Technological Innovation in Libraries

Perceptions and Definitions

Abstract

As noted in chapter 3, a survey was administered to all 125 members of the Association of Research Libraries. The original survey follows, consisting of an informed consent form, followed by ten questions.

Informed Consent Form

Purpose of the Study

You are invited to participate in a research study. The study will collect information about the perceptions of technological innovation in research libraries. The purpose of this research is to better define, capture, and exemplify what research library leaders mean when referring to technological innovation in the research library community.

Participants

You are being asked to participate in this study because your institution is a current member of the Association of Research Libraries. The survey is being sent to directors and deans of all Association of Research Libraries member libraries (125 members).

Respondents must consent to participate in the survey before beginning the survey. Responses will be anonymous, and no personally identifiable data will be collected. The last question of the survey references practices or activities that may be associated with your particular library; all other questions refer to technological innovation in libraries in the general sense. The information gathered may be used in a future publication tentatively titled "Technological Innovation in Libraries: Perceptions and Definitions."

Procedures

If you volunteer to participate in this survey, you will be asked to complete a web-based survey. The survey should take no longer than 25 minutes.

Benefits of Participation

There are no direct benefits to you as a participant in this study; however, the literature on this specific topic is limited and findings may be of interest to research library leaders as well as others working in research libraries.

Risks of Participation

There are risks involved in all research studies. This study includes only minimal risks. Participants may opt out of any questions that they feel uncomfortable answering on the survey.

Cost/Compensation

There will not be financial cost to you to participate in this study. The study will take about 25–30 minutes of your time. You will not be compensated for your time. At the end of the survey, you will have the opportunity to submit an e-mail address to be entered in a drawing for a $100 Amazon Gift Certificate. The approximate chances of winning the certificate depend on the number of participants who provide their e-mail address for entry into the drawing, but not less than a one in 125 chance. Your e-mail will not be associated with your responses in any way.

Contact Information

If you have any questions or concerns about the study, you may contact Jason Vaughan at (xxx) xxx-xxxx. For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the UNLV Office for the Protection of Research Subjects at (xxx) xxx-xxxx.

Voluntary Participation

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Confidentiality

All information gathered in this study will be kept confidential. The survey does not ask for identifiable information such as name, library name, institution name, or contact information. Published research derived from this study will focus on presenting data in the aggregate. Any free text comments provided in the survey responses may be used, but will not be explicitly associated with a particular library. All records will be stored in a locked facility at UNLV for at least 3 years after completion of the study. After the storage time the information gathered will be destroyed.

Participant Consent:

I have read the above information and agree to participate in this study. I am at least 18 years of age.

- ❍ Yes, I agree to participate in this study
- ❍ No, I do not agree to participate in this study

Survey Questions

Question 1. Below are several words or short phrases, in alphabetical order, which are often associated with the word "innovation." Please select up to three choices which you feel best "capture the essence" or most resonate with you when you think about technology-focused innovation within the research library community.

- ❍ Adapt
- ❍ Agility
- ❍ Ahead of its time/Before its time
- ❍ Better/Best
- ❍ Change
- ❍ Creativity
- ❍ Cutting-edge

- ❍ Different
- ❍ Disruption
- ❍ Efficient
- ❍ Experimentation
- ❍ First
- ❍ Game changer
- ❍ Initiative
- ❍ New/Novel
- ❍ Proactive
- ❍ Push boundaries
- ❍ Risk
- ❍ Survival
- ❍ Value-added
- ❍ NONE of the words above resonate with me when I think of "innovation"

Question 2. Please provide a sentence or two about why the selected words/phrases above resonate with you when thinking of the word "innovation." Also, if there are other words or phrases, not listed above, that quickly jump to mind or resonate with you when thinking about technology-focused innovation, please list those words.

Question 3. Below are several definitions of innovation, ordered by date. Please select up to three definitions which you feel best "capture the essence" or most resonate with you when you think about technology-focused innovation within the research library community.

