SURVEY RESULTS

EXECUTIVE SUMMARY

Framework for Innovation and R&D

Research libraries increasingly prize innovation as a key to sustaining a competitive edge in a rapidly changing landscape of library services and content. While informal data suggests that research libraries have increased the amount of effort on innovation and research and development (R&D) in the past decade, it is not clear in what areas these efforts are focused and if the activities are integrated into the library's organizational structure and processes.

The purpose of this survey was to investigate the current state of both innovation and R&D in research library organizations. The survey sought first to understand what outward-facing commitments libraries have made to innovation and R&D, and what foundations are in place to support these activities. It asked who is involved in innovative activities, how libraries organize themselves to create, support, and sustain innovation, and how they measure the resulting outcomes. It also collected data on which research libraries support R&D, at what level, for what purposes, and how these activities are organized, funded, and assessed. The survey was distributed to the 125 ARL member libraries in July 2013 and these results are based on data submitted by 47 libraries (38%) by the deadline of September 3, 2013.

After defining innovation and research and development, the survey asked if the library had a strategic plan or another type of planning document that includes specific references to innovation or R&D. The responses show that the majority of libraries do have such a planning document. Fifteen respondents (32%) reported there is a document that refers to innovation, 14 (30%) reported that their strategic plan refers to both innovation and R & D, and two (4%) responded

that their library's strategic plan mentions R & D. Some respondents noted that their strategic plans refer broadly to innovation, while others identified specific activities that they consider to be innovative, for example, support for digital library development, and the integration of technology into planning for new spaces and user-focused services.

Sixteen respondents (34%) said the library strategic plan does not specifically mention either type of activity. Some of these noted that while the terms "innovation" or "R & D" didn't appear in their strategic plan, they considered one or more of the activities identified in the strategic plan to be innovative in nature.

The survey next asked whether the library has other documents, such as policies or guidelines, that reference either innovation or R & D. About half of the responding libraries do, and half don't (23 or 52%). Eleven of the respondents (25%) indicated that they have policies that reference innovation, six (14%) have policies that reference both, and one has an R&D document. Six (14%) responded that they are developing such documents.

Most of the respondents (36 or 80%) indicated that references to library innovation or R&D do appear in campus-level policies and guidelines. Only a few (7 or 16%) indicated that campus policies and guidelines do not specifically refer to library activities; two noted that campus-level documents are currently in development.

Case Study: Descriptions of Library Innovation Activities

The survey asked libraries to identify one example of a service, product, or process in their library that they considered to be innovative, and to provide further

description and analysis of the specific innovative activity that they had chosen. Through the responses provided, we are able to gain rich insights into more specific types of activities that libraries consider to be innovative. We are also able to see how libraries have supported these activities, how they are assessed, and who is involved in making them happen. Some examples of innovative activities that the responding libraries described include:

- An intensive 3-workshop model for delivering basic instruction and orientation to at-risk students as part of a library-campus-state collaboration.
- Investing resources in curating and preserving collections of freely accessible web content, with support from a foundation.
- Digital Scholarship Consulting Services: a non-service-point-based service designed to assist faculty with any of their digital efforts.
- Implementation of a single search box on the library's homepage that covers all library collections and services.
- Three universities formed a partnership in the areas of shared library systems, remote storage and information services and resources. The intended outcome was to share expertise, reduce costs, and achieve a "seamlessly integrated programme of library collections and services."
- A three-year pilot Technology Prototyping Service focused on developing light-weight software application prototypes to support library operations and services.
- The Alternative Textbook Project to create an alternate textbook or collection of learning objects that would be free to students and would thus enable the faculty member(s) to stop requiring that students purchase a commercial textbook.

Respondents reported that the genesis of the innovation ideas came from a number of levels in the organization. Of the 44 ideas, 24 (55%) came from library administration, 23 (52%) were initiated by a department or unit head, and 15 (34%) were instituted by librarians or other frontline staff. Respondents reported that a substantial number of innovative ideas came from external sources, including seven (16%) from a workshop or conference, six (14%) from another library, five (11%) from another industry, and 20 (46%)

Figure 1. Descriptions of Library Innovation Activities Word Cloud

from another source. Examples of other sources of inspiration include user suggestions, collaboration with other campus units, collaboration between library units, librarians working with faculty, listservs, and other campus contacts.

When asked what forces were the impetus for the innovative activity, most of the respondents (37 or 84%) cited the opportunity to further a library or institutional mission. A substantial number (27 or 61%) cited user expectations as the driver. Slightly more than a quarter of the respondents (12 or 27%) indicated that competition for resources also played a part in the decision to support the innovation. A number (6 or 14%) indicated that the innovative activity was supported by a new source of funding; while three of the libraries (7%) innovated as the result of a reduction in funding. Respondents cited a number of other drivers for the innovation in 29 of the cases (66%). Some examples of the other drivers include:

- Raising the visibility of the library's programs and services in the institution.
- Supporting an already-innovative library staff culture.
- Needing a comprehensive solution to digital preservation challenges.
- Having an opportunity to envision and design a new library from the ground up.
- User expectations.

Library Innovation: Leadership and Structure

The survey further explored the leadership and organizational structure that exists in libraries to support innovation. Respondents were asked to identify the position(s) and/or the unit in the library that is/was administratively responsible for initiating the example of innovation described in the case study. The majority of respondents noted that the library administration was administratively responsible for initiating the innovative activity: six listed the university librarian/dean as the initiator; 19 listed an associate/assistant dean/director. Eight unit or department heads, seven front-line professionals, and one innovation officer initiated other innovative activities described in the case study.

