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# **Virtualizing Library Processes and Interactions:**

## A Content Analysis of Library Facebook Profiles

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#### **ABSTRACT**

In recent years, social networking sites have become mainstream in the cyberspace, and people interact and communicate in a virtual way. Institutions such as libraries and other non-profit organizations are jumping on the bandwagon of Web 2.0. Among related social networking services, Facebook is by far one of the most popular. Academic libraries embraced this new technology and used it as a flexible channel to communicate with faculty, staff, and students; however, little has been known about the nature of information shared and how it circulated. This study aimed to investigate how Facebook is used by academic libraries to communicate with users, and vice versa through leaving posts, comments, like, and others. Content analysis was conducted to survey 10 Facebook profiles of academic libraries in Taiwan. Detailed analysis included how profiles were managed and maintained, what types of information were provided and shared, what behavior users demonstrated on the profiles, how users interacted with posts through commenting. It is hoped that this study can provide insights for making informed decisions in adopting Facebook as a part of library services, and in evaluating the value and role of social networking sites from both librarians and users' perspectives.

## **Keywords**

Facebook, academic libraries, Web 2.0, content analysis

#### BACKGROUND AND RELATED RESEARCH

In recent years, social networking sites have become mainstream in the cyberspace, and people interact and communicate in a virtual way. Institutions such as libraries and other non-profit organizations are jumping on the Web 2.0 bandwagon. Habib (2006) develops a conceptual model that looks at library's role in student life a Web 2.0 world, and suggests that library Website is a manifestation of the library as a place. The model analyzes the library's position as a physical place in the student life and examines how academic libraries might apply Web 2.0 concepts to create a virtual ground for interaction.

Among related Web 2.0-based social networking services, Facebook is by far one of the most popular, because of its multimedia, flexible, social, and entertaining functionality and capability. Academic libraries embrace this new technology and use it as a flexible channel to communicate with faculty, staff, and students. In addition to communication functions, Facebook also demonstrates potential in promotion (Chu & Meulemans, 2008), outreach and marketing (Matthews, 2006), library reference and subject specialist services and increase of library use (Mack, Behler, Roberts, & Rimland, 2007).

Abundance of literature on Facebook and librarianship tend to be descriptive, introductory, and opinionated. Mixed impacts of Facebook use on libraries and library users are observed and some major concerns were raised, primarily based on investigating librarians and library users' observation, experiences, and feelings (see Powers, Schmidt, & Hill, 2008; Mack et al, 2007; Charnigo & Barnett-Ellis, 2007; Connell, 2008). For example, Hendrix et al. (2009) conclude from an email survey with health librarians that libraries use Facebook primarily to market the library, provide online reference, announce library information, and have a presence in the online social network. On the positive side, promoting library Facebook profile during library instruction sessions and reference interviews resulted in research traffic in Facebook message boxes, in librarians' institutional email, and even in person (Mack, Behler, Roberts, & Rimland, 2007). On the negative side, academic librarians are usually seen as authoritative and public figures in university community, and students may be resistant to friending the library if their personal information becomes visible to university officials (Sekyere, 2009). Charnigo and Barnett-Ellis (2007) find that over half of the librarians participated in the survey said that Facebook was no academic use in terms of potential as an academic tool, and 34% were unsure about it. However, little has been known about the nature of information shared and how it circulated between librarians and users.

This study aimed to investigate how Facebook is used by academic libraries to communicate with users, and vice versa, through leaving posts, comments, links, and others. There are several reasons for such

study; three listed here. Firstly, and most importantly, this study tries to look at a technology at work not from what the users think about a technology, instead, it looks at how users behave with the technology. Secondly, various library technologies not only change the way users interact with the library, but also bring about a change which impacts how librarians work. As mentioned in previous paragraphs, the whole Library 2.0 movement sees benefits in collaboration with patrons (Boog, 2005), thus changes the authority which is used to be held by librarians and allows more autonomy for users. Thirdly, while the virtual nature of libraries overcomes distance problems and enhances the accessibility of library services, it should been seen as complimentary to existing physical services and processes instead of as a replacement. Along with this assumption, this study seeks to understand how Library 2.0 services like library Facebook profiles can be used to virtualize librarians' work and user interaction processes.

