

## Implementation of Web 2.0 Tools in Dhaka University Library Website: The Attitude of Users and Information Professionals

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### Abstract

#### Purpose

The purpose of this research is to measure the present satisfaction level of the users regarding the service provided by Dhaka University Library (DUL) and assess the attitude of users and information professionals towards implementing Web 2.0 tools in DUL website.

#### Methodology

The methodology includes a quantitative approach. The study was carried out through survey method based on a pre-structured questionnaire. The respondents include students of Dhaka University and information professionals from DUL. A random sampling method has been used to collect the data from the respondents.

#### Findings

The result of the study shows that DUL website don't have any web 2.0 tools and most of the respondents are disappointed with the present service status of DUL. This study also indicates that maximum users have agreed with the relative advantages and drawbacks in implementing web 2.0 tools in DUL. It also suggests that DUL should introduce and adopt Web 2.0 tools for providing better and up to date services to the users.

Research Implications: This study will reflect the timeliness and necessity of implementing web 2.0 tools in DUL and other academic library website.

#### Originality

Since there is no specific works on the use of web 2.0 tools in the academic libraries of Bangladesh, this can be a pioneer in understanding the necessity and user attitude towards this concept.

#### Keywords

*Web2.0, Dhaka University Library (DUL), information professional, wikis, instant messaging.*

## Introduction

The term “Web 2.0” is a prevalent and well known espousal in every division of the society. Tim O’Reilly introduced the term Web 2.0. Mahmood & Richardson (2011) described web 2.0 as-

The second generation of the World Wide Web (WWW), describing a series of technologies based on seven underlying principles, i.e. “the Web as platform, harnessing collection intelligence, data is the next Intel inside, end of the software release cycle, lightweight programming models, software above the level of single device and rich user experiences” (p. 366).

Linh (2008) considered last two decades as the radical implementation and transformation of information technology in libraries and information institutions. Web 2.0 like Instant Messaging (IM), Wikis, Social Networking Sites (SNS’s) can be considered as a major tool or technology that can facilitate the communication between libraries and their patrons. Walia & Gupta (2012) argued that applying Web 2.0 technologies on library websites, librarians and information professionals can boost participation, partnership and seek feedback from the potential library users. Makori (2011) added that Web 2.0 can play significant role in spreading of information, knowledge and communication services in university libraries in participation with others. All the developed countries (i.e. USA, Australia, Britain etc.) including developing countries are using Web 2.0 in their academic libraries. DUL can also adopt these technologies in their website to improve their overall service quality like other academic libraries. Therefore, this paper has made an attempt to explore the attitude and behavior of the users and information professionals of DUL in adopting these Web 2.0 tools in its library website. However, the rest of the paper is organized as follows: the second section discusses the conceptual overview; The third section presents a short description of DUL; The fourth section contains the literature review; The fifth, sixth and seventh sections explain the objectives, the research questions, and the methodology respectively; The eighth section reveals the results and discussion; and the recommendations and the conclusion with a brief summary have been noted in section nine and ten.

## Conceptual Overview

### Web 2.0

Virkus (2008) identified that the term “Web 2.0” became widespread subsequently the first O’Reilly Media Web 2.0 conference in 2004 and delivers over 76 million time searching in Google. The importance of these tremendous developments had been tinted at the fourth Web 2.0 Summit-2008 that took place in November at San Francisco, California. Web 2.0 introduces the World Wide Web pages from different perspective. The emphasis has been given to dynamic nature of websites with the help of modern tools and technologies rather than static pages of earlier times. Darcy DiNucci is considered the first person who introduced the term Web 2.0 in 1990 and later on it was promoted by Tim O’Reilly at the O’Reilly Media Web 2.0 conference in late 2004. Oberhelman (2007) noted that Web 2.0 denotes usually to web technologies and related tools that actually offer various types of website visitors to post their views, collaborate, and edit necessary information, making a more distributed system of authority in which the borders between website creator and visitor are extinct, rather than perform as a platform for authorities to impart information to a passive, receptive audience. Miller (2005) identified a set of principles and policies that clearly portray the features of Web 2.0 which includes the sharing and communication remix, built on trust, freeing of data, participatory, community building, user generated content and modular.