Not surprisingly, the areas that were listed as administratively responsible for starting the innovative activity include library administration (18), a branch library or center within the library (6), IT (5), technical services (5), public services (3), special collections (3), and a team or committee (1). Many of the responses listed additional roles and units that were engaged with an administrator in initiating the activity. Further, a number of initiatives included personnel from multiple units (e.g., instructional services and digital initiatives). This is an indicator that there is a reasonable level of team involvement and input in most of the responding libraries in establishing innovative activities.

Moving deeper into understanding how innovation is accomplished, respondents were asked to indicate the positions and the units at their institutions that are/were responsible for implementing the innovative activity that was articulated in the case study. Twenty-one respondents (51%) identified a specific library unit, 17 (42%) listed a committee or group of units, and two listed library administration. Examples of position titles listed in groups or committees include the following:

- Librarians or IT professionals with web development and content responsibilities
- Scholarly communications librarian
- Digital learning librarian
- GIS specialist
- Visualization Research Coordinator
- Access services manager
- Digital collections librarian

Perhaps most interesting are the collaborations put in place to support innovative activities that require individuals with different skill sets in order to complete work successfully. Examples of collaborators include:

- Archives & Special Collections, Web Resources, Office of Libraries Technology
- IT, User Experience, Digital Library Initiatives, Engineering Services
- Publishing and Curation Services in the library and Digital Library Technologies in the university IT unit.

When asked whether the library provided administrative support for the individual(s) or unit(s) who are/were responsible for implementing the innovative activity, the overwhelming majority (32 or 74%)

indicated that the library did; only 11 (26%) said it did not. The types of support that libraries frequently provide include:

- Support for strategic direction/vision (by university librarian, associate directors)
- Budget planning and management
- Assessment and evaluation (by assessment librarian or committee)
- Grant and funding proposal preparation (provided by a variety of places)
- Travel/conference/workshop attendance
- Reassignment of staff expertise to the project

Library Innovation: Funding

The survey then examined how libraries fund innovative activities through a series of questions that elicited information about both the specific case study example and library support for innovative activities in general. Almost all of the libraries responding (40 or 91%) make funding decisions for innovation on an individual, case-by-case basis. Almost two-thirds of the libraries (28 or 64%) fund the activity in collaboration with other units in the institution. Over half of the libraries (27 or 61%) have made a recurring commitment to innovation, and half (22) have made one-time commitments to innovation. Other strategies articulated in the survey responses include partnerships with other institutions, support for release time, external grants, fund raising, and support from the parent organization through special requests or fees.

When asked to specify the sources of funds that are used to support innovative activities, the overwhelming majority of respondents (93%) indicated that they fund both the case study activity and innovative activities in general from the library's operating budget. Only five libraries reported that they have a separate library innovation budget line. Additional funding strategies reported include a parent institution grant to the library (17 or 39%), internal grants to staff (15 or 34%), a library endowment fund specifying innovation support (9 or 21%), and a library gift fund that is earmarked for innovation (7 or 16%). Twenty-eight respondents noted that they tap other sources of funding to support innovation. Key among these sources are external grant funding from state and federal agencies, private foundations, and monies made available from cooperative organizations to support specific development activities. Other funding sources include lapsing salary dollars, private donations to support specific innovative activities, campus research and innovation funds, and unrestricted library endowment funds.

Twenty-seven libraries reported that their parent institution provides funding to support innovation, and indicated that they obtain innovation funds through a number of on-campus channels. The most frequently reported process for securing funds is through the library annual or periodic budget request (19 or 70%). Special request by the library director to an institutional administrator is another common method of obtaining parent institution support (15 or 56%). Twelve libraries (44%) also reported that they participate in some type of competitive funding process at the institutional level. Other sources of funds include student fees and institution-level funds allocated to enhance technologies and teaching.

While only five libraries reported having a separate innovation budget line, a total of 11 libraries track the amount that is spent on innovative activities. Eight of these reported on the amount they allocate to innovation. Four libraries allocated between $11,000 and $50,000 to the case study innovation, and two allocated $400,000 and $500,000, respectively. Three allocate between $1,000 and $50,000 to innovation overall, and five allocate on a larger scale, ranging from $100,000 to $550,000.

Library Innovation: Staff Skills and Rewards

The survey also explored the types of skills and knowledge that are required of library staff in order to implement the case study innovation. Clearly, the libraries that responded to this survey view the need for new skill acquisition as important for supporting successful innovation. The overwhelming majority of respondents (41 or 93%) noted that staff need project management skills in order to successfully manage the innovation. They also need marketing and publicity skills (32 or 73%), web development (31 or 71%) and programming and scripting skills (27 or 61%), knowledge of intellectual property rights (19 or 43%), and skill in grant proposal preparation (14 or 34%). Other

skills recommended by survey respondents include assessment; an ability to collaborate and to manage collaborations, including the work product, as well as the interactions; facilities and space planning; political savvy; and specific functional and technological skills, such as data curation and management, collection development, and working with large media files.

Survey participants felt that library professionals could gain these skills using a number of means. Everyone indicated that on-the-job experience was one way in which librarians could gain the necessary skills, followed by self-study (37 or 84% of respondents). Other ways librarians could gain the requisite skills, although not to the same degree as on-the-job experience or self-study, include participating in externally offered workshops (22 or 50%), online workshops or courses (17 or 39%), and workshops or courses offered by the library (11 or 25%). Other suggestions for bringing the needed skills into the organization include hiring staff who bring the necessary qualifications, librarians providing mentoring to their colleagues, and consultation with on-campus experts.

