

# Adoption of Public Library 2.0: Librarians' and teens' perspective

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## ABSTRACT

*This paper addresses the adoption of Public Library 2.0 from the perspective of Malaysian librarians and library users, particularly the teenagers. Qualitative approach, using content analysis of fourteen state public library websites and interviews with librarians, was applied to explore the level of Web 2.0 adoption, and to ascertain the motivation and purpose of adopting these technologies. Quantitative approach was used to obtain user perspective on the use of Web 2.0 by public libraries. Findings reveal that the National Library of Malaysia (PNM), leads in terms of total number of Web 2.0 tools deployed. Social networking applications (specifically Facebook and Twitter) are the most used in Malaysian public libraries. The main purpose of using Web 2.0 tools is to provide information on library activities, news and announcement. The adoption of Web 2.0 applications is not guided by any definite policies and there is a lack of monitoring of the librarians and users activities on the social media. No innovative use of Web 2.0 tools was discovered to enhance the participation of the library community, especially targeted for teens. Teenagers are receptive towards use of Public Library 2.0, but their lack of the knowledge on how Web 2.0 tools can improve their interaction with the library services, limits their ability to give feedback on their expectations. The evidences point to a dire need for immediate improvements in the management of Web 2.0 based library services.*

**Keywords:** Public libraries; Web 2.0; Library 2.0; Social media; Malaysia.

## INTRODUCTION

Web 2.0 is prevalent in the lives of many teenagers today. Having grown-up on iPods, text messaging, Facebook, smart phones and YouTube (JWT Intelligence 2012), teenagers or the Gen Z are true digital natives. The recent PEW Internet survey (Pew Internet and American Life Project 2013) reported that 95% of those aged 12-17 years use the Internet, of which eight of every ten online teens use some kind of social media, mainly Facebook and Twitter. Although the increasing pervasiveness of Web 2.0 in the lives of teens is well established, there is much research yet to be done on how the infiltrations of this technology can be used to improve the lives of this generation. Since libraries have been the pioneers of technology adoption, practitioners and researchers began to quickly explore the potential of Web 2.0 in library services. The idea of 'user centeredness' from Web 2.0 has been inherited by Library 2.0 (Zheng and Wang 2009). Research has shifted from discussing Web 2.0 and Library 2.0 as a new movement for libraries (Maness 2006) to diverse groups including adolescents' use of social networks (Clarke 2009).

Many studies have examined the adoption of Web 2.0 technologies by libraries (Khalid and Richardson 2011; Kwanya, Stillwell and Underwood 2012; Muhammad and Khalid 2012;

Shri, John and Sanjay 2011; Si, Shi and Chen 2011) and found the adoption rate to be lagging. Generally, academic libraries are much quicker to use Web 2.0 technologies; public libraries and school libraries are slow on the uptake. In Malaysia, an investigation into the use of Web 2.0 by students by Hafiz, Watson and Edwards (2010) revealed that university students are well exposed to Web 2.0 technologies and are willing to use them in the learning environment. However this attitude could be extended to not only formal learning environment, but also to the everyday life information seeking. This is where the public libraries play a role in adopting Web 2.0 technologies.

A conceptual paper by Chowdhury, Poulter and McMenemy (2006) used the term Public Library 2.0 and emphasized on the new role of public libraries to build a network of community knowledge. Public libraries were urged to exploit new web technologies to change user services and be a mediator between knowledge creators and the local community. The library would want to be where their users are (Bell 2008) and the young adult users are those who are comfortable with technology. Public libraries have been slowly exposed to these developments and providing services using a range of Web 2.0 applications to get closer to their users, as well as improving the quality of online information delivery. As far as national libraries are concerned, Buigues-Garcia and Gimenez-Chornet (2012), reported that of the 105 national library web sites analysed all over the world, only 27 (25.7%) could be considered as Library 2.0, of which only one national library was from the Asia region. This is certainly a drawback for libraries, especially the public libraries. If national libraries have not adapted their role to the demands of the 21<sup>st</sup> century, what can be expected from public libraries? To date, there has been little documentation on the use of Web 2.0 applications in Malaysian public libraries and what the users, specifically the teenagers expect from their Web 2.0 services. The idea of inheriting Web 2.0 into Library 2.0 is not solely about new functions, but it is to create and share information by users based on their needs (Zheng and Wang 2009). Thus it is important to elicit user feedback and input into the development of Web 2.0 applications in library services.

## **LITERATURE REVIEW**

The conceptualization of the term Web 2.0 to describe the trends and business models that survived the technology sector market crash of the 1990s (O'Reilly 2005) and its characteristics of being highly interactive, easy to use, emphasis on online collaboration and facilitating information sharing (O'Reilly 2007) had created the impetus of the term 'Library 2.0' in a blog *LibraryCrunch* (Casey 2005). Focusing on Casey's description, Miller (2005) stressed that the participative nature of Web 2.0 technology provides libraries an opportunity to push forward their value which was being overshadowed by Google, Amazon, and Wikipedia. When Mannes (2006) further attempted to define and conceptualize 'Library 2.0', he concluded that Library 2.0 is "completely user-centered and a mesh up of traditional and Web 2.0 technologies and applications". He forecasted that the evolving web technologies will continually evolve libraries and their services as these technologies make it easier to convey library information, facilitate communication between the library and users, and develop cooperation (Maness 2006). These technologies also offer a friendly and open environment for structured and unstructured communication (Danyaro et al. 2010). However, in the context of the society, the question is whether Web 2.0, Library 2.0 and social media are readily accepted by local communities, especially among teenagers, and how these technologies have been used to support library information and services in public libraries.