Web content analysis was conducted to survey Facebook profiles of academic libraries in Taiwan, resulting 29 profiles in total. Detailed analysis included how profiles were managed and maintained, what types of information were provided and shared, what behavior and activities users demonstrated on the profiles, how users interacted with posts through commenting. It is hoped that this study can provide insights for making informed decisions in adopting Facebook as a part of library services, and in evaluating the value and role of social networking sites from both librarians and users' perspectives. This paper describes a component of a larger research study that seeks to further understand the adoption, implementation, and evaluation of Library 2.0 using Diffusion of Innovation as the theoretical framework.

#### STUDY DESIGN AND METHODS

## **Sampling**

After a keyword search with Facebook's built-in search engine, 28 academic libraries' Facebook profiles were yielded. The analysis to Facebook profiles was restricted to the ones of academic libraries in Taiwan, operated in Traditional Chinese, and were publicly available to anyone with a Facebook account to view and join. According to college and university classification, these academic institutions ranged from research universities, teaching universities, and technological and vocational institutes, representing diversity in the sample.

#### **Data Collection, Extraction and Analysis**

Data collection was performed at 28 Facebook profiles. It began in March, 2011 and continued through August, 2011. Content extraction on each Facebook profile was performed, following Krippendorff (1980) six-question extraction process: (1) Which data are analyzed? (2) How are they defined? (3) What is the population from which they are drawn? (4) What is the context relative to which the data are analyzed? (5) What are the boundaries of the analysis? (6) What is the target of the inferences? The framework for analyzing the Facebook profiles was based on a coding schema (see Table 1) designed and informed by previous literature (Calvi, Cassela, Nuijten, 2010; Hendrix, et al, 2009; Bender, 2010). In this study, coding context is defined as the general characteristics and the membership and usergenerated content, while the coding unit is defined as a news post, a comment, or any activity in the Recent News section, the photo album, wall posts, etc.

Research Objectives	Categories
Current Facebook Uses and Maintenance	Date of Facebook profile created
	Time stamp of most recent news
	Number of friends
	Number of posts on the wall
	Types of functions used
	Frequency of status updates
Types of Information Posted and Shared	Library information
	Multimedia broadcast
	Reference service
	Online discussion board
	Library catalog
	Electronic database information
	Library events
	Campus events
	Promotion and advertisement
	Book advice
	Posts from fans/friends
	Others
Types of User Participation	Posting personal comments or reviews
	Expressing gratification and appreciation
	Extending thoughts on the original post
	Posting controversial comments

Asking questions
Posting advertisement
Response from the library
Others

**Table 1. Coding Scheme** 

#### **Ethical Consideration**

Facebook allows users to control how they want the content and information shared through its Privacy and Application Settings. In Facebook's Statement of Rights and Responsibilities, it says "When you publish content or information using the "everyone" setting, it means that you are allowing everyone, including people off of Facebook, to access and use that information, and to associate it with you."

#### PRELIMINARY RESULTS

#### **Current Facebook Uses**

In all the library Facebook pages investigated, eleven are from research universities, ten is from teaching university, and seven are from technological and vocational institutes. Although Facebook is used by academic libraries as a way to primarily engage user participation in library services and resources, it is shown in Table 1 that majority of the posts are made by libraries (92.7%), only some are initiated by fans (5.8%), and only a limited number of posts are made available from synchronous updates from other social networking services, such as Twitter and Plurk (1.5%). As to types of features and applications utilized, all libraries use Posts and Photos to communicate with users, and half posts videos. Other popular functions are Events, Discussions, Notes, and Links/Retweets, and they are used primarily for making announcement, getting user feedback, and extending library services. Interestingly, a novel application, Reviews is initiated by users to review the quality of the library events and activities. On average, library Facebook profile is updated every eleven days.

