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Meeting User Needs and Expectations: A Library's Quest for Discovery

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Abstract

Taylor and Francis recently released its white paper entitled *Facilitating Access to Free Online Resources: Challenges and Opportunities for the Library Community*. Primary research within the white paper revealed that 71% of librarians surveyed struggle with the unknown permanence of free content. What is on the horizon with librarians as they try to update their discoverability services to support users on their journey to obtain free content?

Taylor and Francis Group's study determined that librarians are planning to improve their search user interfaces for their library web sites, librarians plan to improve their cataloging systems, and librarians plan to conduct user research to understand their researchers' needs. Taylor and Francis will explore these research themes further through segmented primary research and present on its findings.

Following this, the George Washington University (GW) Libraries will share a case study detailing its quest to meet user needs and expectations by expanding the collection of research data beyond traditional avenues using Twitter. The GW Libraries' Twitter Project had its genesis in an article by a faculty member. In turn, the process enriched and empowered other faculty research experiences. It also raised the library's profile and stature among faculty. A vital element of the Project was GW's use of the right personnel with the right skills to access effective technologies. The social metadata harvested via Twitter formed a rich resource for cultural heritage studies and research at the University. The Project was recently awarded the IMLS Sparks Ignition Grant to advance the automation of data collection.

Introduction

Taylor and Francis Group produced a white paper in June 2013 that explored challenges and opportunities for the library community when facilitating access to free online content. Following release of the paper, Taylor and Francis sought to expand on key findings from its initial research efforts and to explore the following statistics of our white paper research further:

- 42% of survey respondents are planning to improve their end-user interfaces for their library web site (48% have already implemented this)
- 35% of survey respondents plan to improve their cataloging systems (38% have already implemented this)
- 32% of survey respondents plan to conduct user research to understand their users' needs and/or requirements (40% have already undertaken this)

The ever changing world of publishing is such that all market players need to be adaptable and transparent to remain viable. The article, "Subscriptions Are Us: Content, Access and Collections," written by Lisa Carlucci Thomas, *Journal of Web Librarianship*, states:

Libraries have traditionally offered the 'convenience, immediacy, and direct access to a wealth of content' that would have been otherwise unavailable to the consumer. In the digital environment, libraries struggle to maintain a primary role. New expectations, advanced technologies, and market innovations are evolving faster than libraries can reasonably compete with, since resource limitations, reduced staffing, and conflicting priorities inhibit libraries' technological agility.¹

¹ Carlucci Thomas, L. (2012). Subscriptions are us: Content, access and collections. *Journal of Web Librarianship*, 6(1).

Libraries are being forced to compete with search engines and free, perhaps not quality, content that is easily accessible on the web. How can libraries further understand its end-users' needs and expectations while being thought of as a one-stop shop for content? Just as libraries are being forced to be savvy and transparent with generating awareness of its e-resources and reinforcing value, publishers need to be constantly collaborating with their library customers to understand the issues which exist in the information community.

Paired with the statistics which Taylor and Francis sought to explore, the current library landscape is such that librarians have been given a significant but difficult quest meeting users' needs and expectations by expanding the collection of research data beyond traditional forms. The complex nature of information and the information world is reflected on academic library web sites that have many features: the OPAC, lists of links to databases, e-journals/e-books, institutional repositories, special collections, etc. Each of these features function independently in a highly choreographed and consolidated fashion, seeking to perform and facilitate effective "Google-like" searches whose results ideally produce a higher level of user satisfaction. However, we found through surveys conducted by Taylor and Francis and other collaborative initiatives led by the George Washington University that all of these extensive additions to library web pages did not meet users' research needs and expectations.

Many libraries have developed and implemented discovery tools to address the user satisfaction issue which often hangs off the quality of metadata that represent and describe the collection. However, the case study described in this paper found that the absence of metadata did little to deter the library's mission to meet user needs and expectations. What we found is that the most important thing is to understand the researchers' needs. Librarians have the cultural and information literacy skills to use the available technology, even without the underlying metadata that most users of an information service consider vital when conducting research.

Research Objectives and Demographics

Taylor and Francis Group wanted to create an open forum for its library customers to share their thoughts in formal (e-survey) and informal (Twitter Party) settings. The specific research objectives of the primary research were:

- to further understand how and why libraries are making changes to their user interfaces and cataloging systems
- to identify the ways librarians conduct research to understand their end-users needs
- to determine how publishers can help with discovery in the library

The e-survey which was sent out to librarians across the world sourced 418 responses. Respondent library-type demographics included: 82% of respondents were librarians from academic libraries, 9% of respondents were librarians from medical libraries, and the remaining 9% were a blend of responses from corporate, government, special, and public libraries.

