

Introduction

As information technology innovations throughout the 21st century, such as widespread Internet usage and e-books, have affected the mechanisms and behaviors by which the public receives information and consumes media, libraries have been forced to evolve their services accordingly. A 2016 survey from the Pew Research Center found that roughly 80% of Americans firmly believe that libraries “should offer programs to teach digital skills” (Horrigan 2016, n. p.). These necessary and demanded skills range from simply knowing how to use computers and smartphones to being able to critically evaluate online news sources. Research data supports this suggestion that American society suffers from a widespread lack of skills for critically analyzing digital media: a 2016 Stanford study (Wineburg, McGrew, Breakstone, & Ortega) found that elementary- through high-school students widely struggled to accurately identify sponsored content and criticize misleading information. Having recognized these lacking skills, libraries are increasingly looking to fill these educational gaps: in 2016, “about 55% of academic libraries reported that they incorporated information literacy into student learning or student success outcomes” (Rosa & Storey 2016, p. 90).

In addition to merely providing modern technology-based programming and related services, libraries must be able to promote such offerings in order to engage members of their respective communities through currently underutilized educational resources that address the skill deficiencies highlighted above. sustaining the critical positive influence of libraries on society. This prospectus proposes a review of literature and data related to library promotional methods in order to understand their effectiveness and potential for extensions, ultimately helping libraries consistently provide educational resources to guide the use of modern digital

information technology and media. This study will consist of a centralized analysis of current research that discusses the core values and tenets that make libraries effective in appealing to their communities (Rosa & Storey, 2016; Sung & Hepworth, 2013; Stenstrom, Cole, & Hanson, 2019), which can be augmented with analyses comparing the effectiveness of different library promotional techniques (Yi, 2016). This knowledge base will provide a greater understanding of the viability of fostering increased meaningful public engagement with library services through online promotion. In addition, this prospectus proposes a technical attempt to promote the technology-focused resources of the University of Virginia (UVA) Library in order to involve more students and faculty with those offerings and improve the university's academic discourse.

Technical Topic: Developing a Web Browser Plugin to Promote UVA Library Resources

Academic libraries, due to their heightened expectations to contribute to intellectual advancement and research at prestigious institutions, carry their own adaptations to the increasingly electronic-focused learning environment of the 21st century in the form of dedicated library websites, academic database aggregation services, and data analysis services, to name a few examples. The information commons, originally defined in 1999 by Leighton and Weber, describes a model of some of the library technologies and resource utilization techniques that have been designed to reinvigorate the usefulness of the modern academic library (Leighton & Weber, 1999; Seal, 2015). The model can be summarized as a combination of a unified online platform to access digital services and a physical organizational space designed to deliver services based around that online platform. As an example application of this model in discussing the institution of the Loyola University Chicago Information Commons, Seal asserts that this modern library organization “facilitates the creation of knowledge via multiple types of

hardware and software as well as a vast array of online resources with ready access to library and technology professionals for guidance in their use,” specifically highlighting a wide range of facility offerings such as “numerous high-end Mac desktops for audio and video editing” accompanied by “workshops on technology tools and online library resources” and “a variety of study spaces with around 700 seats that accommodate different learning styles. He reports that “Almost immediately, the Loyola IC became a focal point for student gathering, both for study and research as well as social interaction” (Seal 2015, p. 566).

The UVA Library supports similar modern facilities and online platforms to enable engagement with students based around their chosen digital methods of learning and research. In addition to combining technological infrastructure, device availability, and physical spaces in areas such as the Robertson Media Center in Clemons Library, the UVA Library has emphasized providing personalized services and guidance to students, as evidenced by the establishment of the Georges Student Center, which offers a wide range of advising and wellness offerings such as mathematics tutoring and contemplative sciences classes. However, UVA still lacks a desired level of student, faculty, and public engagement with the range of expanded services supported by its modern library. In a 2018 student survey conducted by the Library, 66.13% of undergraduates polled said that they never attended a Library class or event, despite 65.86% of respondents indicating that they physically visited a Library location weekly (University of Virginia Library 2018, n.p.). Because they are unfamiliar and uninvolved with the range of what they can learn from the library, students are less likely to develop higher level research and technical skills. Furthermore, low engagement with the library becomes a self-compounding issue in that students who are unaware of library services remain distanced from the . As an

example, a student who only uses libraries as physical study spaces may not know how to navigate the library website to access the online Virgo article database search in the event of receiving a research assignment.