	Date of	Date of		#of F	Posts.i									Appli	cations	on Fac	ebool	k.1							#of days	Δ
#.	Facebook Joined.	Most Recent Post.		From Library	From Fans.	Wall	Info	Friend Activity	Photos	Events	Links	Notes	Videos	Poll.		Photos Picks.	Blog	Talking to Library	You Tube	Wall. Paper.	Kobo -	Poll Q&A.	Advanced Wall.	Total	since page	day per
01	2009.04. 29.s	. 2011.08. 30.,	9,812	. 361	17	0.	0.1	O <sub>3</sub>	D <sub>3</sub>	D <sub>3</sub>	a	D <sub>3</sub>	O <sub>2</sub>	а	a	a	a	a	a	a	a	a	a	7.1	854.,	2.3
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12.	2010.03 24. <sub>1</sub>	. 2011.08. 31. <sub>3</sub>	3,650.	159	42	O <sub>2</sub>	O <sub>2</sub>	O <sub>3</sub>	a	ā	O <sub>3</sub>	a	2	ā	a	5	0.1	D <sub>3</sub>	a	ā	ā	ā	ā	6.1	525.1	2.6
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20.	2010.06	2011.07.	509.1	167	11	O.	O <sub>2</sub>	D <sub>3</sub>	O <sub>2</sub>	Δσ	a	a	a	a	a	a	а	a	a	a	a	a	a	5.,	440.1	2.5

%Circle ( $\bigcirc$ ) = feature used; Triangle ( $\triangle$ ) = feature used, but no content; empty space = feature unused

**Table 1 Current Facebook Uses and Maintenance** 

## Types of Information Shared

After a content analysis on the types of information shared on libraries' Facebook profiles, a synopsis of how Facebook is actually used by academic libraries can be presented (See Table 2). Looking from academic library's typical functions, outreach and marketing (marketing and advertising of library services: 28.34%) becomes the main reason libraries use Facebook. A large part of public services, such as multimedia broadcast (13%), electronic database information (10.5%), and book advice (12.13%), can be arranged and delivered more efficiently by social media. Only one library in this study provides reference services on Facebook. As to technical services, one particular library is experimenting the integration of Facebook to existing library OPAC, so that search on OPAC can be completed within Facebook. While the application is still under development and requires modification, a limited number of librarians and users (0.1%) test this novel service. Library Facebook can also go beyond what's happening within the library. For instance, news retweets, junk ads and spam, and campus events are examples of how social media can extend and enhance libraries' authority and connectivity on campus.

Number	Type of Information Libraries Shared on Facebook	Count	%
1	Marketing and Advertising Library Activities	1670	28.34
Example	"Today is 423 World Book Day! Come join us in this book club event and enjoy a cup of coffee."	1070	20.54
2	Library Information		
Example	"Cataloging department is looking for several student-hourly assistants. For more information, please check the library website."	1150	19.51
3	Multimedia Broadcasting		
Example	"National Tsing Hua University Library just added 28 photos to the "NTHU Anniversary Celebration Book Series"	766	13
4	Book advice	715	12.13
Example	"Students! Check out Secrets of A Buccaneer-Scholar, this book is a must read!"	713	12.13
5	Electronic Database Information		
Example	"Three new German Literature databases were added to our electronic databases offering: GERMAN COLLECTION - Kafkas Werke (Kritische Ausgabe, S.Fischer Verlag)"	552	9.37
6	Posts from Fans/Friends	413	7.01
Example	"How do I access library resources with my alumni membership?"	113	7.01
7	Others	395	6.7
Example	"Wish you all the best with final exams!"	373	0.7
8	Shared News via Friends or other sources	127	2.16

	Total	5893	100
Example	"What? Search Library Catalog on Facebook?"	3	0.05
12	Library Catalog	3	0.05
Example	"Professors on Reserve! Come reserve the professors as your subject librarians. 59 professors on campus will take on the roles of subject librarians as a part of our reference service on September 20th."	3	0.05
11	Reference Services		
Example	The online discussion board for "Picturing America Photography Exhibit" is just launched! Come share your thoughts or comments!	6	0.1
10	Online Discussion Board		
Example	"Takming University Library Interlibrary Loan Policy: How do you submit ILL request?"	93	1.58
9	Library Policy		
Example	"Business Week reports on the Mother of Modern Library Architecture in Taiwan- Chiu- Hua Wang."		