In recent years, research has revealed the use of Web 2.0 especially among developed countries, such as the UK, USA and Australia (Curran, Murray and Christian 2007; Gosling, Harper, Michelle 2009; Linh 2008; Nesta and Mi 2011; Serantes 2009). Along with the development of Web 2.0 applications, libraries have also kept pace with these applications to initiate major changes in the delivery of online information. The Library and Information Science (LIS) literature indicate that libraries which use Web 2.0 applications, contribute to providing better service to their clients and the opportunity to gain more customers (Curran, Murray and Christian 2007). Xu, Ouyang and Chu (2009) in their study of application and implication of Web 2.0 in academic libraries, state that Library 2.0 should be open to all, interactive, convergent to accommodate various Web 2.0 tools, collaborative with others and also participatory in Web 2.0 movements. Besides that, Kim and Abbas (2010) suggest that Web 2.0 enables library users to get closer to the library using two-way communication and knowledge exchanges such as participating in activities such as building subject heading through cataloguing via folksonomy, or providing comments on books via blogging. In addition, Paroutis and Al Saleh (2009) claim that Web 2.0 allows users to collaborate in providing input, produce and update information and knowledge. Research by Li, Wong and Chan (2010), investigating the use of Web 2.0 application as outreach program by using *MyLibrary Calendar*, has revealed interesting innovations. This application enables patrons to use their own personal calendar computer applications that support the open and standard *iCalendar* format as a one-stop-shop platform to automatically collect and manage library calendar events, library e-mails and notices, and their own records of circulation, interlibrary loan and room reservation in an efficient and centralized channel. In addition, Shin (2010) states that Social Networking Sites (SNS) provide a variety of ways for users to interact such as email and instant messaging services. Jiang (2013) has further investigated the social library system, where Web 2.0 sites are used by library users to discover interesting books, movies and music; collect these resources to their personal libraries; and share their collections with others.

Web 2.0 encompasses a wide range of applications and tools ranging from blogs to SNS, podcast, RSS and wikis. However, studies report that only a few libraries have implemented a small number of the applications. A survey of the application of Web 2.0 in Australasian university libraries adopted content analysis method for the home pages of 37 libraries (Nguyen 2008). Nguyen reports that among the Web 2.0 technologies utilized by Australasian university libraries, RSS was the most widely applied technology and instant messaging (IM) was the least used technology. Xu, Ouyang and Chu (2009) surveyed 82 academic libraries of New York State and Long Island in the US and found that blogs, IM and RSS were the main Web 2.0 applications which have been used extensively compared to social bookmarking, SNS and podcasts. Liu (2008) proposed a conceptual model of an academic library web interface based on the analysis of 111 Association of Research Libraries (ARL) academic library web sites. The study found that IM has been employed in almost all ARL libraries. A few years later, Khalid and Richardson (2011) reviewed web sites of the 100 ARL libraries regarding the adoption of Web 2.0 technologies and all libraries were found to be using blogs, microblogs, RSS, IM, SNS, mashups, podcasts, and vodcasts. These applications were being used for sharing news, marketing library services, providing information literacy instruction, providing information about print and digital resources, and soliciting users' feedback.

In China, Han and Liu (2009) found more than two-thirds of the top 38 university libraries adopted one or more Web 2.0 tools through the basic functions of their web sites. From the six types of tools, *Catalog 2.0* and RSS were the most common, while IM, Blog, SNS and

wiki were less frequent. Delving further into the needs of users, Zheng and Wang (2009) conducted in-depth interviews with the Shanghai Jiao Tong University library users and came up with a detailed training plan for helping users understand Library 2.0 to optimize the acceptance and use. They concluded that users wanted specific Web 2.0 tools – YouTube for library publicity; Flickr to deliver pictures and resource navigation; Podcasts for library services media; Facebook for reference services and discipline teams and *eSurveys* for user investigations. Another study in China by Si, Shi and Chen (2011) investigated top 30 Chinese university libraries and found that two-thirds of Chinese university libraries deployed one or more Web 2.0 technologies. RSS was the most widely applied, while Wiki was the least. The application of Web 2.0 technologies among Chinese university libraries was not extensive and profound.