- ❍ "A process that includes the generation, development, and implementation of new ideas or behaviors. Further, innovation is conceived as a means of changing an organization, either as a response to changes in the external environment or as a preemptive action to influence the environment. Hence innovation is here broadly defined to encompass a range of types, including new products or services, new process technologies, new organizational structures or administrative systems, or new plans or programs pertaining to organizational members." (Damanpour, Fariborz. "Organizational Complexity and Innovation: Developing and Testing Multiple Contingency Models." *Management Science*, Vol 42:5, May 1996, p.694)
- ❍ "The embodiment, combination, and/or synthesis of knowledge in novel, relevant, valued new products, processes, or services." (Leonard, Dorothy, and Walter Swap. *When Sparks Fly: Igniting Creativity in Groups*. Boston: Harvard Business School Press, 1999, p 7)
- ❍ "Things that change the way we can do what we want to do; [things that] have added value to our daily lives . . . new, desired, or needed services that add value for university faculty, students, and other scholars . . . Innovation is more

significantly about what our target audience can do—about the increased capacity of library users to do what they want and need to do in the way that most benefits their productivity, pleasure, and excellence . . . Facilitating the work of our primary constituents in ways that are new and useful to them." (Deiss, Kathryn. "Innovation and Strategy: Risk and Choice in Shaping User-Centered Libraries." *Library Trends*, Vol 53:1, Summer 2004, pp 18-19)

❍ "Innovation is the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace" (Baregheh, Anahita, et al. "Towards a Multidisciplinary Definition of Innovation." *Management Decision*, Vol 47:8, 2009, p 1334)

❍ "An innovation is a change, in a product, service, process or, more widely, an organization." (Rowley, Jennifer. "Should Your Library Have an Innovation Strategy?" *Library Management*, Vol 32:4/5, 2011, p 253)

❍ "A wise person once told me that innovation isn't just about doing things that are new or different; it's about doing things that in the eye of the beholder (the user, patron, or customer) meet a need that may not have been appreciated before. Innovations are the things that truly alter and improve how we do things; they may even shift our proverbial paradigms." (Kaser, Dick. "Editor's Notes: Innovation Can Be Fun." *Computers in Libraries*, Vol 31:5, June 2011, p4)

❍ NONE of the definitions listed above resonate with me when I think about technology-focused innovation

Question 4. Below are several statements that could impact a decision, at the start, on whether to pursue a particular technology-based innovation. Please choose up to three of the most important items to consider when reviewing or judging for approval a potential innovation for research/application/implementation at your library.

❍ It's something that could be considered "groundbreaking," "radical," or "revolutionary" (as opposed to an incremental innovation). It is something new to libraries or the profession, it is indeed a "first."

❍ It is a service or technology which could positively impact patrons and whose chief goal is to empower patrons and make their lives easier (as opposed to, for example, making a staff process more efficient).

❍ Its impact can be measured or assessed.

❍ It's something staff could leverage into

scholarship and share with peers, to broaden awareness to the larger library community.

❍ The request for the service or technology came from someone in power outside the library (e.g., a provost or president; someone with significant influence who doesn't administratively belong in the library).

❍ It has what you consider strong ties to your institution's higher education goals, mission, or strategic plan.

❍ The costs to the library in terms of staff time to research/implement the innovation can be fairly accurately estimated at the beginning.

❍ The costs to the library in terms of potential needed hardware/software/service agreements associated with the innovation can be fairly accurately estimated at the beginning.

❍ NONE of the statements above impact my decision on whether to pursue a particular technology-based innovation.

Question 5. Are there other major factors, not listed above, which you feel are especially important to consider when reviewing or judging a potential innovation for research/application/implementation at your library?

Question 6. Below are items, in no particular order, that could be considered "innovative." Try to keep in mind that some of these items, which might now be considered commonplace, could have been considered innovative when they debuted. Please rank each item on the sliding scale from 0 to 10 in terms of how "innovative" you think the technology is (or was, if the technology has been "out" or "in use" for a long time). Please approximate the degree to which you feel the particular item is/was technologically innovative for libraries and the services they provide. On the sliding scale, a 0 represents an item you feel is not innovative whatsoever, while a 10 represents something extremely innovative. Items rated below 5 could signify a minor or lesser innovation of value to the research library community; items rated above 5 could signify a major innovation of value to the research library community. If you are unfamiliar with any particular item and are thus unable to provide a rating, please mark the "not applicable" check box for that item. Also note, you can choose to skip any or all item(s) below and choose not to answer in any way.