Table 2. Types of Information Shared on Facebook

## **Types of User Participation**

In addition to the posts from libraries available on Facebook, posts and comments from users may indicate the variety of user participation in library activities (See Table 3). About half (48.2%) of the posts from users are fairly personal, such as "Good Job!" and "I wish I was there at the book club!" Users also ask questions and expect librarians to reply in a timely fashion. Questions ranged from circulation policy and library hours to requesting photos of library events and requesting information regarding library jobs. There are also some incidents that users can post very positive comments (2.51%), such as "I love my library!" as well as very controversial or negative comments, for example, "Library website is down again! They should sack whoever is responsible for that unreliable clunker of a website." Advertisement and links to external websites (2.09%) are seen as non-library-related, as they can be users posting links to survey sites, or application and admission information from other universities.

Number	Type of User Participation	Count	%
1	Leaving personal comments or reviews		
Example	"Great! I don't have to check the bags in the locker before going into the library anymore!"	922	48.2
2	Response from the libraries		
Example	"Reply XXX: You are always encouraged to join the workshops offered by the library. If you are unable to register, please still come directly!"	594	31.05

	Total	1913	100
Example	"Learn English on Facebook: between "to+verb" and "for verb+ing""	3	0.15
Example 8	"Blu-ray Disk is an optical disc storage medium designed to supersede the DVD format. <a href="http://en.wikipedia.org/wiki/Blu-ray_Disc">http://en.wikipedia.org/wiki/Blu-ray_Disc</a> "  Others		1.1
7	Extending thoughts on the original post	21	1.1
Example	"The World's Best University Ranking, is it a fraud or a reality?"	20	1.50
6	Posting controversial comments	26	1.36
Example	"Earn cash at home! Make money online!"	70	2.07
5	Posting advertisement/Links to external websites	40	2.09
Example	"Thank you Library, for locating the books for me! I'm going to pick up the books now. Thanks again!"	48	2.51
4	Expressing gratification and appreciation		
Example	"I reserved a book on WebPAC, it said "delivering" for three months. Will you please check the status for me?"	259	13.54
3	Asking questions		

Table 3. Types of User Participation on Facebook

#### **DISCUSSIONS AND CONCLUSION**

In this study, 18 different types of applications on Facebook were found used on academic library's Facebook pages; on average, each library utilizes 5 types of applications. Among all the applications, only three libraries self-developed embedded searchable WebPAC on their Facebook pages. From the content management perspective, management activities might include, but not limited to browsing the Facebook content, posting or uploading content, replying comments, deleting unrelated or unwanted content. One negative characteristic of Facebook or other online social networking services is the pervasiveness of Internet spam, fraud, and scam. While such content is posted on Facebook pages, library's authority and effectiveness in management are seriously challenged. In this study, we found that only 2.09% of the content is advertisement-related, which means that the libraries are trying to keep their library Facebook pages a commercial free environment.

Different from other studies of social media use in libraries, which tend to focus on users' awareness and perception on usability of the services and potentials of enhancing the idea of "library as a social place," this study takes on a different approach and observes what's happening on Facebook in each library's community of users. In addition, this study attempts to look beyond user study, and seeks to identify potentials of Facebook, in various academic libraries functional departments. Opportunities and

partnership are plentiful, and impacts of social media can move beyond library and into greater campus community, as a part of university experience. However, concerns and fears are valid and addressed over interaction on Facebook. For instance, library Facebook profiles are often seen as an extension of library services. The third-party nature of most Library 2.0 services adds another layer of complexity in terms of better managing Library 2.0 services when the actual services are hosted externally.

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