Respondents identified numerous professional meeting or conference opportunities that they believe inspire innovative thought and activities. Many of these tend to be technology or technology, service, and policy meetings, such as CNI, the Joint Conference on Digital Libraries, EDUCAUSE, the Digital Library Federation Forum, and the Library and Information Technology Association conference. Others are focused on mainstream library professional conferences, such as ALA, ACRL, and SAA. ARL workshops were mentioned, as were discipline-specific professional meetings, such as the Modern Language Association meeting.

Libraries responding to the survey indicated that they recognize and reward innovative activities in a number of ways, including the merit/performance review process (36 or 82%); press releases to local, institutional, and national audiences (27 or 61%); and through an award or some type of recognition citation (19 or 43%). Respondents suggested that their libraries also use a number of other forms of recognition for innovation, including nomination for a variety of awards, some specifically referencing innovation at the library, institution or state/national levels;

recognition in the library internal newsletter; and increased opportunities for professional development.

Library Innovation: Assessment

The survey explored the ways in which libraries are assessing the outcomes of innovation, specifically asking about the case study example. Assessment is clearly a priority for most of the libraries that responded to the survey. While the motivations for assessment may vary, there is a clear value to assessing and sharing the outcomes of innovative activities. Many of these activities were funded with library operating funds, as well as competitive internal and external funding or donor support, and are likely to be highly visible activities. Assessment provides the objective lens through which to view the merit of any activity, and to determine whether it serves the purpose for which it was intended, or perhaps some other unintended purpose. Seventeen of the 44 responding libraries (39%) have already assessed or evaluated the innovative activity in the case study example, and half plan to evaluate the outcome of their activity. Only a small number of the libraries that responded (5 or 11%) indicated that they had no plans to evaluate their innovative activity.

Libraries who did evaluate the innovative activity reported using a variety of methods to assess the outcomes of the case study examples. The top three assessment approaches used include the collection and analysis of data on use of innovative services or products (26 or 67%), user surveys (20 or 51%), and interviews with individuals who use innovative services or products (20 or 51%). Other methods used include report submission, focus group interviews, pre- and post-tests, citation analysis, and ongoing analysis of customer feedback.

The survey also asked how libraries would characterize the extent of change due to their specific case study innovative activity. Eight of the 44 libraries that responded to this question (18%) thought the change was incremental, nine (21%) judged the change in their library to be radical, and 27 (61%) felt that the change was "somewhere in between."

Research & Development

In order to better understand whether and to what extent libraries have identified research and development

as a component in their strategic mission, the survey also explored R&D as a programmatic area used to support innovation, research, and new programs and services. Thirty-one respondents (69%) indicated that their library invests resources in R&D projects; 14 (31%) said no. Of those 31 who invest in R&D, only nine (29%) indicated that a specific unit has R&D responsibilities. Other comments indicted that R&D responsibilities are diffused throughout the library. The examples of R&D activities reported are very wide ranging. Many of the examples pertain to technology, services, user studies, or space. One interesting reference was made to two "R&D think tanks" that have activities ranging from theoretical exploration to prototyping to development. Eight respondents provided information on the number of staff in the R&D units. They range from one to 10 full-time staff; a few also have part-time or student staff. Most of the units report (6 or 75%) report to someone other than the university librarian.

The 22 libraries that do not have a separate R&D unit often stated that innovation and R&D is expected throughout the organization. "Every manager is encouraged to include innovative opportunities in annual goals of staff," wrote one respondent. Several wrote that 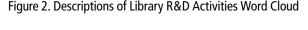they may originate in any unit or from a cross-functional team. The comment below seems to best characterize the responses to this question:

"There is no formal staff or structure. We recognize the importance of it and want the organization to be flexible enough to allow for different units to engage in R&D activities as necessary. Most of our efforts are on a small scale, and our resources in general are limited so this approach suits us well."

Research & Development: Funding

The survey next explored sources of funding that libraries obtain and allocate to R&D activities. All but one of the 30 respondents said that funding for R&D comes from the library's operating budget. Twelve (40%) reported that the library received funding from the parent institution, and twelve noted that funding for library R&D came from external sources. Again, only five libraries reported that they had a separate R&D budget line. One allocates $5,000 a year to R&D. The other four have budgets of $100,000 to $475,000 devoted to R&D activities.

The most common process for securing funding from a parent institution for library R&D is a competitive process at the institutional level, followed closely

Figure 2. Descriptions of Library R&D Activities Word Cloud

by a special request by the library director, and a request included in the library annual/periodic budget.

Research & Development: Assessment

Assessment is clearly important to the 22 libraries (73%) that have evaluated the success of specific R&D projects, and the seven that plan to. Twenty-six of those libraries (90%) collect and analyze data on the use of the project's services or products (or will do so). Other assessment methods include interviewing individuals or focus groups who use the product or service, and user surveys. However, most of the respondents (25 out of 29) stated that they had not assessed or evaluated the utility of R&D activities overall, although eight said that they planned to. The planned assessment processes ranges from very rigorous to informal.