Shri, John and Sanjay (2011) studied the implementation of Library 2.0 at a university in India and found that although the library had made a number of provisions to adopt Web 2.0 technologies, library users lacked awareness about the availability and usefulness of the applications. In Pakistan, Mohammad and Khalid (2012) found that IM, blogs, SNS and wikis were the most popular Web 2.0 technologies among librarians, who used them in their personal and professional tasks. In Kenya, Kwanya, Stillwell and Underwood (2012) reported that out of 30 libraries surveyed, only one out of the five public libraries had adopted any kind of Web 2.0 applications. Generally in all libraries, Facebook, Twitter and RSS were the most commonly used Web 2.0 tools.

In Malaysia, very limited research on the use of Web 2.0 applications in libraries was found. Most of the studies sampled academic libraries' adoption of Web 2.0 technologies. Riza Ayu and Abrizah (2011), investigating the use of Facebook, reported that most of the Malaysian academic libraries started using Facebook in early 2010, although this application has been in existence since February 2004. Similarly, Rafidah, Zuraidah and Ruzita (2011) in their study of the implications of Library 2.0 tools towards reference services, found that the most popular social media used by the academic libraries is Facebook. Yushiana and Sufy (2011) surveyed the academic librarians at an international university in Malaysia and found that most librarians had the technical skills and were receptive towards the use of Web 2.0 applications for library services, though they showed some reservations for using social networking tools. A larger study by Nor Hazidah (2012) involving 21 universities found that the adoption of Web 2.0 among academic libraries was still lagging with most libraries scarcely using Facebook, blogs, Twitter and RSS for information sharing with users. The study also shows a lack of creative use of the technology among academic librarians. Librarians are focusing on information dissemination and not a participatory environment in which library communities can interact.

Buigues-Garcia and Gimenez-Chornet (2012) concluded that, of the 105 national library web sites analysed all over the world, only 27 (25.7%) could be considered as Library 2.0, of which only one national library was from the Asia region. The most prolific national library to adopt Web 2.0 tools was the Library of Congress. The tools that have been most frequently implemented are social networks (Facebook and Twitter) and user information services (RSS, publication of bulletins, blogs or digital/virtual libraries). Though much of the research has mainly addressed the development of Web 2.0 in libraries and are moving on to specific impact of using these technologies, the situation in the developing countries is different. Adoption of technologies that work in other regions cannot be fully adopted without consideration of the public society in which it is being adapted to. Such risks often involve cost, human effort and fail to create the impact expected. It is therefore pertinent

that local societal needs be understood first so that public libraries are not merely being victims of technological change. Lack of research on public library uptake of Web 2.0 technology and to advance the professional understanding of Web 2.0 technologies' application in Malaysian public libraries, this study presents the status of Web 2.0 adoption in all 14 Malaysian public libraries, examining how librarians approach the use of Web 2.0 in library services and what teenagers expect from the Web 2.0 library services. The term Public Library 2.0 (Chowdhury, Poulter and McMenemy 2006) is used in the context of the study to denote the Web 2.0 technologies used by the public library to render its services.

**RESEARCH OBJECTIVES**

The objective of the study is to describe the adoption of Public Library 2.0 by all public libraries in Malaysia. It further examines how librarians approach its use and what teenagers expect from its implementation. The following research questions directed this study:

- a) What types of Web 2.0 technologies have Malaysian public libraries adopted?
- b) How do librarians approach the use of Public Library 2.0?
- c) Are teenagers aware of the Public Library 2.0 services? To what extent are they using the Public Library 2.0 applications?
- d) What are the expectations of teenagers from the Public Library 2.0 services?

**METHODOLOGY**

This study applied three data collection techniques: (a) web analysis Public Library 2.0 services; (b) face to face interviews with librarians or library officers; and (c) a survey of teenagers who are library users. All 14 public libraries in Malaysia, comprising the National Library of Malaysia (PNM) and thirteen state libraries, were selected for the analysis of Web 2.0 adoption. The analysis was based on a checklist developed by Linh (2008) and Han and Liu (2009) to measure the Web 2.0 adoption in academic libraries. It consists of checkpoints based on several categories of Web 2.0 tools used. Each checkpoint is given a value of Y=Yes=1 OR N=No=0. The application index is then calculated based on the following formula:

$$\text{Application index} = \text{Total of "Yes" answers} / \text{Total of checkpoints} \times 100$$

The degree of adoption of Web 2.0 application by each library is represented by the application index. The checklist used in this study has eight main categories and consists of 83 checkpoints (Table 1).

Table 1: Checkpoints used in web analysis

Category	Number of checkpoints
1 – Web 2.0 Application	8
2 – RSS use	12
3 – Blogs use	17
4 – Podcasts/vodcasts use	12
5 – Instant messaging / chatting use	10
6 – Wikis use	12
7– Social Networking Sites	6
8– Community Photo / Sharing Photo	5
Total	83

The interviews, using a semi-structured interview protocol, were conducted with librarians or library officers in charge of Public Library 2.0 services. The interviews identify and confirm issues not evident from the web analysis, and gather important facts that may have impacted the implementation of the Web 2.0 application in the public libraries. A total of 11 participants, comprising one librarian and ten library officers, were involved. Three other library officers were not willing to be interviewed.

