

How to take a book off the shelf: Learning about ebooks from using a physical library

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ABSTRACT

Little is known about how people select ebooks or books. This paper reports initial results of a study in which we observe patrons of two libraries when selecting books. From the results of the study we aim to gain insights into book selection strategies, which may be used to support ebook selection and purchasing.

ACM Classification Keywords

H3.7. Digital Libraries: User issues; H5.4 Hypermedia: User Issues

INTRODUCTION

Late 2009, e-book sales surpassed sales of physical books on Amazon (2009). At the same time libraries increasingly offer e-books in addition to or instead of physical books (Bailey, 2006). There is evidence that readers' perceptions vary regarding what e-books are and the relative advantages of digital and physical formats (Shelburne, 2009). In addition, a growing number of readers no longer enter libraries, but access information from e-books or online book snippets.

In this emerging market, understanding how format affects the book selection process is vital for libraries, booksellers and publishers. Taking out a physical book from the library typically consists of the following steps:

- (1) searching the catalogue for books of interest,
- (2) physically retrieving the books from the shelves, and
- (3) reading the book for the desired content.

The first and third steps have been well studied; the step of retrieving the book from the shelves has been overlooked as not being of significance to the book selection process. We argue, however, that at this point the reader is typically verifying whether or not the potentially useful book (identified through catalogue search) is actually relevant to their information needs. Further, during physical retrieval of the book, a reader typically also browses the adjoining shelf space for other interesting books and, again, uses physical cues to decide which books to take home.

Surprisingly, which cues readers use has not been formally investigated. A fine-grained understanding of how people use the physical cues can have implications for effective presentation of physical books. Additionally, these insights may be transferrable to e-books to create more effective display and search systems.

Little is known about why readers are choosing one reading medium over another. Reynolds et al. (2010) found that patrons primarily seek physical books in libraries (less than 1% of requests are for e-books) but no details about the readers' preference and motivation are given. The e-book discovery behaviour of readers remains similarly unexplored. Recent changes in the reader acceptance of e-books calls for further investigation of the readers' motivation and strategies when selecting both digital and physical books.

Existing studies lack sufficient detail to be used for comparison with e-book analysis, as they do not provide page-level usage analysis. We further note that with both physical and digital books, there is often a time lag between selecting a book and actually 'using' that book. Currently the reader's reasons for selecting a book are not captured – potentially leading to later confusion about why a book was initially selected. Often readers find several books of interest during the information seeking process that they want to set aside for later reading; how readers manage this has thus far remained unexamined.

The work reported in this paper seeks to understand what factors contribute to decision making when selecting books by observing patrons in physical libraries. We operate with the assumption that decision-making strategies in a digital environment will be similar to those employed in the physical library, and thus insights gained from the physical library may be transferrable onto eBook selection. We here report about the first results of a study using patron observations and interviews.

RELATED WORK.

Even though e-book acquisition and access is being explored for both physical and digital documents in several library-based studies, many of these studies concentrate on the relationship with existing acquisition procedures (Herrera & Greenwood, 2011) and financial implications (Tyler et al, 2011), with limited investigation of reader concerns. Book selection strategies of children have been extensively studied (Reutzler & Gali, 1998; Reuter & Druin, 2004) but the results cannot be easily

transferred to adult scholarly book selection. Rowlands et al. (2007) confirm the observed gap in the knowledge of reader behaviour in book discovery and the need for greater investigation (while acknowledging a growing literature regarding e-journals).

While information seeking behaviours in digital environments have been investigated, e.g., by Christianson et al (2005) and Korobile et al (2011), little is understood about the relationship between print and e-book selection. Readers cite convenience, portability, searchability and currency as factors in choosing e-books over print (Hemon et al (2007); McKay (2011); Li et al (2011). Research by McKay has provided insight into e-book reading behaviour, but acknowledges that the equivalent information is not available for printed books. Relevance decision making (i.e. triage) has been studied for digital documents (Loizides & Buchanan, 2009) but not for books in digital or physical format. Previous research into information seeking (Buchanan et al, 2005) did not address the issue of book selection strategies.