### **Web 2.0 Tools**

The term Web 2.0 is a flourishing and promising concept of recent times for better service providing for different libraries and information institutions especially for academic libraries. The development of Web 2.0 offers massive opportunity to library and information professional for interaction. The followings are some Web 2.0 tools that could be adopted for academic libraries.

#### ***Rich Site Summary or Really Simple Syndication (RSS)***

RSS is also popularly known as RDF (Resource Description Framework). Paramjeet and Monica (2012) considered it as one of the most prevalent, easy and popular tools among Web 2.0 technologies. It can be predominantly used as a tool for academic libraries for the purpose of information dissemination.

#### ***Social Networking Sites (SNS)***

Barsky & Purdon (2006) identified that Social Networking Sites (SNS) offer a free and easy technique to generate own personal web pages and fill them with content such as media blogs, digital photographs, music, short videos and much more.

#### ***Podcast & Vodcast***

A typical podcast is generally an audio file format and a vodcast is a video file. According to Paramjeet and Monica (2012), podcast and vodcast provides an opportunity to distribute information to users about diversified events and activity.

#### ***Instant Messaging (IM)***

IM is one of the best practices in developed countries for providing Ready Reference Service (RRS). This tool can be used as a significant medium for real time interaction between patron and libraries and also has a great impact on the better service providing for the academic libraries.

#### ***Wikis***

Boxen (2008) defined wikis as free and open web pages that permits potential users to add, improve and modify a page's content. Dickson & Holley (2010) mentioned that wikis encourage communication and cooperation among users which is a vital element for an innovative outreach tool.

#### ***Other Tools***

Social bookmarking or tagging, photo sharing, micro blogging etc. are some other important and available web 2.0 tools which can be adopted for the academic library environment for better service providing.

### **Dhaka University Library (DUL)**

DUL is the biggest library among the public university libraries in Bangladesh. It has great value to the researcher and scholars as a knowledge repository. It serves so many researchers and students with its huge amount of rich collection. No other library in Bangladesh has such rich collection. DUL was established in 1921 by an Act XVIII of 1920 which is properly known as Dacca University Act 1. Elahi & Islam (2014) in their study mentioned that at present, the library has 6 lacs 80 thousand books and magazines. They further added that the library includes rare manuscript, old and rare books and large number of tracts, booklets, leaflets, pamphlets, and puthis, journal. Some rare books and documents have also been preserved in microform. An amount of US\$ 20,000 has been paid as subscription to the Bangladesh Academy of Sciences (BAS) for online facilities of foreign reputed journals. As

a result, the teachers, researchers and students are able to read and download more than 20 thousand foreign journals of 46 publishers. DUL also subscribes to leading online journals.

**Table 1: DUL Collection (Source: DUL Annual Report, 2010)**

Collection Type	Numbers
Books and Magazines	6,80,000
Rare Manuscripts	30,000
Old & Rare Books	20,000
Journal Titles	Foreign-173, Local- 22 Gratis-70=265
<b>Total</b>	<b>7,30,265</b>