The e-survey distinguished between the importance of paid versus free content in the library. Comparing the two would allow Taylor and Francis to benchmark, gauge, and evaluate if one was notably more important than the other. Throughout our research findings, Taylor and Francis identified from e-survey responses that traditional paid-for content takes precedence in the library; this was even shown when asking survey respondents about descriptive and administrative metadata missing from content.

User Interfaces

An anonymous respondent from the Taylor and Francis e-survey notes, "Users should highly influence library's web site. If they can't use it...they won't." Taylor and Francis asked survey respondents if they have conducted user studies within their library. The responses received were polarized. Of those surveyed, 51% responded no while 49% of those surveyed responded yes. Of the

Figure 1. User Interface Features—Library Web Site

Figure 2. Taylor and Francis Online and TFO Mobile Update

49% which responded yes, Taylor and Francis asked a follow-up question stating, “Have you made or do you intend to make changes to the user interface of your library web site based on findings from your research?” Of those surveyed, 68% responded yes, and the remaining 32% responded no.

Survey participants were asked, “How important do you believe it is to make the following changes to the user interface of their library’s web site?” (Figure 1). Taylor and Francis asked recipients to rate the importance of each feature on a scale of 1 to 10, where 1 was not at all important and 10 was extremely important. Eighty-nine percent of survey respondents rate the discovery of paid for resources becoming more prominent on the library web site between a 6 and 10. Seventy-eight percent of respondents rate increasing the ability to discover free library resources, such as

dissertations, blogs, wikis, podcasts, social media posts, and Open Access articles, between a 6 and 10. It can be inferred from these responses that both free and paid-for content deserve attention, and what is more significant to note is whether or not the content has been peer reviewed. The top response when respondents were asked about the importance of various features for the creation of an effective user interface were that 78% agreed that mobile service integration with the library web site to search e-resources was most important. The last release of Taylor and Francis Online included “Previous” and “Next” links that were added to issue pages, enabling users to navigate between issues with fewer clicks. In this release, the same functionality has been added to Taylor and Francis Online Mobile. To ensure that these links do not negatively impact the display of the issue pages for

users on mobile (rather than tablet) devices, the “Previous” and “Next” links are represented by arrows on both mobile and tablet devices (Figure 2).

Promoting Library Resources to End Users

An article published in the journal *College and Undergraduate Libraries* entitled “Strategic Marketing of Library Resources and Services,” written by Debbie A. Smith, makes the case that a library’s resources need to be marketed optimally to its end users in order to maximize ROI. Smith writes:

Whether physical or virtual, an academic library's collection and services are relevant only to the extent that they are used by their intended audience. Use of collections and services is not only a reflection of how well they have been developed to meet the mission and vision of the parent university, the academic curriculum, and faculty research needs. It is also a result of how well-informed the community is about specific resources offered by the library.²

Taylor and Francis wanted to further determine how often librarians use social media to promote content to their end users. In weekly increments, the e-survey results revealed that 59% of librarians are spending 1–2 hours a week on social media sites to promote resources to their endusers, 14% of respondents are not using social media at all, 4% are spending less than one hour each week, 14% of respondents are spending 3–4 hours per week, 5% of those surveyed spend more than 4 hours a week, and 4% responded that someone else in their library is responsible for this task. The e-survey also revealed that the top three social media sites used to facilitate dialogue in the library setting are:

- Library Facebook page at 38%
- YouTube videos at 30%
- Library Twitter at 29%

² Smith, D. A. (2011). Strategic marketing of library resources and services. *College & Undergraduate Libraries*, 18(4). <http://dx.doi.org/10.1080/10691316.2011.624937>

In addition to librarians, researchers are also using social media to their advantage. The *Journal of Medical Internet Research* notes that highly tweeted articles are 11 times more likely to be highly cited than less-tweeted articles, and tweets can predict highly cited articles within the first 3 days of publication³, demonstrating how Twitter can help to increase brand awareness amongst academics and researchers.

To support primary research findings from the e-survey, engage with librarians, and explore social media further, Taylor and Francis hosted a Twitter Party on October 24, 2013. The Twitter Party revealed that librarians want to engage more with students through social media outreach. When asked about using Twitter in the library, an anonymous participant tweeted, “@LibraryLantern We have a fair few following but need to encourage students to tweet as a way of talking to us #tfdiscovery.” Another anonymous Tweeter states, “We’ll soon be adding a ‘Twitter ticker’ on our web site to help promote our feed.” Beyond librarians reaching end users, it is important for publishers to help with content promotion and to send regular messages about free-access months for content or article-level content promotions to academia with hopes of further engagement and awareness.

