers and unawareness about social media. **Kannikaparameshwari (2008)** found that out of 28 libraries that used Web 2.0 technologies, RSS were commonly used in three libraries and blog was used only in one library. Other 25 libraries were not using any type of Web 2.0 technologies. **Nesta and Mi (2011)** found that instant messaging, blogs, RSS, Facebook and Twitter were used but the student's participation in these technologies was low. This trend is consistent with the findings of a study that was later carried out in India by **Tyagi (2012)** which revealed that the usage of Web 2.0 tools is not very significant amongst university students. Wiki and Social Networking sites were the most commonly used tools by the respondents. In yet another study conducted by **Santosh (2017)**, it was revealed that the academic libraries in India are still at the early stage of Web 2.0 development and lack of institutional support, training, technical support, accessibility to internet are the significant barriers perceived by the information professionals. A study by **Tarade and Singh (2015)** showed that the use of Web 2.0 in the libraries is increasing

day to day but in reference to overall development of Web 2.0 tools is very little. **Patel and Bhatt (2019)** in their study investigated that out of 348 Indian state university libraries, 69% of libraries are having official website while as 31% of libraries are lacking any dedicated library website. It was also found that OPAC 2.0, blogs, IM, RSS, Mashups and Vodcast are very popular among the respondent libraries but still usage of Web 2.0 tools for library services among Indian State University is not encouraging.

Overall, the literature review shows that Web 2.0 technologies offer a variety of opportunities in academic libraries. Libraries have the opportunity to reap maximum benefits from these tools. However, research shows that there is still a gap on the availability of Web 2.0 tools and their utilization. Moreover, most of the Indian university libraries have yet not employed Web 2.0 tools.

Data Analysis and Interpretation

Out of 100 universities, 35 % of the universities are of state nature with 51% of the universities having central status and 9% having an autonomous status while as 5% have a state-central status. During the study period, the websites of all libraries were accessible.

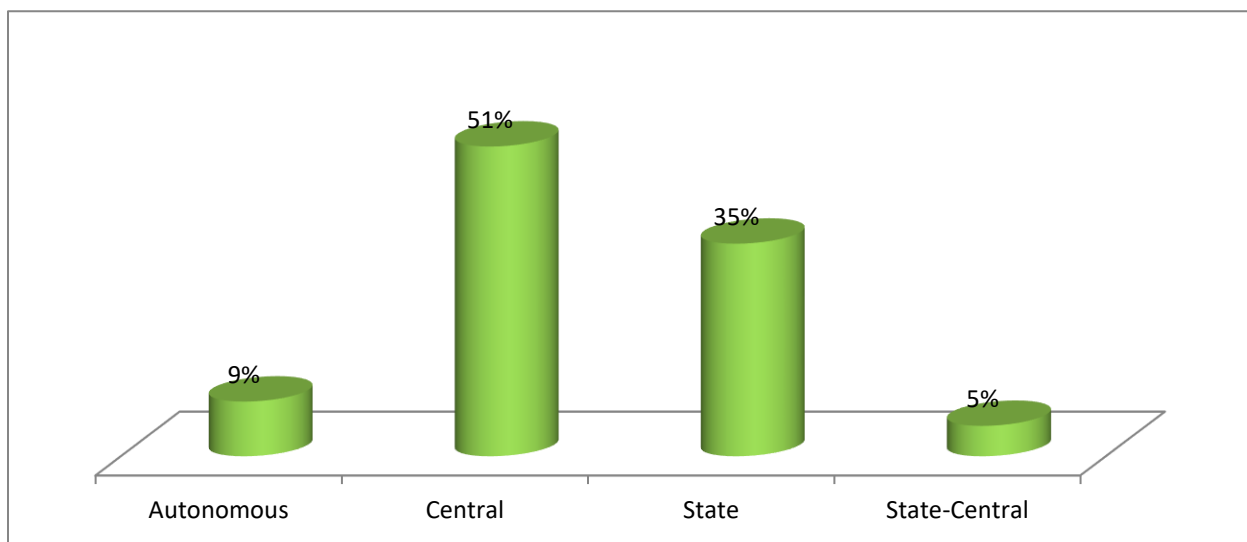


Fig1: Distribution of Universities

Application of Web 2.0 tools

Of the total 100 top ranked universities, 83% make use of Web 2.0 tools while 17% which have yet to avail themselves with the benefits of Web 2.0 tools. Universities that make highest use of

Web 2.0 tools have state status (46%) followed by central universities (23%) and private universities (14%).