## Literature Review

Oberhelman (2007) provided an overall idea about different Web 2.0 tools, their characteristics and usage. Craig (2007) described that the implementation of different modernized technologies and Web 2.0 services are converting the structure of the Web and their impact on Managed Learning Environments (MLS) and Learning Content Management Systems (LCMS). In this regard, Linh (2008) provided an overview of the application and practices of Web 2.0 tools and technologies in Australasian university library services. The author identified the features and purposes of Web 2.0 tools that were applied in those libraries. Chawner (2008) presents a conceptual issue about the application of Web 2.0 tools and communication technologies in different academic libraries of New Zealand. It revealed that Personal, technical, and organizational barriers discourage some people from being able to access Web 2.0 applications. Han & Liu (2009) provided a brief description on the present position and construction outline of Web 2.0 technologies used in top Chinese university libraries, their features and different functionalities. Tripathi & Kumar (2010) gave an investigation of major academic libraries of USA, Canada, U.K. and Australia that have adopted Web 2.0 applications for enhancing user satisfaction. Eijkman (2010) presented the use of Web 2.0 tools (i.e. Wikipedia) in academic and libraries and educational purposes. Dickson and Holley (2010) summarized that social networking tools can be an active technique of students outreach in academic libraries if libraries and information institutions give their agreement to confidentiality of the students and provide equal subject coverage for all subject areas of knowledge. Saupi Udin (2010) provided an overview regarding the respondents' perception about web 2.0 tools. Mahmood & Richardson (2011) explored the type of Web 2.0 tools have been used in USA and their implication. Makori (2011) identified and illustrated the degree to which different university libraries in Africa are connecting people by removing the information gap through the use Web 2.0 tools including the possible challenges and relative advantages. Ram et al. (2011) described the application of Web 2.0 tools at JUIT (Jaypee University of Information Technology) with the vision to measure the prospects of the users and their consciousness and practice of such applications. Hicks & Graber explored the definition of Web 2.0 from intellectual point of view and provide a glimpse of its effectiveness on teaching and libraries. Garoufallou & Charitopoulou (2011) explained an overview of the use of Web 2.0 tools by the Greek Library and Information Science (LIS) students in their everyday life. Walia & Gupta (2012) described different Web 2.0 tools including RSS, SNS, blogs, Wikis, IM etc. and their implication in national libraries. Gardois et al. (2012) gave an overview of different aspects in implementing Web 2.0 tools academic, medical and research libraries. Ramos (2012) reported a scenario of implementation of Web 2.0 tools in providing reference services.

The above review of literature clearly depicts that many researches have been undertaken throughout the world from different point of views. But there is an acute gap of literature about the attitude and behavior of users and information professionals towards the implementation of Web 2.0 tools in academic libraries of Bangladesh.

### Objectives Research and Questions of the Study

In this digital age, the importance of Web 2.0 applications in providing right information to the right user at the right time is a must for all the libraries, particularly for the academic libraries like DUL. Therefore, the specific objectives of this study are to:

- Measure the present satisfaction levels of users of DUL.
- Examine the understanding regarding Web 2.0 among users and information professionals of DUL.
- Assess the user attitude about the possible advantages and possible limitation of implementing Web 2.0 tools in DUL.
- Identify the applications of Web 2.0 best suited for DUL.

### Research Questions

To fulfill the above research objectives, the following research questions (RQ's) have been formulated for this study-

- RQ1: What is likely to be the understanding of users and information professionals about Web 2.0?
- RQ2: What are likely to be the users' notion about DUL service quality?
- RQ3: What are the relative advantages and possible drawbacks of implementing Web 2.0 tools in DUL?
- RQ4: Which Web 2.0 tools will be best suited for DUL?

### Methodology and Sample of the Study

The methodology of this study employed a quantitative approach. The research was conducted through survey method using a pre-structured questionnaire. The selection of the respondents was done using random sampling method. The respondents include users and information professionals of DUL. This study includes 20 information professionals and 80

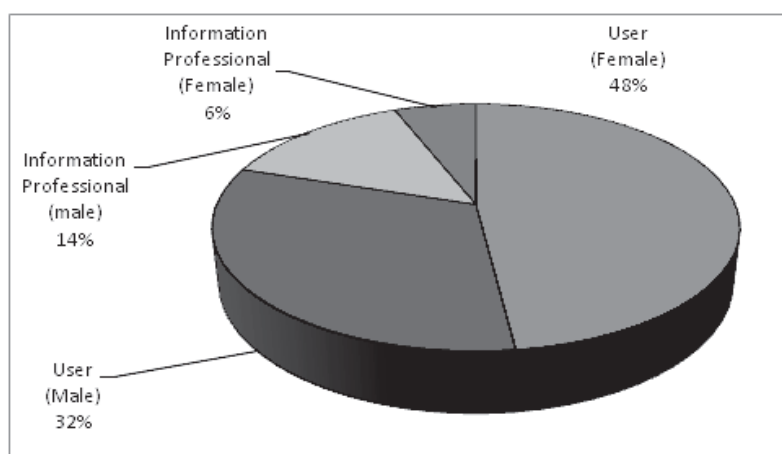


Figure1. Distribution of the respondents

users from DUL. Among the information professionals, all are graduated from Dhaka University (DU) in Information Science and Library Management. They are currently working at DUL in different sections like acquisition, processing, automation etc. Users were selected randomly from different departments of DU who are regular users of DUL. Fig. 1 depicts that among the respondents 54% are female (female information professional 6% and female users 48%) and 46% are male (male information professional 14% and male users 32%). 120 short and structured close-ended questionnaires were distributed and 100 filled up questionnaire were received among them. Therefore, the total number of respondents were 100 (n=100).