❍ Library presence within a virtual environment (e.g., Second Life) or a social media venue (e.g., Facebook, Twitter, Pinterest, Flickr)

❍ Reference service beyond face to face or email reference interactions (e.g., virtual delivery of services—video reference, instant messaging, texting, etc.)

❍ Creation of web based multimedia (audio, video) instruction sessions, library tours, FAQs, etc.

❍ Gaming/gamification of something library related (e.g., a game that helps students learn call numbers and book locations in the library)

❍ Hackerspaces/Makerspaces (Wikipedia: "Hackerspaces can be viewed as open community labs incorporating elements of machine shops, workshops and/or studios where hackers can come together to share resources and knowledge to build and make things." http://en.wikipedia.org/wiki/Hackerspace; retrieved March 19, 2013). Such places could include items like a 3D printer and/or other sophisticated and controlled tools, which help build a completed physical object or representation from electronic data.

❍ Espresso Book Machine

❍ Authentication/authorization system allowing for off campus access to library or campus licensed information resources (e.g., a proxy server, a VPN, a single sign-on solution allowing remote access, etc.)

❍ Mobile Library App (e.g., iOS or Android app—a program as opposed to a website) related to some service, function, or information resource associated with the library, whether for users at large or a particular group of library clientele

❍ Mobile library website (a site specifically designed and discrete from a primary library website)

❍ Migrating library related applications which were once traditionally physically hosted at the library or campus into the cloud environment (e.g., Amazon Web Services/Elastic Compute Cloud)

❍ Web Scale Discovery services which index content to a far greater degree than a traditional OPAC—to the article or item level (e.g., Serials Solutions Summon, Ebsco Discovery Service, Ex Libris Primo Central)

❍ New "library services platforms" engineered to replace the more traditional integrated library system (e.g., OCLC Worldshare Management Services; Serials Solutions InTota)

❍ Use of open source software to support a library service or function (e.g., using Drupal or another open source content management system for the library website; an open source ILS; an open source ERM; etc.)

❍ Use of QR Codes for some library function or service (e.g., to link a physical item to a digital equivalent; to help users navigate library stacks, etc.)

❍ Using augmented reality in an application/interface related to a library service or created by library staff (e.g., the Wolfwalk app from NCSU, http://www.lib.ncsu.edu/dli/projects/wolfwalk)

❍ Circulation of mobile devices to library patrons (e.g., laptops/tablets/Kindles /etc.)

❍ Use of APIs to enhance a service or information resource at the library (e.g., to pull and display external book covers in a library catalog; to pull and display bibliographic metadata from external sources into a library catalog record display; etc.)

❍ A wireless network providing coverage to the majority or entirety of a library

❍ Engagement and assistance with campus faculty in the publication/discovery of faculty scholarship (e.g., hosting an institutional repository; providing broker/liaison services to help faculty use an online publishing digital press; etc.)

❍ Use of blogs, wikis, and/or RSS feeds for part or all of a library's primary website.

❍ A patron driven acquisition platform for physical monographs and/or ebooks involving technology infrastructure (e.g., such a system may have virtual records in a library catalog, which a patron can request the library acquire)

❍ Use of RFID (e.g., for tracking/circulating monographs and/or other library assets)

❍ Use of digital signage/wayfinding within your library (displaying items such as library maps, schedules, daily events, special notices, etc.)

❍ Use of an online e-commerce system, accepting payments (e.g., credit card, PayPal) for one or more services/functions at your library (e.g., payment of fines; payment for photo reproductions; etc.)

❍ Use of smartboard technology in some area of the library (e.g., group study room; meeting room; instruction room), which allows students or librarians to interact with onscreen information in different ways (e.g., mark up documents to show other members in a group)

❍ Extensive integration of library related information/resources into an enterprise course/learning management system

❍ Use of video conferencing for purposes such as virtual committee meetings, interactions with vendors, patron instruction sessions, etc. (e.g., Cisco Webex; Skype; etc.)