The survey questionnaire was developed to obtain teenagers' perspective of Public Library 2.0 services. A total of 533 teenagers (aged between 13-19 years) from all states in Malaysia participated in the survey. Convenience sampling was used to select the participants, where questionnaires were distributed via personal visits to each of the 14 public libraries and selected secondary schools in each state. Approval had been sought from the respective libraries and school authorities to approach the teenagers for participation. The questionnaire consists of 67 questions in 5 sections: Respondent information; Awareness and use of Web 2.0; User perception of Web 2.0 application; User expectations of Web 2.0 application; and Open ended user comments. Since each library offered different Web 2.0 applications, the applications listed in the questionnaire were customized according to the Web 2.0 tools visible in the library web site. This resulted in 14 different sets of questionnaires to represent each state library.

## **RESULTS AND DISCUSSION**

### **Adoption of Web 2.0 Technologies**

The presence of the Web 2.0 applications in Malaysian public libraries was identified through the website or the official portal of the public library. If it appeared that the public library's website had one or more Web 2.0 icon, the check list was marked as "v", otherwise it was marked as "x". Web 2.0 icons in the library homepage were also tested to ensure all links were working links.

Table 2 presents the Web 2.0 technologies used by the 14 public libraries in Malaysia identified through the libraries' website. The National Library of Malaysia (NLM) leads in terms of application index, adopting six out of seven technologies, followed by Penang State Library and Negeri Sembilan. The libraries with similar rate of application index are Sarawak and Kelantan State Library; both libraries have adopted 4 and 3 tools respectively but have scored high on the checkpoints as they have used more features of the tools adopted compared to libraries which have adopted more tools but limited features, such as Selangor. Kedah and Pahang Public Library are lagging in the use of Web 2.0 applications for library services. Also evident is that the use of social networking application, Facebook, is the highest among the public libraries. This was followed by the use of RSS (9 libraries), Podcast / Vodcast (7 libraries), blog (4 libraries), Wikis (3 libraries) and Photo sharing (only 1 library).

Overall, the web analysis of each of the Web 2.0 applications in the library portal indicates that the highest use of this technology aims to provide information on library activities, announcements and any events related to the library. This is done mainly through RSS, blogs, SNS, podcast and photo sharing (Table 3). Sharing photographs and disseminating general news are also the frequent use of web 2.0 applications among the libraries. A noticeable trend is disseminating information such as on government circulars, current issues, calls for tenders, Minister's speeches, Memorandum of Understanding (MoUs), traditional Malay music and institution's corporate videos. The tools used for this purposes ranged from Podcast/ Vodcast, RSS, Wikis Blogs and Instant Messaging. Seven were using

Web 2.0 to answer queries and providing reference services using either Facebook, Instant Messaging or Wiki. Other community services, involving promotion of new collections, publicizing book reviews and discussions (via Youtube), library orientation videos (via Youtube), and library resource guidance (via Instant Messaging) were also evident. The web analysis indicates that the use of Web 2.0 for library or bibliographic instruction is not evident.

Table 2: Malaysian Public Libraries' Use of Web 2.0 Technologies Ranked Based on the Application Index

PUBLIC LIBRARY	WEB 2.0 TECHNOLOGIES USED								Total score	Applica-tion index
	Wikis	RSS	Blog	IM	Podcats / Vodcast	SNS	Photo sharing Sites			
1 PNM	√	√	√	×	√	√	√	47	56.6	
2 Penang	×	×	√	√	√	√	√	37	44.6	
3 N.Sembilan	√	√	×	×	√	√	×	27	32.5	
4 Sarawak	×	√	×	×	√	√	×	26	31.3	
5 Kelantan	√	√	×	×	×	√	×	25	30.1	
6 Terengganu	×	√	×	×	×	√	×	22	26.5	
7 Selangor	×	√	√	×	√	√	×	17	20.5	
8 Perlis	×	×	√	×	×	√	×	16	19.3	
9 Perak	×	√	×	×	√	√	×	13	15.7	
10 Johore	×	√	×	×	×	√	×	13	15.7	
11 Malacca	×	×	×	×	√	√	×	7	8.4	
12 Sabah	×	√	×	×	×	×	√	10	12.0	
13 Kedah	×	×	×	×	×	√	×	5	6.0	
14 Pahang	×	×	×	×	×	√	×	6	7.2	

Table 3: Malaysian Public Libraries' Purpose of Using Web 2.0 Technologies

No	Purpose /Web 2.0 Tools	Wikis	RSS	Blogs	IM	Podcat / Vodcast	SNS	Photo Sharing Sites
1	General News	3	7	3	-	5	-	-
2	Library News, & Announcement Event	-	9	3	-	6	12	3
3	New books/ journal	-	5	-	-	-	-	-
4	Book review & Discussion	-	-	-	-	1	-	-
5	Searching Skill	-	-	-	-	-	-	-
6	Advice and Reference services	1	-	-	2	-	4	-
7	Library orientation	-	-	-	-	1	-	-
8	Sharing photographs	-	-	-	-	-	12	7
9	Resources Guidance	-	-	-	1	-	-	-
10	Others	3	5	2	1	5	-	-

## Librarians' Approach to Use Public Library 2.0

The Web 2.0 development and service offerings among state public libraries in Malaysia have been slow and began only in 2008 by Negeri Sembilan. Most public libraries started adopting Web 2.0 application in the year 2009 (Terengganu, Sabah, National Library, Sarawak, Johor, Perlis). Selangor, Pahang, and Penang began in 2010, and Malacca, Kelantan, Kedah and Perak only adopted Web 2.0 in 2011. The interviews with librarians probed further on (a) the motivation for the adoption of Public Library 2.0; and (b) the main use of Public Library 2.0.