To help reduce the inconvenience and barrier to entry of needing to navigate through separate dedicated UVA Library websites to becoming informed of library offerings, this prospectus proposes the development of a Google Chrome browser extension that will provide increased visibility and ease of access to library resources that are relevant to items viewed by users. This online software-based method of library promotion is ideal due to its ease of setup, compatibility with existing online library services, access to helpful browser data (with user consent), and unobtrusive display. Requiring a simple one-time installation, the browser extension can detect which books, articles, or other library-provided services such as 3-D printing users wish to access across common websites such as Amazon or Barnes & Noble, and the software will notify them direct them toward obtaining their desired resource from the UVA Library. Figure 1 below shows the interface for an initial use case where the extension detects the most relevant UVA library book given a user's search on an arbitrary website outside of the UVA domain and displays its availability in a banner, as well as providing recommended items based on that search and further direct Virgo catalog search query capabilities in a dropdown menu. By displaying Library offerings relevant to each individual user based on the web pages they access,



Figure 1: A wireframe diagram outlining the general interface seen by UVA Library Chrome extension users searching for books (Created by Author).

this browser extension can inform users of services that they will be interested in and may not have heard of otherwise.

STS Topic: Effectively Promoting Engagement with Library Resources and Services

Despite the widely held belief in the importance of libraries as public resources, popular awareness and appreciation of the range of offerings and services provided by U.S. libraries is low. Based on survey results gathered by the American Library Association, “In 2018, 53% of [US] voters agree that ‘having an excellent public library is a source of pride,’ which is a significant drop from 73% in 2008” (Online Computer Library Center & American Library Association 2018, p. 10). The prevalence and easy access of Internet media has led to a decreased reliance on libraries for informational resources. In response, libraries must reassert their value as curators of deeper academic skills, knowledge and research. As mentioned in the

introduction, the abundance of online information often misinforms users who are unable to distinguish biased, sponsored, or fabricated content from legitimate facts, and libraries have responded by emphasizing the need to educate the public on critically analyzing information sources as they have simultaneously expanded their digital offerings. As examples discussing this emphasis, John Buschman refers to “an explosion of analyses of and responses to fake news in the aftermath of the 2016 US election” seen in library publications including *Library Quarterly* and *Progressive Librarian* (Buschman 2019, p. 213). Mesthene (1970) provides a useful framework for analyzing the flow of the influence of technological developments on the actions of social institutions, which can be applied to the role of modern informational technology in library service development. He asserts that “the negative possibilities that the pessimistic critics find to be inherent in technology must also be mediated by social institutions and are therefore not inevitable” (p. 22). The need to address these negative implications of Internet media such as fake news falls to libraries as the institution most concerned with the public engagement with and use of information. Researching further with this framework of analyzing organizational responses to negative implications of technology will prove useful in guiding how libraries can respond to the educational deficiencies and uninformed Internet usage consequences that have resulted from this emergent informational technology.