Twenty-seven libraries described how the library determines that a project should move from an experimental to production service. In just more than half of the cases, library administration makes the decision to move forward. Others noted that a project might be moved forward to production on a case-by-case basis, or that user demands are what drive the decision. One of the comments deserves highlighting because it points to the importance of agility:

> "I like to instill the values of lean startup—in this manner measurements and metrics are built into the process. We try to use more of an agile approach—adapting based on use and other insights [from] which the idea, product, or service is being developed. I think the waterfall approach of launch and then wait-and-see assessment does not translate to "innovation" so that's why I selected "No" to the questions about assessment. Most of our R&D does not "assess;" instead, we build/measure/learn; we constantly adapt and pivot."

Futurecasting and Conclusions

The final set of survey questions asked respondents to indicate what role they thought innovation will play in their library's future. Forty libraries responded to this open-ended question with their perspectives on the role of innovation in the library's future. Many respondents indicated that innovation would play an important role in the future, most citing that innovation would be "critical to maintaining the alignment of the library's mission with the needs and the work of its user communities." One respondent views innovation as the "heart of planning for the future." Other comments focused on the fact that innovation in libraries was increasing as libraries move from a print to digital economy, where the pace of change is fast, and user demands can change quickly, requiring libraries to anticipate new demands before they are fully formed. Several respondents believe that innovation is important for libraries as they identify new ways to partner with faculty and to support their research needs. One respondent expressed doubts about the future of innovation activities, stating that "…library administration wants to be 100% sure that something will work before they give the go-ahead." While innovative activities signal risk-taking in an organization, the underlying structure that most libraries have built into support for innovation—case-by-case decision-making, and assessment—appears to moderate the risk associated with innovation.

When asked who would be their innovative partners in the next 1 to 3 years, respondents articulated a number of potential partnerships within and beyond their institutions. Many expressed the desire for the library to become engaged with faculty in partnerships that supported subject domain and interdisciplinary research, including data curation and management, scholarly publishing, digitization, and access. Others articulated interest in working with faculty and students on digital learning, instructional technology development, and developing deeper partnerships around teaching, learning, and library support. A number of respondents anticipate partnering with the Office of Research on research policy, support, data curation, and management. Working with campus IT is also anticipated.

Although the overwhelming majority of the responding libraries consider innovation and R&D to be a crucial element in the library's ability to anticipate and support evolving user needs, they do not anticipate creating a line item in the library budget to support innovation per se. Only nine of the respondents (26%) indicated that R&D has a likelihood of becoming a line item in the library's budget in the near future. This could be because so many respondents

thought that innovation should be infused throughout the organization and investment is embedded in the regular budget process. Or perhaps it is a reality of library budgets that after accounting for collections and salary expenditures, many libraries have very little budgetary flexibility.

The majority of respondents stated they were interested in innovation in order to support their library's and/or institution's mission. Libraries have an opportunity to play a larger role in university-level research activities and library R&D activities will support that role. One of the responses summed up the tenor of the responses quite clearly.

"We clearly see increased attention to innovation and research and development efforts as we look to meet the changing needs of our users and continue to improve internal operations processes. To date, these have been somewhat ad hoc/project-based efforts, but we anticipate developing a more formalized approach to funding and otherwise supporting R&D within the library."

A number of responses recognized the value of pursuing innovative activities within existing partnerships like the Library of Congress National Digital Stewardship Alliance and other government agencies, consortia like the Committee on Institutional Cooperation (CIC), cultural organizations, and community partners.

ARL libraries are achieving innovation at the macro level with initiatives such as HathiTrust, Shared Print Preservation Networks, and the Digital Public Library of America. This ability to collaborate and to bring concerted resources to bear on very large-scale problems was not mentioned very often in this survey, but it is a uniquely powerful element of library culture and may be driving the innovative and R&D wheels at our institutions.

Figure 3. Descriptions of the Future Role of Innovation in Libraries Word Cloud

SURVEY QUESTIONS AND RESPONSES

The SPEC Survey on Innovation and R&D was designed by **Lisa German**, Associate Dean for Collections, Information, and Access Services, at Pennsylvania State University, and **Beth Sandore Namachchivaya**, Associate University Librarian for Information Technology and Research, Associate Dean of Libraries, and Professor, at the University of Illinois at Urbana-Champaign. These results are based on data submitted by 47 of the 125 ARL member libraries (38%) by the deadline of September 3, 2013. The survey's introductory text and questions are reproduced below, followed by the response data and selected comments from the respondents.

Research libraries increasingly prize innovation as a key to sustaining a competitive edge in a rapidly changing landscape of library services and content. Innovation, as well as research and development (R&D), programs appear to have grown within research libraries in the past decade. While informal data suggests that research libraries have increased the amount of effort on innovation and R&D, it is not clear in what areas the effort is focused and if these activities are integrated into their library's organizational structure and processes.

The purpose of this survey is to investigate the current state of both innovation and R&D in research library organizations. It elicits information about who is involved in innovative activities, how libraries organize themselves, both operationally and strategically, to create, support, and sustain innovation, and how they measure the resulting outcomes. It also collects baseline data on which research libraries support R&D, at what level, for what purposes, where they find the support (local or external), and how these activities are organized and assessed.

To fully understand how innovation and research and development occur, it is important to have a common definition. This survey uses the definition of innovation developed by Baregheh, Rowley, and Sambrook.[1] They state, "Innovation is the multi-state 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, p. 1334) To this we would also add, "thus demonstrating organizational value."

Research and Development is defined using the *Frascati Manual 2002: Proposed Standard Practice for Surveys on Research and Experimental Development*[2] published by the OECD (p. 77–78):

> Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.

> Applied research is undertaken either to determine possible uses for the findings of basic research or to determine new methods or ways of achieving specific and predetermined objectives. It involves considering the available knowledge and its extension in

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1 Baregheh, Rowley, and Sambrook (2009). Towards a Multidisciplinary Definition of Innovation. *Management Decision*, 47 (8), 1326.