### (i) Motivation for the Adoption of Public Library 2.0

The main impetus for developing Web 2.0 applications in library services is the directive issued by the government, whether it is the federal government, state governments or government bodies such as the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) and the Multimedia Development Corporation (MDeC). According to the library officers: *"We started the use of Facebook based on a directive from MAMPU...all government agencies need to have a social media network...so that all announcements can be circulated easily"* (Kelantan). *"The state government has urged all government departments to have social networking sites like Facebook for closer ties with the community. This facilitates the library to a wider range of promotions, fast and most importantly it is free"* (Sarawak).

In another library, the use of Web 2.0 applications such as Facebook and blog was because of the criteria set by MDeC to assess the government agencies portal. In the assessment, MDeC considered it an advantage if a government agency's portal has links to social media. This encouraged the library to create a Facebook page to engage with the society. This library that initiated Web 2.0 services based on MDeC's directive had received 4 stars award from MDeC and won the Innovation Web site award from MAMPU. A librarian remarked, *"I am monitoring the activities in Facebook, and my staff will monitor the technicalities. Through this approach, the information given and received is updated every day. This ensures the delivery of quality information and it is hoped that people will not dispute the Public Library Facebook. Initially the intention might have been to win an award but the library understands the importance of keeping its Facebook relevant and up to date"* (Selangor).

Another motivation for the adoption of Web 2.0 is based on users' requests. A librarian reported: *"Facebook, Flickr, YouTube, and Twitter – these are suggested by the library users through customer services feedback"* (Penang). In another two libraries (Selangor and Terengganu), it was initiated by the librarians' personal activities via social media. When the library took up a rebranding exercise, the librarians' *"unofficial sharing of information among library staff using Facebook and Twitter was recognized as innovative behavior"* (Selangor) and thus the librarian's skills were exploited to expand to professional services. These libraries are now actively using 4 types of Web 2.0 application, namely Blog, YouTube, RSS and Facebook.

Only one library reported a systematic procedure for the development of Web 2.0 services. *"A committee was set up under the Knowledge Management Unit to develop, maintain, promote and report on all activities carried out via these applications"* (Sarawak). The members of this committee consists of at least one representative of each library department selected among those who were using the web applications in promoting the library or interacting with the library users. As at April 2012, the library had 4 types of Web 2.0 application which are Webcast (Podcast/vodcast), Twitter, RSS and Facebook



The lack of official planning and advocacy was apparent in one library. It was found that the librarian was not aware of a Facebook account available via the library website and also RSS application in the library portal. The library officer clarified that *“the existing Facebook account is not an official library account because it was created by one of the library staff on his own initiative”* (Terengganu). However, the library has an official Facebook account, restricted for staff use only.

**(ii) Main uses of Public Library 2.0**

The interviews indicate two main uses of Public Library 2.0: (a) to facilitate the dissemination of information and promotion of library activities; (b) to socialize and network with library users, especially the teens.

- Dissemination of information and promotion of library activities

The use of social media in disseminating information and promoting library activities, is perceived by the librarians as to be very quick, easy, cheap and simple. According to the interview participants:

- *“it facilitates library’s communication to users, or promote library activities, event in a faster and efficient way. The cost of promotion and spreading information through Web 2.0 is minimal, compared to using the conventional medium such using banners, bunting, newspapers adverts, radio and so on”*. (Kelantan).
- *“Web 2.0 also enables the library to a wider range of promotions, it is fast and most importantly - it is free”* (Malacca).
- *“the main purpose of using Web 2.0 is to promote library activities. It can be considered as a free platform, especially for promotional activities...as compared to methods such as, advertisement in newspapers and TV that need higher cost”* (National Library of Malaysia).

Time and cost seem to be the two main factors encouraging adoption. *“Presently we have conducted many activities and programs on an ad-hoc basis. With this application, it makes it easier for us to broadcast and promote the ad-hoc programs immediately and directly to customers. It also saves time and operational costs compared to the conventional method”* (Selangor).

Other librarians reported using Public Library 2.0 not only to promote or disseminate library news, but also to help deliver as many current issues and programs conducted in the vicinity or promote other government activities/events. They obtain this information through the state government calendar activities and government-related bodies and organizations.