❍ Implementation and use of VoIP and the capabilities it provides (e.g., voicemail forwarded to email accounts; collapsing the traditional phone network into the single data network; etc.)

❍ Use of tablets/iPads among library staff, in support of library operations/other work related productivity

❍ Extensive use of web analytics to better understand how patrons are using and interacting with the library website, and to inform future website design

❍ Use of data visualization software tools (above

and beyond Microsoft Excel) to help analyze and display data or to show relationships between data (e.g., library statistics, library transaction data, etc.).

❍ Use of recommendation capabilities/features which library patrons interact with to help inform other users of the same system. Example: allowing library patrons to rank/recommend items found in library discovery systems (e.g., library catalog, library digital collections system)

Question 7. Of all the items from the previous question, please select up to three of the items and provide a few thoughts as to why you think the items are "innovative" (and regardless of whether you think it's a "major" or a "minor" innovation). You can use your browser's scroll bar to take another look at the items above.

Question 8. Some items from the previous question you may consider NOT to be innovative, regardless of whether you feel they may or may not be of value. If there are any items above which you feel are not innovative or only marginally innovative, could you please choose up to three of the items and provide a few thoughts as to why you think the items are not "innovative." You can use your browser's scroll bar to take another look at the items above.

Question 9. Are there any ADDITIONAL items, not included in the list, that you consider especially innovative, or hold great promise? If so, could you please list a few such items and provide a few reasons why you feel these are especially innovative. Note, such items could be something introduced years ago and broadly implemented; or it could be a new technology or service that you feel is on the horizon and especially worth watching. A different way of phrasing this question could be "What are projects, either current or historic, within an academic library that you consider innovative? What are the characteristics that make these projects innovative?" (Jantz, Ronald. "Innovation in Academic Libraries: An Analysis of University Librarians' Perspectives." *Library and Information Science Research*, Vol 34:1, 2012, p11.)

Question 10. Below are examples of how a library might support or encourage innovation among staff. Are any of these statements currently true at your library? Please mark all that apply. An "Other" box is also provided at the bottom of the list, to add any additional comments.

❍ Innovation (with a technological component or inference) is mentioned in our Libraries' strategic plan, annual report, or other significant document.

❍ A staff position(s) at the library has as a 'major' job responsibility a focus on technology based Innovation (e.g., conducting environmental scans; trendspotting; leading library projects that could be considered innovative; leading library discussion on innovation; etc.)

❍ The library has a library committee, working group, or organizational department who has as a primary focus the research into and/or recommendation of technologies that could be considered Innovative.

❍ The library has funded one or more staff travel to primarily library-related conferences or external events related to technology, innovation, etc. (e.g., American Library Association Annual Conference; LITA National Forum; Internet Librarian)

❍ The library has funded one or more staff travel to conferences or external events primarily related to technology, innovation, etc., but which are not primarily library focused (e.g., Consumer Electronics Show; Apple Worldwide Developers Conference; another industry event not primarily with a library focus).

❍ The library has funded hardware and/or software purchases that could be considered innovative (e.g., iPads for patron checkout; hardware/software to support synthesis of student research using various media such as audio, video; 3-D printer; Espresso book machine; etc.)

❍ The library has held a meeting open to library staff to talk about Innovation (e.g., a scheduled meeting; a retreat; a brown bag lunch; etc.)

❍ The library currently has an annual, or otherwise regularly occurring, staff award or project award recognizing innovation (e.g., an "innovative solutions award"; an award for the most innovative library project of the past year; etc.)

❍ The library has applied for external grant funding to support a service or project with a strong technology innovation component.

❍ The library provides funding for online webinars, etc. that at times speak to technologies that could be considered innovative.

❍ One or more library staff have taken an organizational development/personality/trait assessment test to better understand such things as their leadership style, level of risk taking comfort, etc.

❍ Staff have been given research time or a temporary reassignment of job duties to pursue a project related to technology innovation.

❍ Other _____

Thank you for taking the survey! OPTIONAL: If you wish, submit your e-mail address to be entered in a drawing for a $100 Amazon Gift Certificate.
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