2 OECD (2002) Frascati Manual 2002: Proposed Standard Practice for Surveys on Research and Experimental Development. DOI: 10.1787/9789264199040-en

order to solve particular problems.

Experimental development is systematic work, drawing on existing knowledge gained from research and practical experience, that is directed to producing new materials, products and devices; to installing new processes, systems and services; or to improving substantially those already produced or installed.

Below are some examples of research and development activities that pertain to libraries. All or any of these examples are types of innovation and R&D activities.

Basic Research	Applied Research	Experimental Development
Developing a method for performing transaction log analysis to understand the use of a discovery system.	Examination of transaction logs in order to understand the use of a discovery system in order to add records to the system.	The development of a program that supplies users with optional choices when null searches are realized.
Observational analysis of user behavior in the Learning Commons.	Observational analysis of user behavior in the Learning Commons in order to determine whether new furniture is required.	Based upon the observational analysis, a space plan is developed with different furniture options.
Examination of faculty methods for storing, sharing, and curating their research.	Examination of faculty methods for storing, sharing, and curating their research in order to provide repository services.	Implementation and assessment of a repository service.

FRAMEWORK FOR INNOVATION AND R&D

1. Does your library have a strategic plan or other planning document that includes specific references to innovation or R&D activities as defined in the introduction? Check the applicable choices. N=47

Yes, that references innovation	29	62%
Yes, that references R&D	16	34%
No	16	34%

   If yes, please identify the document(s). N=29

   Twenty-nine respondents identified a library strategic plan or similar document. See the Representative Documents and Selected Resources sections for examples of these documents.

   Comments N=18

   Absent such planning documents, we have nevertheless developed some cool, original systems in recent years.

   Actions identified in the library strategic plan include developing "a suite of programs, technology, tools, and spaces dedicated to research and digital scholarship needs," as well as "goals, supports, and funding for a library research program."

Development of new technologies and service innovations are mentioned in several goal areas.

Innovation appears as #9 in our Strategic Plan.

Innovation is referenced several times in our strategic plan, although it is most prominently mentioned in the context of the "Innovation Fund," which is a funding source/process to encourage innovative new ideas throughout the Libraries. Active involvement in the Kuali OLE project, and internal application development to support digital technologies, is also prominently featured.

Innovation is referenced specifically in the current library strategic plan in Goal 6.

Our current strategic plan identifies "continuous improvement" as a core value.

Our current strategic plan uses both of these words.

Our libraries particularly mention innovation in regards to student engagement and informal learning spaces.

Our strategic plan includes the following statements in our Mission & Values section: "We enable our staff to excel and innovate in support of our mission." "We value our talented, informed, and diverse staff for their excellent contributions to the development and delivery of innovative services, programs, and collections of outstanding quality."

Our Strategic WorkPlan for 2009–2012 includes references to R&D.

The document is in production. It should be ready by November.

The library strategic plan supports R&D and innovation across the campus. It indirectly references R&D and innovation in the library program itself.

The planning documents drafted here do not discuss innovation or R&D as a precisely defined concept or a specific goal. Rather the general notion of innovation underlies much of the thinking reflected in the document. There may not be many uses of that exact word, but the ideas are still present.

We are currently searching for a new dean of libraries and anticipate a new strategic plan will be formed once that hire is in plan.

We believe strategic plans actually inhibit innovation.

We don't precisely match your definitions of innovation, however, the intent is similar.

While we do not single out the words "innovation" or "r & d," the goals presented require and anticipate research in the form of assessment/design/usability and strive to represent innovative strategies in problem solving and service improvement.

2. **Does your library have any policies, guidelines, or other document that reference innovation or R&D activities? Check the applicable choices. N=44**

Yes, that references innovation	17	39%
Yes, that references R&D	7	16%
No	23	52%
In development	6	14%

If yes, please identify the document(s). N=20

Twenty respondents identified a variety of policy documents. See the Representative Documents and Selected Resources sections for examples of these documents.

Comments N=14

Absent such planning documents, we have nevertheless developed some cool, original systems in recent years.

Both of the referenced documents were developed with considerable staff input and engagement.

Digital preservation framework and policies in development. Committed to R&D in the area and sharing findings and policies with the digital preservation community.

Examples include the Irving K. Barber Learning Centre Charter, the UBC Library IT Plan, and grant documents for the Koerner Library Research Commons.

In development is a basic introduction to concepts in innovation to help library staff think more about the meaning of innovation and how organizations become innovative.

Innovation is one or our core library values associated with our planning documents and performance review process. Both the managerial and staff communication principles, exhibited in meeting rooms throughout the library, include a whole section on innovation

Internal "Innovation Grant" pilot program guidelines. The Libraries conducted a pilot program during 2012–2013 where we provided a modest pool of one-time "innovation grant" funds that could be used to support innovative projects within the Libraries.

Internal policies that establish the Office of Innovation and the Applied Research Division at the library.

Library-funded grant program for small innovation projects within the library.

Not specifically, but we use the strategic plan (noted above) to guide departmental planning and projects. We also have a small fund controlled by the dean that is called the Fund for Innovation that we use for various small individual projects.

Various reports for campus communities and fundraising networks. This sort of document expresses institutional intent and aspiration, rather than establishing policy. It does reflect the Libraries purpose in using innovation to devise news lines of service relevant to changing academic need. Innovative work is also described in these vehicles.