STUDY DESIGN

We observed how physical books are assessed when a patron approaches a library shelf. We focussed on research and study related books, as fictional books are expected to be treated differently by the patrons.

We observed book location behaviour, that is, how patrons locate a desired book. We noted book sampling behaviour, that is, if patrons read the index, table of contents or other significant parts of the book to determine if this book is interesting. Subsequently, we briefly interviewed patrons as to which physical cues they use to decide which books to take home.

We used the taxonomy that was introduced by Reutzell, & Gali (1998) for the observation of patrons, and a one-page questionnaire for the guided interview. The taxonomy had six dimensions:

- (1) book location behaviour,
- (2) book sampling behaviour,
- (3) library geographical knowledge,
- (4) motivations to chose,
- (5) motivations to reject,
- (6) limitations.

Here we only discuss results related to dimensions 1 and 2 of this taxonomy. The interview was designed to be short and avoid undue disruption to other library patrons (as these interviews were executed in-situ). The questionnaire had nine questions (in addition to some general meta-data):

1. What are you searching for?
2. Is this the book/s you intend to get? Why (not)?
3. How did you decide (not) to take this book?
4. Will you [...] read it in the library?
5. Have you thought of getting an ebook instead?
6. We noticed you did Why?
7. Did you begin searching the catalogue) in the library or before?
8. What did you search?
9. Please explain your notes [from the search].

RESULTS

The study is still ongoing; here we report our results from the first 26 observations in two libraries (University of Waikato and BAM Berlin).

Book location behaviour. The chart in Figure 1 shows how many of the observed 26 patrons used each of these characteristics.

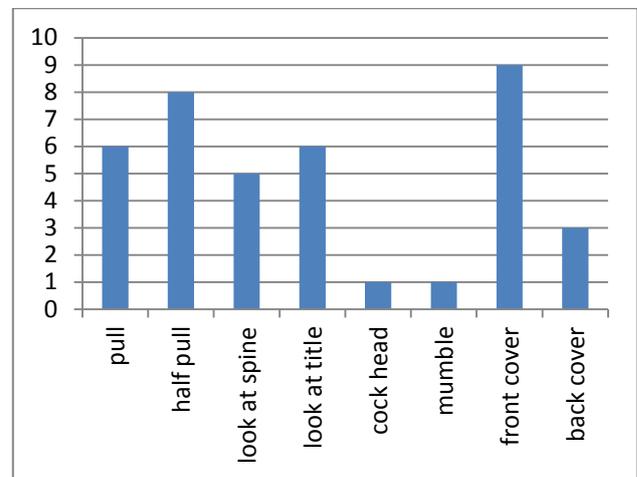


Figure 1 Book Location Behaviour

The observation that only 8 of 26 seem to look at the spine refers here to the number of patrons who explicitly *read* information on the spine. One of the 26 glimpsed a book cover when walking past a shelf end and then checked the book's content. All other observed patrons had to *look* at the spine as none of the books were displayed with their front cover visible.

Tilt and half pull were interpreted by the observer as intention to glimpse the cover page but this could not be observed directly. Pull refers to the action of lifting the book off the shelf to examine it (close to the shelf, not reading).

Almost all patrons had previously searched the catalogue. Most of the patrons who did not were familiar with the library and proceeded directly to the shelves or sections they had used previously to acquire similar material. Only one patron had discovered a book by simply walking past a shelf (it turned out to not be relevant to the topic he had thought).

Book Sampling Behaviour. This describes the actions of the observed patrons after they took a book off of the shelf to examine it further. Figure 2 shows a summary of the activities of the observed patrons.

24 of the 26 observed patrons took books off the shelf to examine them further. More than half of these patrons looked at the table of contents, which was then often followed by reading parts of pertinent chapters.

Many researchers at BAM reported that they arrive at the library to check or read up on references they discovered in related literature. Once they have found a book they immediately turned to the desired chapter (often found by page number) to check whether the correct text is included in the book. They then make a paper copy of the article to read in detail in their office.