- Socializing and networking

According to the librarians, Web 2.0 offers the latest trend in forming new relationships (networking) and also on socializing online, especially with a specific user group, the teenagers:

- *“this application is also more friendly and well-known to the user, especially among teenager. Information can be spread to a wider group of users more quickly. For example, updating the Library post on Facebook, will allow all customers who have become members to receive that information/news and it can also be seen by their friends, through the Facebook wall. If these friends then click on the*

information/news, it will automatically be displayed on their wall and so on”(Kelantan)

- “social media can create a two-way communication channel between the librarian and the users, especially teenagers who are active users of Web 2.0, the user is also able to give suggestions easily, share their ideas, express opinions and give comments”(Selangor).

Librarians clearly understand the role of social media (specifically Facebook) to foster a relationship between the public library users, but are not able to relate this relationship with ‘participation’, ‘interaction’ and ‘creation’ through Public Library 2.0. They were not able to discuss specific uses of Web 2.0 tools, such as real time reference service, subject specific information push, or even real time conversation between two users. There clearly is a lack of serious undertaking of applications that focus on specific needs of the users and services created based on their requirements. Throughout the interview, it was observed that the main purpose of Web 2.0 application especially Facebook is for promoting library services and to form a bilateral communication between the user and libraries, yet, the content indicates otherwise. In fact, web analysis indicates that there are libraries which takes few days to update their account and meanwhile, there are also some libraries which do not respond to the queries from users. Partridge, Lee and Munro (2010) suggested that the real power of Web 2.0 was less in the technology but more about changing the librarians’ attitude and how the profession conceives itself. The professional development of the librarian within the Web 2.0 environment should bring forth a new branding of the librarian in the eyes of the public library user.

### Teenagers’ Expectation of Public Library 2.0

Another part of this study explores teenagers’ perspective of the Public Library 2.0 services. The 533 teenagers involved in this study comprised 60% females and 40% males, ranging from age 13-15 (54%) and 16-18 (46%). The majority (97%) of them were Internet users and accessed the Internet mainly from their laptop/computers or mobile phones from their home or the cybercafe. Table 4 details the profile of teenagers responded to the survey.

Table 4: Profile of Teenagers Participated in the Survey

Variables	Responses	Count (Percentage)
Gender (n=533)	Male	215(40%)
	Female	318(60%)
Age (n=454)	13-15	246(54%)
	16-18	208(46%)
Frequency of Internet use (n=460)	Yes, often	172 (38%)
	Yes, sometimes	273 (59%)
	No, never	15 (3%)
Place of Internet use (*multiple choice)	Home	337 (36%)
	Cybercafe	241 (26%)
	School	148 (16%)
	Library	88 (10%)
	Restaurant	100 (11%)
	Others	9 (1%)
How Internet is accessed (*multiple choice)	Handphone	155 (33%)
	Laptop/Computer	253 (55%)
	Tablets PC (e.g. Ipad)	48 (10%)
	Others	9 (2%)

The teenagers are generally aware of the Web 2.0 services offered by the public libraries they patronized. The majority reported knowing about the library’s initiative through friends (26.9%, 215), indicating that word-of-mouth marketing is an important opportunity of promoting library services. Responses on the how the teenagers became aware of the services show that the library website (16.9%, 148) is also able to create awareness especially if the Web 2.0 applications are accessible on the first page. Teachers (12.9%, 101) too are a source of making teens aware of library Web 2.0 services. Teenagers also reported knowing about library’s promotional initiatives of the services through banner/poster, bulletins and library orientation programmes.

The teenagers were then asked to indicate the use of Web 2.0 in their daily lives and also indicate if they used these applications specifically at the public libraries sampled. Findings revealed that the use of this applications as library services is minimal. Teens generally are avid users of Facebook/SNS but only a small percentage (15.9%, 65) of them uses this service via the library website. The usage pattern is similar across various applications, though used in their daily lives these applications are not used via the library website (Figure 1). It is interesting to find out that the RSS service offered by libraries is used by 36% of the general RSS users.