We don't mention these words in our policies or work guidelines but we do incorporate innovation metrics and measures as well as R & D practices and outlooks throughout our work. It is just not mandates, which is how I am reading this question.

We have existing guidelines and procedures for developing innovative ideas as well as an existing "innovation fund." Digital Stewardship: Guiding Principles, Policies, and Procedures (January 2013) outlines new department devoted to development and project management of digital initiatives, programs, and principles.

We have two Early Career Librarian endowments that are awarded to two librarians for a period of three years with the possibility of renewal for one additional term of three years. One is the Sally W. Kalin Early Career Librarianship for Technological Innovations and one is the Sally W. Kalin Early Career Librarianship for Learning innovations.

3. Does your parent institution have any policies, guidelines, or other document that reference library innovation or R&D activities? Check the applicable choices. N=45

Yes, that references library innovation	33	73%
Yes, that references library R&D	27	60%
No, doesn't explicitly reference library activities	7	16%
In development	2	4%

If yes, please identify the document(s). N=33

Thirty-three respondents identified a university strategic plan or similar document. See the Representative Documents and Selected Resources sections for examples of these documents.

Comments N=14

As a research university, including a teaching hospital, there are many more documents relating to R&D in individual departments and schools.

As the pioneering land grant institution in the United States, the university was founded on the basis of a mission to apply the benefits of academic research and activity to improve the lives of residents of the state. In the 21st century, that commitment remains the basis for programs that build on R&D activities to identify, support, and develop innovations in agriculture, medicine, business, and other disciplines.

Frequent mentions in the University Strategic Plan, especially in the first goal area.

Innovation and Impact: Renewing the Promise of the Public Research University. Phase 1 Report: Setting the Agenda is the university's strategic plan. There are certainly other documents that reference innovation and/or R&D, but I don't know of them specifically.

Innovation in the university's planning process is mostly tied to economic development activities and the metrics are outputs such as licenses, patents, and business start-ups.

Innovation is referenced 11 times in the document Ten by Twenty: Johns Hopkins University Through the Year 2010, Ron J. Daniels (President).

Innovation is referenced in the university's strategic plan, Bold Aspirations, as goal 3, action 3-B. The university also has a Vice-Chancellor for Innovation and Entrepreneurship.

The university has an Associate VP for Innovation and provides resources for entrepreneurs and incubators of new businesses.

The School of Business devotes a considerable amount of focus on innovation and entrepreneurship, primarily as an academic topic. As a research institution, there is a considerable amount of R&D effort going on in all schools and colleges with grant and university funding.

The university is an R1 institution that takes in nearly $1 billion annual in research grants. Policies and guidelines are voluminous, highly distributed and are by-and-large not cataloged or publicly available. The Office of the Vice Provost for Research keeps certain basic documentation.

The university provides a rich and diverse environment supporting innovation, as well as research, coordinated at the university level by the Office of the Vice President for Research, which supports institutional initiatives. On our campus,

these activities are coordinated and supported at the campus level by the Office of the Vice Chancellor for Research, which coordinates grant opportunities—internal campus-wide, and external sponsored research, as well as compliance, research integrity, conflict of interest, and technology management. Individual colleges and units may also support research activities.

The university's strategic plan, "Place and Promise: The UBC Plan," references both innovation and R&D activities.

The university's website has extensive references to both innovation and research and development and has a "culture of innovation" as a core value. Innovation is specifically mentioned in the vision statement.

We have an office for innovation in the provost's office, along with a vice-provost position for innovation.

LIBRARY INNOVATION: DESCRIPTION OF EXAMPLES

Please pick one example of an innovative service, product, or process in your library and answer the following questions about it.

4. Please briefly describe your library's innovative activity and its intended outcome. N=43

A Library Resources Block (plug-in/widget) embedded in the institutional online course management system (CMS). Embedding library resources into the CMS leads to the creation of collaborative relationships with the teaching faculty and supports student achievement.

An intensive 3-workshop model for delivering basic instruction and orientation to at-risk students as part of a library-campus-state collaboration was implemented in 2012 to prepare students in a two-year community college setting to succeed at a four-year research institution. This collaboration between the university libraries, the university Bridge Program, and the community college aims to provide students with the research skills, living skills, and acculturation necessary to thrive in a university setting. The Bridge Program is an invitation-only living and learning community that gives approximately 80 at-risk students who are waitlisted for admission to the university an opportunity to gradually transition between high school to a large public research institution. Students enrolled in the program live on campus and participate in a sequence of workshops delivering and reinforcing content most relevant to undergraduate students in a college setting. Pre and post skills tests are delivered to assess immediate learning. Follow-up assessments are administered to evaluate retention of skills. The project has proven successful and continues. The collaboration is a partnership that places the library at the center of campus and state initiatives aimed at student retention and success. Assessment was a key component of this project and has clearly demonstrated the value of library instruction and services to student success.

Creating a User Experience (UX) Department. Within the broader context of a full reorganization of the Public Services Division, the UX Department was established to better understand and meet the needs of users and their expectations for a positive, worthwhile, and meaningful 21st century library experience. Going beyond the original and more traditional interpretations of "user experience," rooted in usability, web design, and other technologies, this department is responsible for helping design, develop, implement, assess, and improve a broader range of services and initiatives.

Design large-scale visualization and technology spaces and associated support services into the new library. This was done in 2008–2009 when the need was emergent.

Develop academic support and collaborative work hub within library building. Includes Writing Center, Honors Program, Center for Teaching Excellence, Math Classrooms & Labs, Learning Support Services, Testing Lab, and Café.