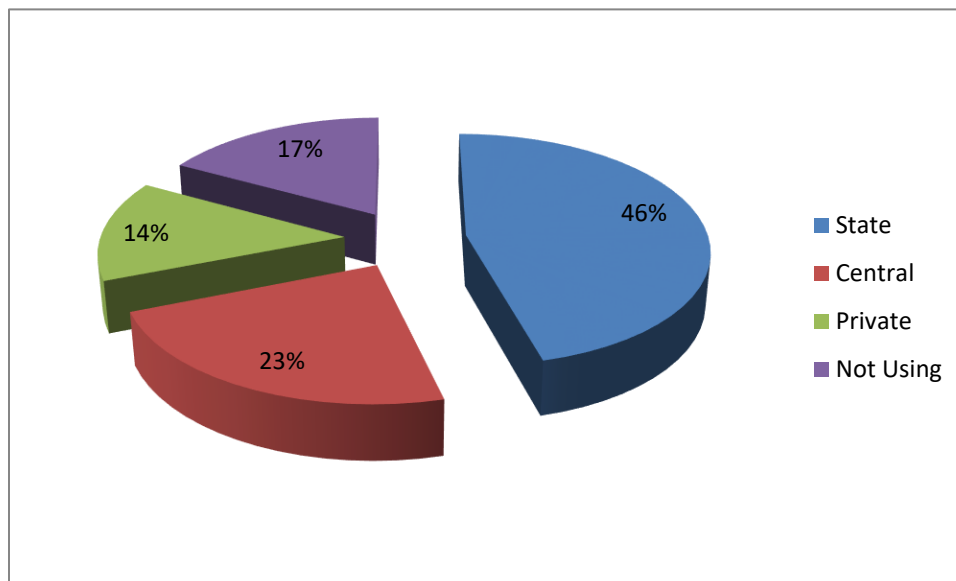


Fig 2: Application of Web 2.0 Tools

Web 2.0 tools

Among the different Web 2.0 tools, Twitter is found in the majority of the university libraries (66%) followed by Facebook (64%), Youtube (56%), LinkedIn (35%) and Instagram (28%). It is evident that remaining 6 tools (RSS, Google+, Blog, Flickr, Wikis and Pinterest) are incorporated by less than 15 university libraries. The reason for Facebook and Twitter being as most popular tools is that they act a medium for posting images, videos as well as announcing library events/news. These findings agree with the findings of (NLA, 2014) that Facebook and Twitter is used by the library to inform the library users about major events, activities and recent acquisitions through posting photos, videos and links to resources about the library (Chua and Goh, 2010 a). By linking to the library's website, the Facebook page acts as a portal to the library (Farkas, 2007). Likewise, the highset percentage for Youtube (56%) is just because it allows to share and watch their own, or downloaded videos, rate them and comment on them (Youtube, 2013). Moreover, it allows universities for introducing their resources that are available on the campus. While as usage of other Web 2.0 tools (Wikis, blogs, flicker, etc.,) is quite underdeveloped and for all purposes, these remain as unused services in these university libraries

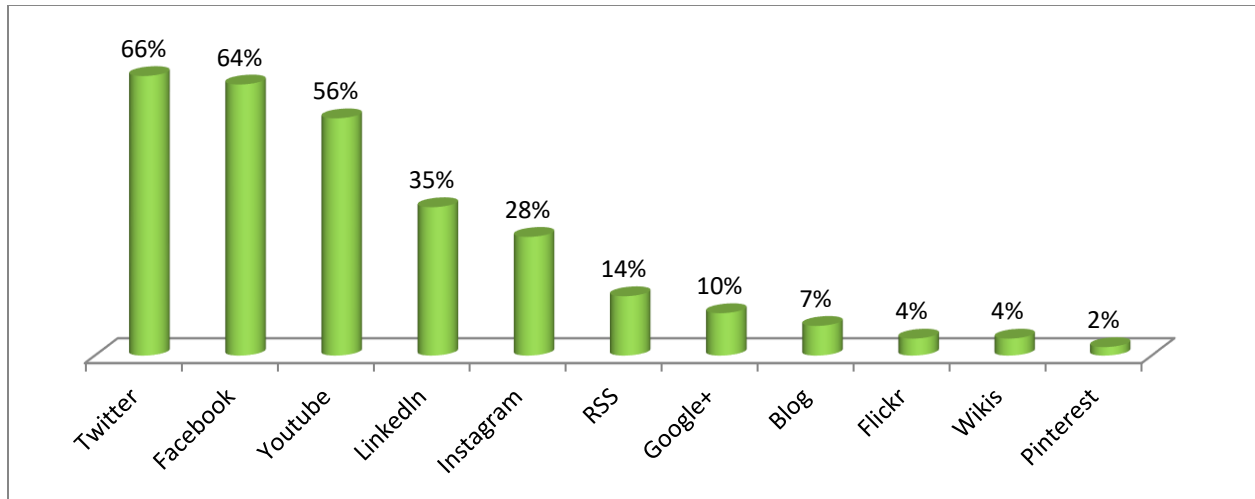


Fig 3: Frequency of web tools incorporated in libraries

Top Web 2.0 tools

It is also evident that among the top three Web 2.0 tools integrated, 62 university libraries do have both Facebook and Twitter, 47 university libraries have Twitter and Youtube and 48 university libraries have Facebook as well as Youtube. However, all the three tools are incorporated by 41 university libraries

Number of Web 2.0 tools

From Fig 4, it is evident that 40% of the university libraries have integrated atleast five Web 2.0 tools with Twitter as the university library favourite, 16% of university libraries made use of four Web 2.0 tools with different combinations. Among the most widely used eleven Web 2.0 tools included in the study, no university library incorporated all of them. A meager number of three tools were incorporated by nineteen university libraries only and a maximum number of six university libraries include six tools while as only two university libraries incorporate a maximum of seven tools .