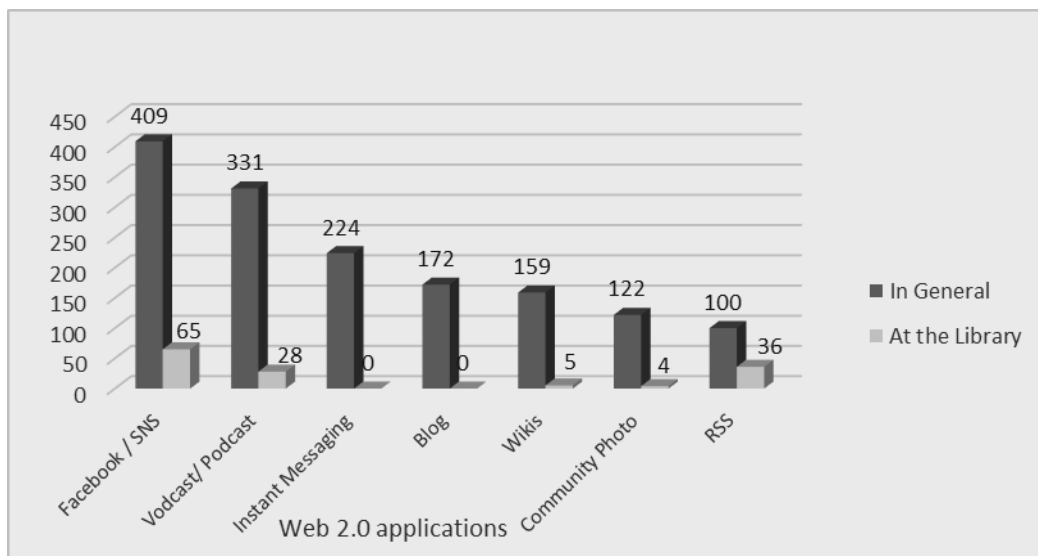


Figure 1: Teenagers’ General and Library Use of Web 2.0 Tools

Respondents were further asked to indicate their purpose of using the Web 2.0 application in the Public Library 2.0. The items were phrased to indicate level of ease of use and quality of information and respondents stated their agreement/disagreement using a five point Likert type scale ranging from 1 “Totally disagree” to 5 “Totally agree”. Table 5 shows that most applications are accessed to get information about library activities. The mean value indicates that the teenagers perceive these applications to be of average ease of use and they agree that the quality of information provided is good. Though the Wikis are perceived easy to use, teenagers do not totally agree that the information provided by the library through Wikis is of high quality.

Table 5: Teenagers’ Rating of Web 2.0 Ease of Use and Quality of Information

Web 2.0	Used for...	Rating/experience	
		Ease of use	Quality of information
Social Networking Site (SNS)	- Searching existing friends - Sending inbox messages	3.58	3.56
Vodcast/Podcast	- Resource guide	3.87	3.90
Wikis	- Library information - Library activities	4.60	3.40
Community Photo	- Library activities - Library promotions	3.40	3.43
RSS	- New books - New e-journals / databases	3.68	3.64

A majority of the respondents were not very active users of Web 2.0 application on the library website (Figure 2). When asked to indicate reasons for non-use, a majority of the teenagers reported that the main reason was simply “not being aware of the availability” of these services by the public library. This implies a lack of publicity by the public library about the Web 2.0 services. Furthermore, many teenagers also felt that it was not necessary to use these Web 2.0 tools, indicating a lack of appreciation of the service. This again could be caused by librarians’ failure to publicize the benefits of Public Library 2.0 services. The situation is further impeded when libraries do not allow access to these services, especially Facebook and YouTube within the library itself. Lack of computer facilities is another reason stated for non-use of Web 2.0 applications at the public library.

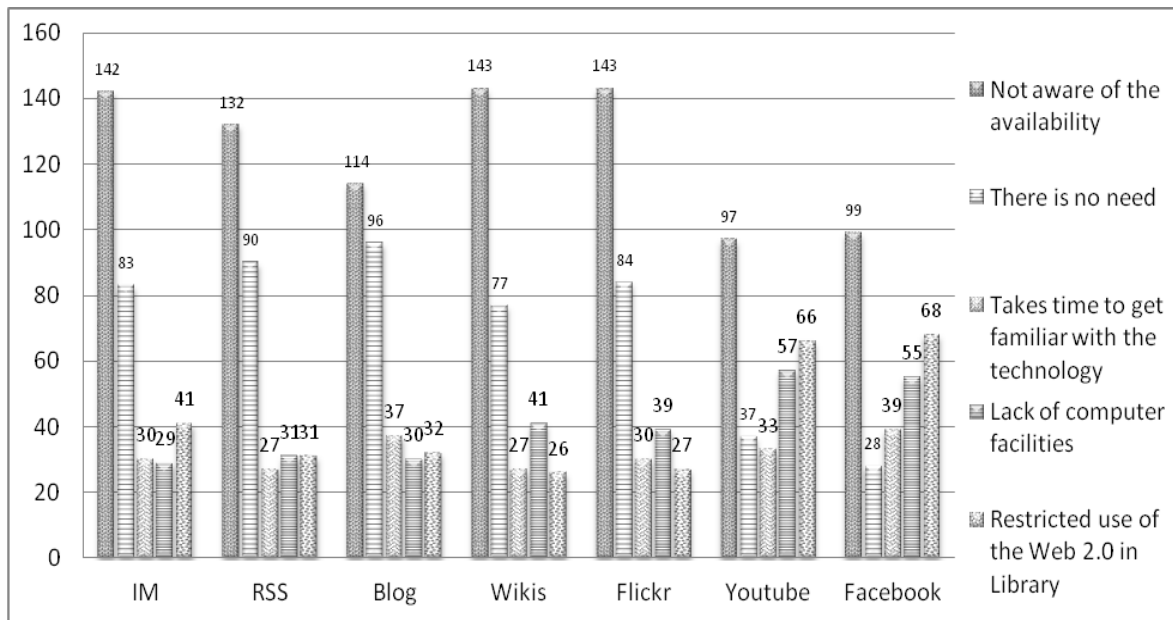


Figure 2: Reasons for Non-Use of Web 2.0 at the Public Libraries

Malaysian teens, though not ardent users of Web 2.0 at the public libraries, are in general receptive towards the use of Facebook and YouTube by public libraries. Facebook was a preference among 47.3% of the teens, followed by YouTube (46.3%). The reason could be because they had reported these applications were easy to use and can provided quality

information. On the other hand, RSS, Flickr, Instant Messaging, Blog and Wikis received a “Maybe” response, although more than 20% reported that they use these applications in general. The reason is probably because they are not sure of how these tools can be applicable to them in the public library since they have not experienced the library offering services using these tools.