Development of "Selection Manager," a comprehensive online module that tracks collection requests; evaluations, reviews and scores; trials, prices, and decisions for electronic resource selection.

Development of a Collaborative Technology Lab System in the Libraries. The Libraries have created a number of reservable spaces for student collaborative activities. The rooms provide furniture, computers, software, and equipment (such as smart boards and cameras) designed to facilitate a variety of collaborative activities including group projects, practicing presentations, webinar participation, and teleconferencing.

Development of a new library website to 1) integrate eight individual library websites, 2) promote activities and resources in the library, 3) be more coherent with university web presence, 4) provide easy discovery of resources, including knowledgeable library staff, and 5) be "mobile friendly."

Digital Preservation Curriculum

Digital Scholarship Consulting Services: a non-service-point based service designed to assist faculty with any of their digital efforts. We are able to offer educational and consultative services now with an ultimate goal of offering infrastructure or support. A wide range of staff and librarians from across the library's organization provide assistance, so that someone needing metadata help talks to a metadata person or someone wanting advice on preservation speaks with a knowledgeable staff person.

Establishing the Freedman Center for Digital Scholarship to provide a range of services to support all aspects of e-research. Its purpose is to stimulate & sustain innovation at the university by connecting people physically & virtually. It will serve as the hub to connect faculty & students with tools and services they need to develop their ideas and to stimulate and sustain innovation.

Guide on the Side open source software

Implementation of a single search box on the library's homepage that covers all library collections and services.

In 1995, the university libraries at the University of Waterloo, University of Guelph, and Wilfrid Laurier University came together to form the Tri-University Group. Initial efforts were in areas of shared library systems, remote storage, and information services and resources. The intended outcome was to share expertise, reduce costs, and achieve a "seamlessly integrated programme of library collections and services."

In 2008, the Nunn Center, in partnership with the Digital Library Services unit, developed OHMS (Oral History Metadata Synchronizer) to enhance online access to oral history. OHMS provides users word-level search capability and a time-correlated transcript or indexed interview connecting the textual search term to the corresponding moment in the recorded interview online. Through assistance from a National Leadership Grant from IMLS, OHMS is currently being prepared for open source, free distribution.

In 2011, our library launched a new service to support the data management planning needs of our researchers. The service helps researchers prepare data management plans and also provides data archiving services and support. The goal is to support better stewardship of research data products.

Library Technology Prototyping Service
In 2013, the library committed resources to support a three-year pilot Technology Prototyping Service, focused on developing light-weight software application prototypes to support library operations and services. The service is based in the Undergraduate Library, and is led by the Orientation Services Librarian, in collaboration with library faculty and staff colleagues in the Undergraduate Library and Library IT. The funding supports hourly employees. It is supplemented by at least two federal agency grants.

National Archives Transcription Pilot Project facilitates public participation in transcribing historical records of the National Archives.

One of our main innovative activities is the development of a gematic software which allow to integrate reference base for visulisation.

Open Access Author's Fund for funding OA fees for journal article submission to open access journals.

Our Alternative Textbook Project. Using annual operating funds we created an allocation so that up to ten faculty could receive a supporting grant from the University Libraries to create an alternate textbook or collection of learning objects that would be free to students and would thus enable the faculty member(s) to stop requiring that students purchase a commercial textbook.

Our example—Enhancing Learning & Student Success Initiative—has included a series of "component innovations" that build on one another over time. These included (listed in chronology sequence):
• Development of process to use "affinity string data" (institutional codes for type and level of user and program area) to develop custom presentations of Libraries' webpage through university portal with domain/level specific resources.
• Assessment of student success (GPA, retention) based on affinity string data and any use of library collections, programs, services.
• Development of tailored coursepages (webpages) for every one of 5000+ courses, customizable by faculty.
• Dedicated eLearning initiative team to work with faculty and to develop innovations to enable learning—including collaboration with bookstore and Copyright Permissions Center to create "digital coursepacks," seamlessly integrating licensed, open, fair use, and royalty/permission digital course readings into course management system.

Our office delivery service delivers requested library materials to faculty and graduate student offices. The service was instituted to respond to a long-standing desire and to make eventual closure of small branch libraries more acceptable.

Our Special Collections & Archives department applied for and received an internal Libraries Innovation grant to implement a project to digitize select historical films, video, and audio related to the history of the campus. The goal of the project was to show potential donors and funders about the potential for the online archive and to attract further support.

ScholarSphere is a secure repository service enabling the Penn State community to share its research and scholarly work with a worldwide audience. Faculty, staff, and students can use ScholarSphere to collect their work in one location and create a durable and citable record of their papers, presentations, publications, data sets, or other scholarly creations. Through this service, Penn State researchers can also comply with grant-funding-agency requirements for sharing and managing research data.

Set up "Innovation Fund" that staff can draw on to fund innovation projects or "buy" release time.

The Analytic is a web-based tool for annotating videos that have been deposited in RUcore - Rutgers Institutional Repository. The Analytic allows a user to capture various segments of many videos and bind them into an object that focuses on a specific subject. This tool has been used very successfully applied in doing research to improve mathematical instruction. See: http://videomosaic.org/.

The Libraries developed a discovery team process (based on IDEO Deep Dive) that explored learning environments in the library, on campus, and around our community. Nearly 50 library employees as well as students, faculty, and campus staff participated in this ethnographic-inspired process. Teams explored environments looking at different themes (group work, technology, media production, etc.) They wrote a brief review of results. We hosted several internal and external focus groups and validation sessions around this data. Many of the concepts were built into renovation plans. This process was a mix of product development R&D with the need for discontinuous and disruptive innovation. We needed to rethink our spaces and services, not just upgrade them.

