Evidence Based Library and Information Practice

Library Users Attempt to Access a Wide Range of Information beyond Books and Articles through a Single Search Box

A Review of:
Lown, C., Sierra, T., & Boyer, J. (2013). How users search the library from a single search box. *College & Research Libraries, 74*(3), 227-241. http://dx.doi.org/10.5860/crl-321

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Abstract

Objective – To identify how users use a single search box.

Design – Transaction log analysis.

Setting – A large research university in North Carolina, United States of America.

Subjects – Search results from a customized single search box on the library's home page, consisting of 739,180 searches and 655,388 hyperlink selections.

Methods – The authors used custom logging software to generate transaction logs of all searches that took place over two semesters (August to December 2010 and January to May 2011) in *QuickSearch*, a custom-made, combined search application. The study tracked search queries and hyperlink selections, noting which modules in the discovery interface (articles, catalogue, databases, and others) were selected and, from these modules, which hyperlinks were clicked.

Main Results – Transaction log analysis was conducted on over 739,000 searches during the two semesters and over 655,000 hyperlink

selections from the results interface. The 20 most frequent queries made in *QuickSearch* were primarily for specific resources (database titles or journal titles), administrative information, and library services. The 153 most popular searches made up 10% of all searches. Hyperlinks to full-text articles (41.5%) and the catalogue (35.2%) accounted for about 76% of the links selected. About 23% of links selected were for other modules (e.g., FAQs, "best bets," and journal titles). Hyperlinks that led directly to specific items were selected more frequently than hyperlinks to a full list of results.

Conclusion – Analysis of user transaction logs suggests that users do not understand what is being searched in a combined search box and that search applications need to direct users more effectively to resources beyond the catalogue and article databases. Users attempt to access a wide range of information from a single search box, and the most commonly used modules in *QuickSearch* do not serve many of the most frequent queries. Many of the most common queries can be defined and addressed with a predefined list of results, improving the quality of results and the search experience for users. Ongoing evaluation and analysis of the search interface and subsequent optimization for the most frequent queries can improve user experience.

Commentary

This article is one of a number of recent articles on combined search applications and web-scale discovery services. Whereas most of these recent articles discuss administrative concerns related to the acquisition and implementation of discovery services or the functionality and design of specific tools, this article attempts to examine user behaviour in relation to one of these tools. This article is relevant to libraries seeking evidence of how users actually engage with a single search box on a library website.

This article builds on an existing body of literature on user behaviour in the context of library catalogues and web search engines. It employs a methodology whose strengths and weaknesses have been thoroughly examined (Jansen, 2006) and that has been demonstrated to be valid in these other contexts. In addition, this study meets the criteria for validity established by the EBL Critical Appraisal Checklist (Glynn, 2006). By means of a comprehensive literature review, the authors situate their study firmly within this body of research and make a solid argument for the significance of their study and their findings.

Transaction log analysis (TLA) is a useful methodology for studies of user behaviour with a defined information system, and it provides clear evidence of interactions that can be used to identify some aspects of user behaviour and improve the design and function of information retrieval systems (Jansen, 2006, p. 409). Further research on user behaviour with single search applications could effectively employ TLA in combination with other quantitative and qualitative data gathering techniques (e.g., surveys, questionnaires, interviews, and focus groups) to address some of the limitations of this methodology, provide a more complete picture of the users behind the behaviours, and inform the design of discovery platforms.

Overall, this study is well designed and is particularly strengthened by the large sample size obtained by the authors. It features detailed discussion of specific actions taken by users, changes implemented to address problems, and the impact of these changes on the use of the search application. This study provides evidence of the impact and importance of continuous gathering of data, regular adjustments and revisions, and occasional substantive changes to the software to direct users to the most appropriate resources. It also indicates that data from TLA may uncover "latent demand for resources" that are not found in a single search

box, which is information that could be applied not only to improving system design but also to collection development and even user education (p. 240).

The authors make several observations about user behaviour that can inform the development of discovery services and single search boxes in other libraries. The utility of this study for other libraries is somewhat limited because it describes custom-made discovery software that few libraries have the capacity to create and uses custom analysis software to gather specific data from transaction logs. Libraries using vendor-supplied commercial products may be reliant on the vendor to share this type of data or conduct this type of research on their behalf. The ability to make significant changes to the search interface based on evidence of user behaviour may also be beyond many libraries' capabilities. Nonetheless, this study provides solid evidence to inform the user-centred design of library websites and the employment of discovery services to provide a single point of access to a variety of library resources via multiple platforms.

References

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