Research Takeaways

1. From the librarians’ perspective, although free content holds value, paid content is currently taking precedence in the library. Additionally, free versus paid does not matter to the end user. End users want to be able to discover, use, and appropriately cite content. Taylor and Francis cannot predict what the future may hold with respect to free and online content, but our intention is to present the information community with choices when it comes to selection and acquisition.

³ Eysenbach, G. (2011). Can tweets predict citations? Metrics of social impact based on twitter and correlation with traditional metrics of scientific impact. *Journal of Medical Internet Research*, 13(4). <http://dx.doi.org/10.2196/jmir.2012>

2. It is important to keep the end user in mind when redesigning a library web site's user interface. End users access the content and need to be able to search and find it easily. Forty-eight percent of survey respondents said they agreed or strongly agreed that the user interface of a library web site is the most effective channel for end users to discover online content. Thirty-two percent disagreed or strongly disagreed that it is not the most effective channel to discover content. Nevertheless, it is still a channel specifically for end users driving usage statistics, which ultimately help make informed purchasing decisions. Reach out to your end users so they are reaching the content in your library.
3. Collaborate with publishers to reach your end users. Increasing usage of electronic resources is a mutual priority shared by publishers and librarians. Publishers are happy to provide promotional items and to run training days on content platforms to help extend librarians' reach to the users in your library.
4. The adoption of social media in the library is being used to promote and facilitate the discovery of content. Beyond this, end users are additionally looking to social media as a source for primary research. This is made evident in our included case study.

Case Study

Librarians at the George Washington University (GW) Libraries are not unique in wanting to meet user needs and expectations. Library collections are growing faster annually than the numbers of personnel responsible for ensuring accessibility to these collections. More and more often, faculty members have the type of research needs that librarians may not be technologically equipped to assist. Therefore, when an opportunity to explore new technologies presented itself, the convergence of time, space, people, and skills just fell into place.

GW Librarians have embarked on various projects throughout the Library and with the Washington Research Libraries Consortium (WRLC), of which GW is a member. These projects attempted to expose library collections to users via web pages, the discovery service, and links to databases, electronic journal lists, etc. The metadata group in the Library has also engaged in various collaborative efforts internally and externally via the Consortium, and the Library of Congress's Bibliographic Framework.

One project that entered the world of social media data, which many would consider an unlikely place for a library collection to reside, proved particularly fruitful.

This social media collection centered on collecting Twitter data, which was duly named the Social Feed Manager (SFM).⁴ It began with an article by a faculty member.⁵ Its principal investigator (PI) reached out to the faculty member by offering his knowledge and technical skills to facilitate her ability to gather data for her research activities. Twitter hosts user-contributed content, and was familiar to the PI. This social media site, like its peers, Tumblr and Facebook, has emerged as a powerful, real-time, and ad-hoc communication tool. For some it is a means of information sharing with web-like proportions, providing a set of unique perspectives for a variety of events of different types and scales. For some, it has become a place where one curates ones favorite thematic lists, including following hashtags. Currency is its hallmark. This snapshot contribution to the cultural heritage of the period is undeniable. As an old saying goes, beauty is in the eye of beholder. Whether social media defines a new ecosystem that offers a tremendous research trove, or not, rests upon the perceptions and needs of an individual. And whether the presence of metadata as librarians and researchers have known it facilitates data

⁴ GWU Libraries. (2013). *Social Feed Manager*. Retrieved from <http://gwu-libraries.github.io/social-feed-manager/>

⁵Pew Research Center's Journalism Project Staff. (2011, November 14). *How mainstream media outlets use Twitter*. Retrieved from http://www.journalism.org/analysis_report/how_mainstream_media_outlets_use_twitter