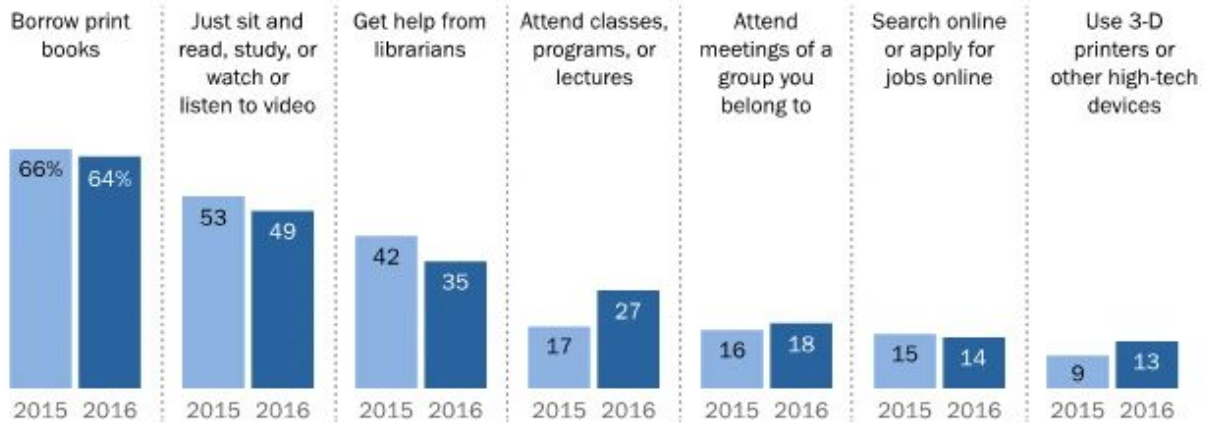
In addition, past research has developed frameworks for defining and understanding the different social facets of general community engagement with libraries. A 2013 study of public libraries in the United Kingdom modeled elements of library interactions with patrons “that were grounded in the reality and perceptions of the community and the participants including the library rather than only from an institutional perspective” (Sung & Hepworth 2013, p. 11). By

collecting data through “semi-structured interviews, direct observation and document analysis” aimed at both information service providers and users, this study codified traits by which users assess libraries, such as “belonging”, “communication”, and “relevance” (Sung & Hepworth 2013, p. 3-4). As another example, a 2019 literature review of 130 academic resources “provides solid insights into findings on library value based on social value and financial ROI”, which includes identifying “three umbrella categories of social value”: “support for personal advancement”, “support for vulnerable populations”, and “support for community development” (Sternstrom, Cole, & Hanson 2019, p. 356). In addition to quantitative conclusions regarding the monetary value provided by libraries, these qualitative analyses of what contributes to a library’s community standing, approval, and public engagement provide useful frameworks for concrete study of how libraries can encourage greater utilization of their services and affect positive change in their surrounding societies. As shown in Figure 2 below, the activity of regular library users still reflects primarily traditional interaction with libraries as sources of physical media such as books. Although data presents certain auspicious indicators of increased use of modern service-based library resources, such as the shown increase from 17% to 27% of users attending classes, programs, or lectures between 2015 and 2016, the overall low level of participation in library services emphasizing technical skills or digital information technology suggests that libraries can improve their promotional efforts regarding those modern offerings.

This previous research can also guide direct courses of action to better promote library services by highlighting the costs and benefits of different promotional options. For example, a

Traditional activities – borrowing books or reading – dominate library use, but people are also attending classes or other programs

% of U.S. library users ages 16 and older who say they did the following at libraries in the past 12 months



Note: 48% of those ages 16 and older used libraries or bookmobiles in the past 12 months.

Source: Survey conducted March 7-April 4, 2016.

"Libraries 2016"

PEW RESEARCH CENTER

Figure 2: A summary of survey findings on frequencies of various library user activities, indicating a relative lack of adoption of non-traditional services (Horrigan 2016, n. p.).

2016 survey of Australian academic librarians showed widespread approval of several digital media techniques for promoting libraries, such as curating library websites, which were perceived as at least somewhat effective by over 95% of respondents (Yi 2016, n. p.). The continuation of this research aimed at gaining a greater understanding of what constitutes effective, sustainable library engagement with the public will enable informed decisions by librarians and policymakers to improve libraries as public servants whose necessity and value often goes underappreciated.

