Evidence Based Library and Information Practice

Evidence Summary

The Presence of Web 2.0 Applications Is Associated with the Overall Service Quality of Library Websites

A Review of:
Chua, A. Y. K., & Goh, D. H. (2010). A study of Web 2.0 applications in library websites. *Library & Information Science Research, 32*(3), 203-211.

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Abstract

Objective – To determine the prevalence and use of web 2.0 applications in library websites and to determine whether or not their presence enhances the quality of the sites.

Design – Content analysis.

Setting – Public and academic libraries in North America, Europe, and Asia.

Subjects – A total of 120 academic and public library websites in English.

Methods – This study identified and selected library websites from academic and public libraries using a combination of directories, ratings reports, and ranking lists from three geographic regions. Over a four-month period in 2009, three coders conducted a three-step content analysis of the selected library websites. This analysis was conducted after having established inter-coder reliability using Cohen's Kappa and analytic procedure familiarity, using a randomly selected pilot set of 30 library websites. The remaining 90 websites were evenly distributed among the three coders for analysis. They determined whether web 2.0 applications were present, examined how those applications were used, and gave an overall appraisal of website quality. Coders inspected library website links, conducted site searches, used search engines, and searched within major social networking sites to determine the presence of web 2.0 applications. A quality framework classification scheme was used during coding

to identify how the web 2.0 applications were being used within library websites. This framework was established around four dimensions of library services: information acquisition (blogs and wikis), information dissemination (Rich Site Summary, or "RSS"), information organization (social tagging), and information sharing (social networking and instant messaging). A five-point Likert scale was also used in concert with a website quality evaluation framework to assess the quality of the library websites. This framework included three aspects of website quality: system quality, information quality, and service quality. A combination of statistical techniques such as Chi-square analysis, Cramer's *V*, analysis of variance, Tukey's statistic, and multiple regression were then used to analyze the findings.

Main Results – Web 2.0 applications have been adopted by libraries across North America, Europe, and Asia. The most popular web 2.0 applications were blogs (56.6%), RSS (50%), and instant messaging services (46.6%) while less prevalent were social networking services (20%), wikis (16.6%), and social tagging applications (16.6%). The extent of libraries' adoption of web 2.0 applications also varied according to region. North American libraries used all web 2.0 applications most consistently and were more attuned to heavier users, particularly with regard to information sharing applications (e.g., instant messaging, social networking). European libraries lagged behind those in Asia in embracing information acquisition applications (e.g., blogs, wikis) but were comparable to other regions. Social networking services and instant messaging were strongly associated with region; RSS, blogs, and social tagging showed moderate to moderately strong associations; and only wikis did not demonstrate a statistically significant association with region.

This study also identified how web 2.0 applications were being used. Blogs were used to generate interest, engage users, and endear users to library personnel, while wikis culled resources from users thematically. RSS feeds communicated news, events or resource updates, and were also used in combination with library blogs. Social tagging invited users to save, organize, and share information, while some websites used librarian-generated tags for search and discovery or included them as tag clouds in library blogs. Instant messaging was used to assist users synchronously during scheduled timeslots; meanwhile, social networking sites offered alternate channels to communicate and build connections with users.

The authors found a relationship between website quality and the presence of web 2.0 applications based on the criteria presented in their quality evaluation framework. Applications facilitating information sharing (i.e., social networks and instant messaging) had a stronger influence on a website's overall quality than those being used for information acquisition and dissemination (i.e., RSS, wikis, and blogs). Web 2.0 applications among academic and public libraries shared a similar level of presence on the library websites; therefore, the type of library is not associated with the quality of the library website. North American websites tended to be higher in quality than European or Asian library websites, and differences in quality between European and Asian sites were insignificant.

Conclusion – This study reveals that libraries in various geographic regions adopt web 2.0 applications differently. Web 2.0 applications in library websites enhance users' experience with library resources and support their interests. Library websites are implementing web 2.0 applications in a myriad of ways, including using these applications in concert with one another to increase user engagement. The presence of web 2.0 applications strongly affects service quality but only weakly influences information quality.

Commentary

This study is one of the first to investigate the extent of web 2.0 applications as implemented in library websites and whether their presence contributes to website quality. Based on the

web 2.0 and website evaluation literature, the authors propose two valuable frameworks: one for identifying web 2.0 applications, and another for evaluating quality within library websites. This information can assist web designers and administrators in planning, implementing, managing, and obtaining support to employ web 2.0 applications, and for creating policies for their implementation.

The methodology was well designed though not without weaknesses. The authors recognized the limitations of their study, such as only including English-language websites and seeking out just six specific web 2.0 applications within those sites. There are additional flaws not addressed by the authors, however, and these include the geographic areas from which the sample websites were taken; the methodology used to select the websites; a lack of accounting for the influence of culture on the adoption of web 2.0 applications; and an error in the data analysis.

The geographic categories examined are overly broad and uneven. The Asian websites analyzed included libraries in Australia and New Zealand, while North American websites examined omitted Canada. This may be due to the methods that were used to select the websites. Using web rating and ranking lists biases the sample in favour of those more apt to be included in such lists: in other words, large and affluent public or academic libraries. Such libraries are likely to have a solid web presence with large user bases, influencing the presence of web 2.0 applications in their websites. Thus, the findings may not apply to smaller or less affluent libraries.

Cultural nuances affecting the adoption of web 2.0 applications were not accounted for, nor discussed. Web 2.0 applications are well known in the United States, but may not be as familiar or popular in the other regions included in the study. Varying rates of Internet penetration were also not addressed in depth. A library's user population may also influence the presence of web 2.0 applications.

An inaccurate generalization is made by including social tagging (i.e., information organization) within the variables identified to have strong influence on overall website quality when their data show it not to be a significant variable in relation to the dependent variable of information quality.

Despite its limitations, however, this study offers a baseline for future studies to build upon, and the authors themselves call for further research into this topic. As web 2.0 applications rapidly emerge, it will be prudent to revisit these questions in order to understand trends in their adoption for use in library websites.