Figure 3. Map of a Tweet Metadata

sfm_id	created_at	twitter_id	screen_name	followers	friends	retweet_count	retweet_text	url	url_expan	url2	url2
2805574	2013-10-16 16:39:04	64871	guardian	1524100	1061	4	@guardia	http://twitt	FALSE	FALSE	Which country has the youngest
2805575	2013-10-16 16:39:04	63796	guardian	1524100	1061	28		http://twitt	FALSE	FALSE	Edward Snowden leaks: David C
2805576	2013-10-16 16:39:04	60960	guardian	1524100	1061	5	Wilpha	http://twitt	FALSE	FALSE	Are you affected by Typhoon R
2805577	2013-10-16 16:39:04	58093	guardian	1524100	1061	5		http://twitt	FALSE	FALSE	Andrew Mitchell is owed apolog
2805578	2013-10-16 16:39:04	54972	guardian	1524100	1061	4		http://twitt	FALSE	FALSE	Skylanders online game virtual
2805579	2013-10-16 16:39:04	48517	guardian	1524100	1061	27	Ethiopia, worldfoodday	http://twitt	FALSE	FALSE	REthiopia embraces humble pet
2805580	2013-10-16 16:39:04	47897	guardian	1524100	1061	37		http://twitt	FALSE	FALSE	Injured kangaroo captured insid
2805581	2013-10-16 16:39:04	47876	guardian	1524100	1061	70		http://twitt	FALSE	FALSE	Wildlife Photographer of the Y
2805582	2013-10-16 16:39:04	46717	guardian	1524100	1061	27		http://twitt	FALSE	FALSE	Albrecht Dürer's rare work goe
2805583	2013-10-16 16:39:04	43444	guardian	1524100	1061	5		http://twitt	FALSE	FALSE	Poll: what would constitute a s
2805584	2013-10-16 16:39:04	40885	guardian	1524100	1061	11	@Guardi	http://twitt	FALSE	FALSE	For UK followers, Charlots of F
2805585	2013-10-16 16:39:04	39992	guardian	1524100	1061	52		http://twitt	FALSE	FALSE	Tesco to give surplus fresh food
2805586	2013-10-16 16:39:04	35968	guardian	1524100	1061	40		http://twitt	FALSE	FALSE	World Cup 2014: Everything you
2805587	2013-10-16 16:39:04	33476	guardian	1524100	1061	38		http://twitt	FALSE	FALSE	Should prisoners be given the r
2805588	2013-10-16 16:39:04	33197	guardian	1524100	1061	15		http://twitt	FALSE	FALSE	Philippines earthquake clean-up
2805589	2013-10-16 16:39:04	31956	guardian	1524100	1061	18		http://twitt	FALSE	FALSE	Should newspapers ban letters f
2805590	2013-10-16 16:39:04	29555	guardian	1524100	1061	66		http://twitt	FALSE	FALSE	Four out of five UK children 'not
2805591	2013-10-16 16:39:04	29469	guardian	1524100	1061	9		http://twitt	FALSE	FALSE	Skylanders online game virtual
2805592	2013-10-16 16:39:04	28282	guardian	1524100	1061	17		http://twitt	FALSE	FALSE	Nicola Roxon says Kevin Rudd w

Figure 4. Sample Tweet Data in Excel Output

discovery in this controlled and well-defined process may be arguable. Twitter provides tremendous data content as seen in the figure below. It provides the data through its API, bound by a set of stringent rules.⁶ The array data that is associated with each message takes significantly more information to describe. Each element is contextualized with status updates. The messages (Tweets) are capable of describing themselves with a focus on the users⁷ profile data, including

the number of status updates and where they sent the update from.⁸

The Twitter API offers both fire hose and sprinkler connections for data downstream.⁹ The fire hose

developer rules of the road. Retrieved from <https://dev.twitter.com/terms/api-terms>

⁸ Tremendous metadata hidden inside Twitter makes this social media successful as described by Paul Ford's article Ford P., (2013, November 07). The Hidden Technology That Makes Twitter Huge. *Bloomberg Business Week: Technology*. Retrieved from <http://www.businessweek.com/articles/2013-11-07/the-hidden-technology-that-makes-twitter-huge>

⁷ Twitter Developers. (2013, July 2). *Contents are prohibited to service as datastores or datasets to be shared.* Twitter

transmits 50 million daily tweets, which is impractical and impossible for almost all users. The sprinkler model is one that is most commonly deployed. This is the profile that GW SFM uses to collect and aggregate data requested by faculty members, using a specific filter for the stream—hashtags, or keywords, or particular users, as shown in Figure 4.

Conclusion

Librarians engaged in this social media project have both enriched and empowered other faculty research experiences and raised the library's profile and stature among faculty. The success of any project hangs on one's ability to engage several vital elements—the right personnel with the right skills to access effective technologies. The social metadata harvested via SFM formed a rich resource for cultural heritage studies and research at the University. SFM was awarded the

IMLS Sparks Ignition Grant to advance the automation of data collection.¹⁰ Its principal investigator has looked beyond the project's original scope. The collection has expanded to include university archives and enlisted several partner institutions to test its services. The collective experience and insight shared by partnering institutions enrich and strengthen faculty's teaching and research activities. As a natural outgrowth of combining personnel talents and skills to meet users' needs, it perhaps exceeded their expectations. This overall experience helped the GW librarians to think about what they should be doing in order to prepare for tomorrow, and to realize that they already have many technological, cultural, and information literacy skills to offer in today's technologically rich research environment. Librarians stand at the ready for their next quest into the future of libraries.

⁹ Fire hose connection is for everything, anyone tweets, anywhere. Sprinkler is for filter or search the stream for hashtags, or keywords, or users.

¹⁰ George Washington University Libraries. Retrieved from <http://www.arl.org/news/community-updates/2830-four-arl-libraries-awarded-ims-sparks-ignition-grants>