Conclusion

Libraries can fulfill a critical role in enabling the free proliferation and use of information in democratic society. Because consumers now have greater and easier access to an increasing breadth of information and media resources via the Internet, the duties of libraries and librarians in fulfilling their roles as research guides and information caretakers have changed. The ability of libraries as modern institutions to effectively continue this role is threatened when the breadth of online information makes library services seem obsolete, leading to decreased engagement with the uniquely deep wealth of information and education enabled by libraries. This prospectus proposes a study of current and possible future methods of effectively identifying, providing, and promoting library services that are relevant to the modern world of digital information technology. In addition, the delivery of a web browser extension connected to the UVA Library's offerings will attempt to apply this desire to promote important services at the University of Virginia.

References

- American Library Association. (2018). The state of America's libraries 2018: A report from the American Library Association. *America's Libraries*. Retrieved from www.ala.org/news/state-americas-libraries-report-2018
- Buschman, J. (2019). Good news, bad news, and fake news : Going beyond political literacy to democracy and libraries. *Journal of Documentation*, 75(1), pp. 213-228. Retrieved from <http://www.emeraldinsight.com/doi/10.1108/JD-05-2018-0074>
- Horrigan, J. B. (2016). Libraries 2016. *Pew Research Center*. Retrieved from <http://www.pewinternet.org/2016/09/09/2016/Libraries-2016/>
- Jiao, Q. G., & Onwuegbuzie, A. J. (2004, December). The impact of information technology on library anxiety: The role of computer attitudes. *Information Technology and Libraries*, 23(4), 138-144. Retrieved from http://scholar.google.com/scholar_url?url=https://ejournals.bc.edu/ojs/index.php/ital/article/download/9655/8544&hl=en&sa=X&scisig=AAGBfm346D7hvKKgzw4oC2rC3ZeSLGAWvg&nossl=1&oi=scholar
- Leighton, P.D. and Weber, D.C. (1999). *Planning academic and research library buildings*. Chicago, IL: American Library Association.
- Mesthene, E.G. (1970). Preface and Chapter I: Social change In *Technological change: Its impact on man and society* (pp. v-44). Cambridge, MA: Harvard University Press.
- Online Computer Library Center & American Library Association. (2018). From awareness to funding: Voter perceptions and support of public libraries in 2018. *America's Libraries*. Retrieved from http://www.ala.org/advocacy/sites/ala.org.advocacy/files/content/2018_From_Awareness_to_Funding_Report.pdf
- Rosa, K., & Storey, T. (2016). American libraries in 2016. *IFLA Journal*, 42(2), 85-101. Retrieved from <https://journals-sagepub-com.proxy01.its.virginia.edu/doi/pdf/10.1177/0340035216646061>
- Seal, R. A. (2015). Library spaces in the 21st century : Meeting the challenges of user needs for information, technology, and expertise. *Library Management*, 36(9), 558-569. Retrieved from <http://www.emeraldinsight.com/doi/10.1108/LM-11-2014-0136>

Sternstrom, C., Cole, N., & Hanson, R. (2019). A review exploring the facets of the value of public libraries. *Library Management*, 40(7), 354-367. Retrieved from <http://www.emeraldinsight.com/doi/10.1108/LM-08-2018-0068>

Sung, H., & Hepworth, M. (2013). Modelling community engagement in public libraries. *Malaysian Journal of Library & Information Science*, 18(1), 1 - 13. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&db=llf&AN=89393878&site=eds-live>

University of Virginia Library (2018). Surveys and reports. Retrieved from <https://assessment.library.virginia.edu/surveys-and-reports/>

Wineburg, S., McGrew, S., Breakstone, J., & Ortega, T. (2016). Evaluating information: The cornerstone of civic online reasoning. Stanford Digital Repository. Available at: <http://purl.stanford.edu/fv751yt5934>

Yi, Z. (2016). Effective techniques for the promotion of library services and resources. *Information Research*, 21(1), 702. Retrieved from <http://InformationR.net/ir/21-1/paper702.html>

<https://files.eric.ed.gov/fulltext/EJ1227587.pdf>