Students at the University of Waikato library predominantly took books home. Different to researchers at the BAM library, these students did not plan to copy (parts of) the text. Nor did they plan to read the book in the library. One reason may be copyright issues or the greater distance between the library and the place at which the University of Waikato students plan to read the book. BAM researchers can easily return if they need further information as the library is close to their offices.

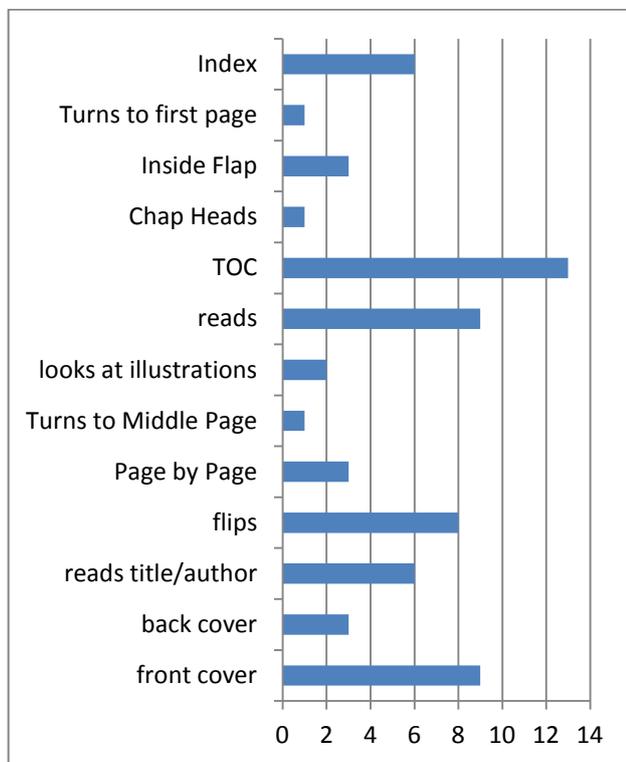


Figure 2: Book Sampling Behaviour

DISCUSSION

Here we discuss selected observations in details, in particular in comparison to previous study results.

Adult/children. Initial observations seem to confirm the hypothesis that there are differences in user behaviour in a physical library for adult or tertiary students as compared to children observed by Reutzel & Gali (1998). Users have shown to predominantly judge books from sight, not needing to run fingers along the spines of books as was prominent for children in Reutzel & Gali's observations. The tilt and look mechanism was prevalent in our early results.

Decision Criteria. Most users made judgments based on many of the typical book orientation mechanisms, cover, TOC, index etc. There was a divide of users who were able to make decisions in the stack and users who preferred to undertake a second round of resource culling at a library desk or seated area. Most users planned to make a decision before checking material out of the library or copying a selection for later use.

Catalogue Use. Users were typically found to have searched the library catalogue before entering the stack and often held hand written notes that guided their shelf search. These hand written documents varied significantly

with users implementing various strategies to locate books. Combinations of call numbers, titles and authors were prevalent with limited numbers to make broad assessments of this at present. From these early results it appears there was a fair divide of users who searched before entering the library and users who searched at the library during this visit.

Physical/digital books. When asked about a preference for physical books or e-books users discussed a variety of reasons for them looking for physical resources over electronic. Few were unaware of the potential to access electronic resources, however, many claimed that they had limited access to electronic resources for their needs or courses. There did not seem to be a prevalence of users who claimed a preference for a particular type of resource either physical or electronic.

Speed. Different to Buchanan observation (where over half the shop patrons showed a "grab and go" strategy; Buchanan & McKay, 2011), all observed library patrons studied the books in detail to decide whether to take them). This was also the case for those patrons that had previously used the catalogue to identify the books they wanted. A reason may be that almost none of the patrons took books into a readings room, most of them planned to take them out of the library building.

FUTURE WORK AND PROJECT CONTEXT

Our study is currently ongoing at four libraries. The study is part of a larger project into access behaviour for e-books and physical books across several universities. The project has three phases.

Phase 1 (Anchor studies): An anchor study examines existing log data from e-book access in university libraries and explores how physical books are assessed when a patron approaches a library shelf.