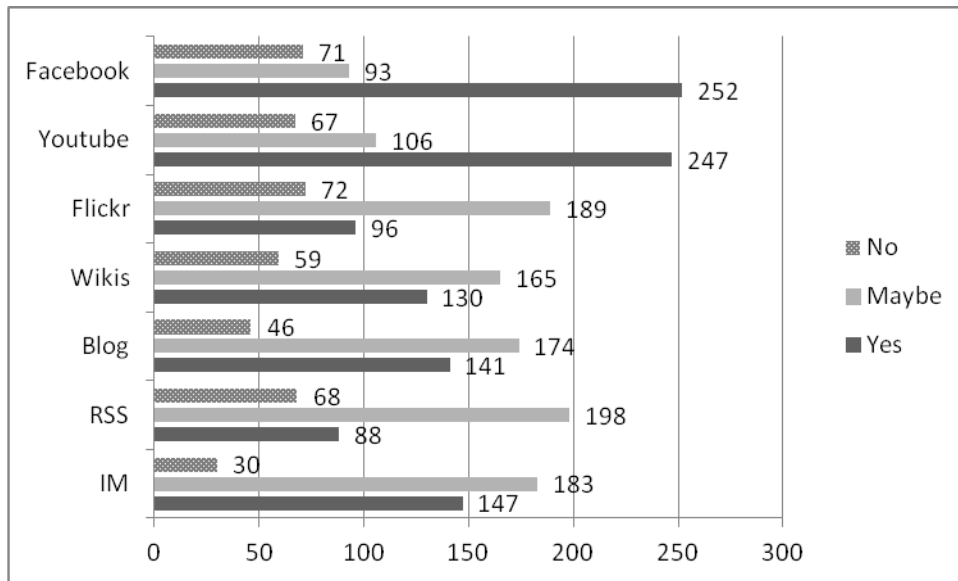


Figure 3: Teenagers’ Intention to Use Different Web 2.0 Applications in Public Library 2.0

**CONCLUSION**

As a result of the investigation of the 14 public libraries, including the national library, in Malaysia, it is revealed that the average library has implemented only two to three Web 2.0 applications. Though adopted by all, the development in terms of frequency of updates and interaction with users, is lacking. The most popular applications used are Facebook, RSS and Youtube as reported by much of the literature. There is not much evidence of innovative use of these Web 2.0 applications by public librarian. The use is limited to providing library related information on activities, photo sharing, announcements and news. There was no evidence of formal reference service or information skills services provided via these applications.

Similarly, from the findings through the interviews, it is concluded that most public libraries have adopted Web 2.0 technologies without any formal strategic planning. A majority of the libraries begun using Web 2.0 simply because it was a matter of technology uptake to fulfill the directives of government/state agency, whereas some happen to do it ‘by chance’, simply dependent on an individual librarian who had brought a casual leisure activity as serious leisure into his workplace. The lack of serious planning of services addressing the technologically changing society has caused these efforts by public libraries in Malaysia to be unable to capture the interest of their teenage users. Zheng and Wang (2009) had identified Facebook as a potential medium for reference service and the ability to create specific discipline teams as beneficial to library users. In public libraries, Facebook groups could be created based on categories of society by age or interest. However, based on the user survey in this study, most of the respondents have used Web

2.0 tools such as Facebook, Youtube, blog, and others tool but regrettably, only a small percentage of these teens have interacted via the library Facebook.

The study has its limitations as data from the websites is collected only at one point of time and this information may be obsolete at a future point as Web 2.0 is very dynamic. Adoption practices described in this study may not reflect the true status in the near future. Library users, specifically the teens have embraced Web 2.0 technologies in general but they do not seem eager to use these technologies at the public library. Though the availability of these Web 2.0 services are scarce, the teens are confronted with librarians' misconception of them. Restriction to social media use in the library may hamper the library's effort to engage the teens with public library services. Connaway, Dickey and Radford (2011) believe that people will sacrifice content for the convenience of accessing information, a characteristic of social media that the library should exploit fully in its user services. User familiarity of Facebook, twitter, Flickr, blogs, etc., is an advantage to libraries to create convenient access as users may not need much training in using it. As Clarsson (2012) says, 'Social media as a key to transforming public libraries', so public libraries '2.0' too should take the technology and user input to create a more user-centered environment. Libraries and librarians need to spend more time asking their users for feedback and listening to their responses (Sodt and Summey 2009).

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