## Results and Discussions

### The Views of the Respondents about Web 2.0

Fig. 2 shows that 5% of the respondents first time heard about Web 2.0. Among all the respondents, 55% heard about this technology but have no clear idea about this topic. But after giving them a brief description they came to know about Web 2.0 tools. Other 25% of the respondents know very little about the topic and the rest 15% know the detail about the Web 2.0 tools and its features.

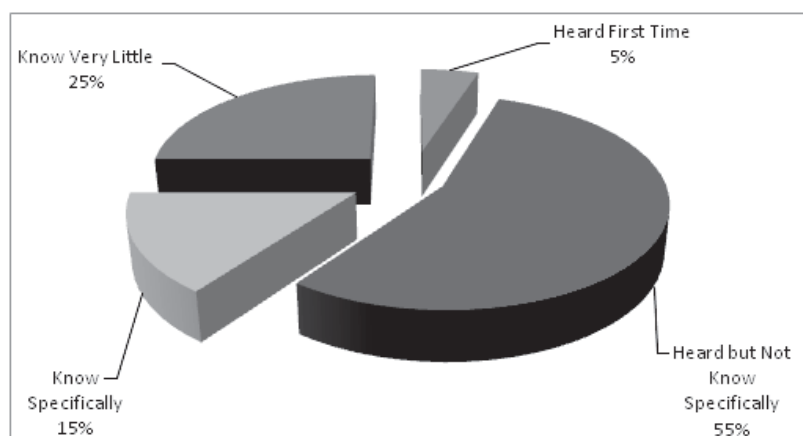


Figure 2. Views of the respondents about Web 2.0

### The Views of the Respondents Regarding the Present Status of DUL

The present status of DUL is measured by four parameters in this study including service quality, satisfaction level, use of modern technology and training facilities. The respondents were requested to state their level of agreement on these specific points. 1-7 Likert scales have been used and based on the following scores the mean and standard deviation of their level of agreement were calculated:

- 1.00-strongly disagree, 2.00-disagree, 3.00-somewhat disagree 4.00-neutral,
- 5.00-somewhat agree, 6.00-agree, 7.00-strongly agree.

Mean generally represents the average results of a response while standard deviation provides an indication of how far the individual responses to a question vary or deviate from the mean.

### **DUL Services are up to Date in DUL**

Table-2 reveals that the respondents somewhat disagree with a mean score of 3.00 on 1-7 Likert scales. It shows that DUL services are not up to date.

**Table 2: Level of agreement of the respondents regarding the present status of DUL**

Statements	N	Min.	Max.	Mean	Std. Deviation
DUL Services are up to date	100	1.00	7.00	3.00	1.50
Satisfaction level is high	100	1.00	7.00	2.91	1.46
Modern technologies are used	100	1.00	7.00	3.05	1.58
Training facilities are not available	100	1.00	7.00	4.83	1.80
Valid N (list wise)	100				

### **Satisfaction Level is High in Using DUL**

From table-2 it is clear that the respondents somewhat disagree with this statement with a mean score of 2.91 on 1-7 Likert scales. It indicates that the overall satisfaction level is not so high.

### **Modern Technologies are Used in DUL**

The respondents somewhat disagree with this statement with a mean score of 3.05 (Table-2) that shows modern technologies are not used in DUL.

### **Training Facilities are not Available**

With a mean score of 4.83 (Table-2) the respondents somewhat agree with this statement that training facilities are not available in DUL.

### **Views of the Respondents Regarding the Advantages of Implementing Web 2.0 tools in DUL**

The level of agreements has been analyzed below on the basis of the following particular statements:

#### **Accessing Information will be Easy**

Table-3 reveals that the respondents somewhat agree with a mean score of 5.17 on 1-7 Likert scales. It shows that respondents think that implementing Web 2.0 tools in DUL will ease in access to information.

#### **Users could be up to Date with Latest Information**

From table-3 it is clear that respondents agree with this statement with a mean score of 5.63 on 1-7 Likert scales that indicate users could be up to date with the implementation of Web 2.0 tools in DUL.