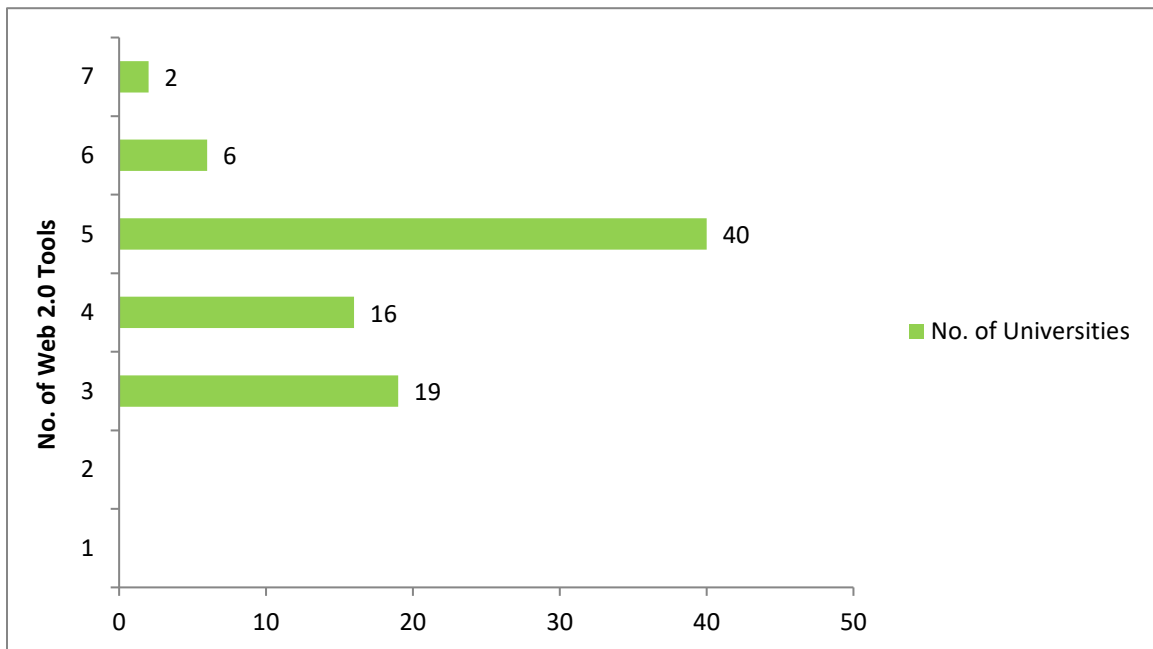


Fig 4: number of web tools incorporated in university libraries

Results and discussion

A total of 83 university libraries are found to be using Web 2.0 tools. It is seen that social networking sites (SNS's) are the most popular Web 2.0 tools used by the libraries. The academic libraries in the study are found to be using SNS's mostly as these are useful for sharing library news and announcements, creating awareness about new library materials, directing users to online databases and freely available e-resources, promoting new or existing services, and interacting with users on library-related issues which are also in tune with the findings of **(Farkas, 2007 a)**. The most frequently used tool among SNS's is Twitter. Facebook and Youtube are the second most used tools in the university libraries. Among different web tools, Pinterest, Flickr, RSS and Blogs are the least adopted tools. The result noticeably show that the use of SNS's is becoming more popular in Indian academic libraries compared to other Web 2.0 tools. This finding is not surprising as the use of SNS's in the country has grown significantly in recent years. Most libraries have employed only a small or no web tool indicating that there is lack of supportive policies and plans, inadequate financial resources and poor ICT infrastructure or the librarians of these libraries lack the skills to incorporate Web 2.0 tools in their libraries. These findings correlate with the findings of **(Kwanya, Stilwell & Underwood, 2012 a)**. One of

the challenges faced by Indian academic libraries is the lack of relevant knowledge and skills required for implementation of Web 2.0 tools (**Muntasi, 2010**). Overall, the adoption of web-based technologies by the libraries is not widespread and only fifteen libraries in the study have adopted more than three types of social web tools. Although, the use of the internet in india has shown significant growth, the adoption of Web 2.0 technoloies by academic libraries in india appears to be still at an early stage. The adoption rate by libraries of the elite universitiesin india is found to be far below that of the developed world. The reason may be that many libraries have feared this paradigm shift in communicating library services to their users because of tradionalist values, and tend to cite an unsubstantiated fear of possible security breaches to their online systems and integrated library systems (**Rogers, 2009**). Thus, the libraries in india need to change and adapt to the needs of patrons plus libraries should develop a proper web 2.0 implementation plan and have clear objectives of what they intend to achieve by adopting a particular Web 2.0 tool.

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