Phase 2 (Patron-driven): We explore seven types of patron situations. Patrons may want to recommend e-books (S1) by selecting from the pre-defined catalogue at the library, (S2) by identifying books that are not in the catalogue, (S3) by specifying a subject (no specific book), (S4) when encountering a physical book in a shop or conference, (S5) when encountering a digitized version on Google Book, (S6) when encountering a book in online book shops, (S7) when attempting to inter-loan a book at the library, (S8) when a book is not available at the library. Each situation is addressed by a (software-based) study to log data access and patron feedback.

Phase 3 (Interviews): The observational studies from phases 1 and 2 will be followed by interviews with patrons and librarians. We plan to verify insights and gain further understanding of patron behaviour in these interviews. The goal is to identify readers' motivations for, and beliefs about their book selection process. Similarly, librarians often act as gatekeepers to ensure quality and affordability of (e)book purchases. Their influence of books available and their perception for patron behaviour is explored in these interviews.

The study reported here is part of the anchor phase of the project.

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REFERENCES

- Amazon new release Dec 26, 2009, online at <http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=1369429>
- Bailey, T. P. (2006) Electronic Book Usage at a Master's Level I University: A Longitudinal Study. *The Journal of Academic Librarianship* 32, 1, 52-59.
- Buchanan, G. S. J. Cunningham, A. Blandford, J. Rimmer, C. Warwick (2005): Information Seeking by Humanities Scholars. *ECDL'2005*, pp218-22
- Buchanan, G. Dana McKay (2011): In the bookshop: examining popular search strategies. *JCDL 2011*: 269-278
- Christianson, M. & Aucion, M. (2005). Electronic or printed books: Which are used? *Library Collections, Acquisitions and Technical Services*, 29(1), pp71-81.
- Hernon, P., Hopper, R., Leach, M. R., Saunders, L. L. and Zhang, J. E-book Use by Students: Undergraduates in Economics, Literature, and Nursing. *The Journal of Academic Librarianship* 33, 1, (2007) 3-13.
- Herrera, G. and Greenwood, J. (2011) Patron-Initiated Purchasing: Evaluating Criteria and Workflows, *Journal of Interlibrary Loan, Document Delivery & Electronic Reserve*, 21 (1 & 2) pp9-24.
- Korobili, S., Malliari, A & Zapounidou, S. (2011). Factors that Influence Information Seeking Behavior: The Case of Greek Graduate Students. *The Journal of Academic Librarianship*, 37(2) pp 155-165.
- Li, C., Poe, F., Potter, M., Quigley, B. and Wilson, J. (2011) UC Libraries Academic e-Book Usage Survey.
- Loizides, F., G Buchanan: An Empirical Study of User Navigation during Document Triage. *ECDL 2009*: pp138-149
- McKay, D. "A jump to the left (and then a step to the right): Reading practices within academic ebooks". *OzCHI'11*, November 2011
- Reutzell, D. and Gali, K. (1998) The Art of Children's book selection: a labyrinth explored, *Reading Psychology*, 19(1), pp 3--50
- Reuter, K., & Druin, A. (2004). Bringing together children and books: An initial descriptive study of children's book searching and selection behavior in a digital library. *ASIST Annual Meeting*. pp. 339-348
- Reynolds, L.J. Pickett, C., vanDuinkerken, W. , Smith, J., Harrell, J. And Tucker, S. (2010) User-Driven Acquisitions: Allowing Patron Requests to Drive Collection Development in an Academic Library, *Collection Management*, 35(3) 244-254
- Rowlands, I., Nicholas, D., Jamali, H.R., Huntington, P. (2007) What do faculty and students really think about e-books?, *Aslib Proceedings*, 59(6), pp 489-511.
- Shelburne, WA (2009) E-book usage in an academic library: User attitudes and behaviors, *Library Collections, Acquisitions, and Technical Services*, Volume 33, Issues 2-3, pp 59-72
- Tyler, D.C., Melvin, J.C., Xu, Y., Epp, M. and Kreps, A.M. (2011) Effective Selectors? Interlibrary Loan Patrons as Monograph Purchasers, *Journal of Interlibrary Loan, Document Delivery & Electronic Reserve*, 21(1 & 2) 57-90.