#### **Easy Communication Between Users and Information Professionals**

Table-3 shows that respondents agree with this statement with a mean score of 5.82 on 1-7 Likert scales that indicate easy communication between users and information professionals will be enhanced with the implement of Web 2.0 tools in DUL.

#### **Fast Service Providing is Possible**

Table-3 reveals that the respondents agree with a mean score of 5.50 on 1-7 Likert scales. It shows that respondents think that implementing Web 2.0 tools in DUL will provide fast services to its users.

**Table 3: Level of agreement of the respondents regarding the advantages of implementing Web 2.0 tools in DUL website**

Statements	N	Min.	Max.	Mean	Std. Deviation
Accessing information will be easy	100	1.00	7.00	5.17	1.53
Users could be up to date with the latest information	100	1.00	7.00	5.63	1.33
Easy communication between users and information professionals	100	1.00	7.00	5.82	1.22
Fast service providing is possible	100	1.00	7.00	5.50	1.39
Social interaction will be enhanced	100	1.00	7.00	5.73	1.18
Providing reference service will be more useful	100	1.00	7.00	5.82	1.13
Helpful in educational purpose	100	1.00	7.00	5.90	1.14
Useful for marketing or promoting DUL services	100	1.00	7.00	5.53	1.31
Helpful in acquiring information literacy	100	1.00	7.00	5.50	1.47
Valid N (list wise)	100				

#### **Social Interaction will be Enhanced**

Table-3 indicates that the respondents agree with a mean score of 5.73 on 1-7 Likert scales. It shows that respondents think that implementing Web 2.0 tools in DUL will enhance social interaction.

#### **Providing Reference Service will be Easy**

From table-3 it is clear that respondents agree with this statement with a mean score of 5.82 on 1-7 Likert scales that indicate providing reference service will be easy with the implement of Web 2.0 tools in DUL.

#### **Helpful in Educational Purpose**

The respondents affirmed with the highest mean score of 5.90 in table-3 reveals implementation of Web 2.0 tools in DUL will be helpful in educational purpose.

#### **Useful for Marketing or Promoting DUL Services**

Table-3 reveals that the respondents somewhat agree with this statement with a mean score of 5.53 on 1-7 Likert scales. It shows that respondents think that implementing Web 2.0 tools in DUL will be useful for marketing or promoting DUL services.

#### **Helpful in Acquiring Information Literacy**

Table-3 indicates that the respondents agree with a mean score of 5.50 on 1-7 Likert scales. It shows that respondents think that implementing Web 2.0 tools in DUL will help in acquiring information literacy.

#### **Respondents' Perception Regarding the Obstacles of Implementing Web 2.0 Tools in DUL**

The respondents are requested to give their opinion on the basis of the following statements:

#### **Scarcity of Budget**

Budget scarcity is always a big problem for any project implementation especially in developing countries. From table-4 it is clear that respondents somewhat agree with this statement with a mean score of 4.85 on 1-7 Likert scales that indicates budget scarcity can be a possible drawback of implementing Web 2.0 tools in DUL.



### Traditional Outlook of Information Professional

It is clear from table-4 that respondents somewhat agree with this statement with a mean score of 5.10 that traditional outlook of information professionals is a great problem towards implementing Web 2.0 tools in DUL.

**Table 4: Level of agreement of the respondents regarding the obstacles of Web 2.0 tools implementation in DUL**

Statements	N	Min.	Max.	Mean	Std. Deviation
Scarcity of budget	100	1.00	7.00	4.85	1.79
Traditional outlook of information professional	100	1.00	7.00	5.10	1.57
Lack of awareness about Web 2.0	100	1.00	7.00	5.33	1.60
Lack of professional staffs in DUL	100	1.00	7.00	5.26	1.62
Low bandwidth	100	1.00	7.00	5.52	1.25
Valid N (list wise)	100				

### Lack of Awareness about Web 2.0

Table-4 indicates that the respondents somewhat agree with a mean score of 5.33 on 1-7 Likert scales. It shows that respondents think that lack of awareness among users and information professional about Web 2.0 is a big problem towards implementing Web 2.0 tools in DUL.

### Lack of Professional Staff in DUL

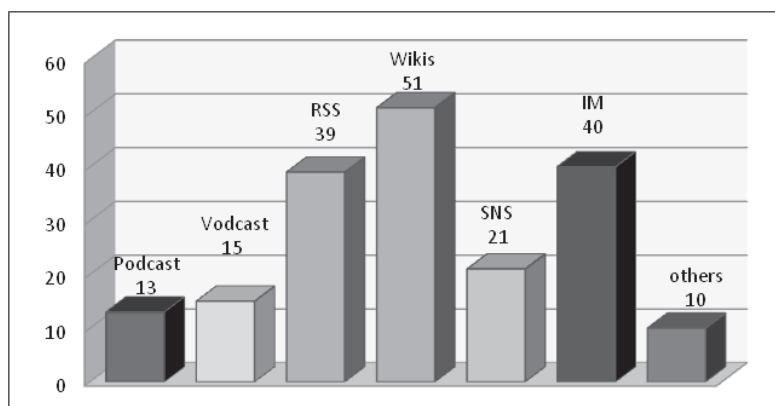
Table-4 shows that the respondents somewhat agree with this statement with a mean score of 5.26 on 1-7 Likert scales. It reveals that lack of professionals in DUL would be a crucial challenge for implementing Web 2.0 tools in DUL.

### Low Bandwidth

The respondents affirmed with the highest mean score of 5.52 in table-4 that implementation of Web 2.0 tools in DUL may be hindered by the low bandwidth problem.

### The Views of the Respondents Regarding the best Suited Web 2.0 Tools for DUL

There are different tools of Web 2.0 which have different and diversified features. But among them which are best suited for DUL is a very critical matter. Fig. 3 shows that the respondents give highest 51 votes for wikis. Second highest 40 vote goes to IM according to the respondents. RSS got 39 and Social Networking Sites (SNS) got 21 votes. Podcast and



**Figure 3. Views of the respondents regarding suitable Web 2.0 tools for DUL**

Vodcast got similar importance with 13 and 15 votes. Respondents also suggest some other applications like blogs, mashups, bookmarking etc. for DUL. From the statistics shown in fig. 3, it is obvious that the Wikis and IM are best suited for the DUL according to the opinion of the users and information professionals.

### **Recommendations**

The present study attempts to examine the present status of DUL and the opinion and notion of users and information professionals towards embracing Web 2.0 tools in DUL. The authors believe that the implementation of Web 2.0 tools in DUL is possible and through this the library can provide better services to the users. The followings are some recommendations for the successful implementation of Web 2.0 in DUL.

- 1.1 Assistance of Authority: The most important issue in this regard is that the authority should understand the necessity of implementing Web 2.0 tools in DUL and should patronize it for providing better services to the users.
- 1.2 Training Facilities: Intensive training facilities on modern tools and technologies should be provided to the staff of DUL on a regular basis.
- 1.3 User Orientation: User orientation regarding the proper usage and utilization of Web 2.0 tools in DUL should be introduced.
- 1.4 Increase in Budget: Budget should be increased to develop Web 2.0 tools in DUL.
- 1.5 Skilled Personnel: More IT skilled personnel should be appointed for the proper implementation and maintenance of Web 2.0 tools in DUL.
- 1.6 Promotional Activities: Awareness and promotional activities should be adopted by DUL for making the services more popular.
- 1.7 Changing the Attitude: Traditional outlook of the DUL staffs and users should be changed and should made adaptive mentality regarding the implementation of Web 2.0 tools.

### **Conclusion**

The aim of the study was to assess the attitude of users and information professionals towards implementing Web 2.0 tools in DUL. The findings reveal that the users are dissatisfied with the present service quality of DUL. The result also shows that there are many advantages of implementing Web 2.0 in DUL including fast access to information, up to date with information, easy communication, enhanced social interaction, fast reference service providing, facilitate educational purpose, promote DUL services, helpful in acquiring information literacy etc. It also indicates that there are some drawbacks which are relative to the implementation of Web 2.0 tools in DUL. These are budget scarcity, traditional outlook, lack of awareness and professional staff, low bandwidth. It describes that most of the respondents think that wikis, RSS and IM are best suited tools for DUL. This study proves that users and information professionals have positive attitude towards implementing Web 2.0 tools in DUL.

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