The Libraries have migrated from one integrated library system (ILS) to another for the expressed purpose of substantially improving the curation, discovery, and assessment of scholarly resources. This migration allows library staff to configure systems for efficient and largely automated ingestion of records and links to predominantly electronic collections. It facilitates discovery of, and connection to, a much broader range of resources. And it allows cost per use data to be automatically tracked once configured for Counter-compliant resources. As this new ILS is being implemented, library staff are developing new workflows and processes to take advantage of new possibilities and efficiencies.

The library is supporting digital humanities scholarship and teaching through an innovative service model that integrates graduate students, undergraduates, faculty, and library staff members into research teams. These teams, based in the library, place the libraries and library staff in a central role in the development of this new exciting discipline that integrates digital technology, humanities scholarship, and information in an experiential learning framework to extend humanistic inquiry.

The Remixing Archival Metadata Project (RAMP) is an attempt at innovation in both form and product. As a matter of form, we are managing this project using the Agile/Scrum methodology, and trying to determine how well this process works in a library context. The project itself involves developing software to convert EAD finding aids into EAC-CPF files; gathering additional information via web APIs (VIAF, OCLC Identities) to enrich the EAC-CPF file; translating that into wiki markup; and pushing revised biographical information to Wikipedia. The desired outcomes are multiple: on the process side, seeing if the Agile/Scrum methodology might be used in other projects; on the software side, developing a tool that will enrich Wikipedia with data from our local collections—and broaden access to our finding aids and digital collections.

The university copyright compliance strategy was developed by the library, in partnership with other campus units, to support the university's decision to opt out of the Access Copyright interim tariff. Members of the copyright team work one-on-one with members of the university community to ensure that teaching and instructional materials are copyright compliant. Selected initiatives include developing educational resources for faculty, students, and staff on copyright obligations and procedures; enhancing instructional support to ensure appropriate permissions have been obtained for digital materials; and establishing a central permission service that clears and tracks copyright for everyone at the university.

The University Libraries/Information Services has expanded the scope of its collection development activities to include curated archival collections of freely available Internet resources. We received a series of grants from the Andrew W. Mellon Foundation to develop and implement a program for incorporating web content into its collections. This work established best practices for collecting, managing, preserving, and providing access to at-risk digital content, originally focusing in the area of human rights but later expanded into other areas such as historic preservation and New York City religions. The goal is to provide a model for the wider community of research libraries to use and adapt, resulting in web content collection and preservation being fully integrated into the work of research libraries.

The University of Maryland Libraries were one of the key sponsors when the Maryland Institute for Technology in the Humanities (MITH) was founded in 1999, and since that time, the UMD Libraries have provided physical space and a portion of the financial support for MITH. Thirteen years into this relationship the UMD Libraries and MITH desired a closer working relationship in order to demonstrate the enormous benefits to be gained from the collaboration of a university library and a digital humanities research center. To support deeper collaboration, a number of initiatives were undertaken. The creation of a joint position—Associate Director of MITH and Assistant Dean of the Libraries for Digital Humanities Research—with responsibility for developing joint projects between MITH and the University Libraries, coordinating activities and initiatives between the two units, and developing a digital scholarship strategy for the Libraries' collections was an important first step in 2011. Also in 2011, the Libraries and MITH developed the first

formal charter for this collaboration laying out a series of reciprocal activities. One of the important initiatives described in this charter is the joint Digital Humanities Incubator. The Digital Humanities Incubator is a program intended to help introduce University Libraries faculty, staff, and graduate assistants to digital humanities through a series of workshops, tutorials, "office hours," and project consultations. The four workshops will feature 1) an Introduction to Digital Humanities, 2) a workshop on developing your research ideas, 3) a workshop on working with data, and 4) project development best practices. Participants who attend the entire workshop sequence will be guided through the process of developing digital humanities project ideas, finding data, evaluating tools, and crafting a compelling proposal for funding support (internal or external).

The UofL Archives & Special Collections (ASC) used crowd-sourcing to transcribe individual articles from the Louisville Leader, an African American newspaper published in Louisville from 1917 to 1950. These transcriptions are then incorporated into the Libraries' Digital Collections, giving researchers the ability to keyword search growing portions of the paper.

The Visualization Studio is a state-of-the-art digital facility created to provide support for faculty researchers. Its primary feature is a high-resolution display wall with surround sound. The studio is designed to provide researchers with significant visual real estate for working with digital information. The display's 34.5 million pixels allow for insight and overview that is impossible to achieve with a desktop monitor or standard projector. Through discussions with faculty, we foresee exciting uses for the Visualization Wall: biologists examining the smallest sub-cellular details in microscopic imagery; urban planners viewing entire road corridors while still being able to discern sidewalks, power lines, and even lane markings; artists examining dynamic digital art; astronomers analyzing deep-space telescopic imagery; and sociologists digging into huge spreadsheets of data.

There has been a great deal of innovative activity related to library commons spaces, specifically the Library 2 West project, and Library East Commons project. Most recently, the library has been involved with the Clough Undergraduate Learning Commons, which included a great deal of experimentation and prototyping in library spaces while the Clough Commons was under construction.

These fall into three main categories.
I. Internal/ Business Process Oriented: Penn is a co-developer of the Kuali Open Library Environment. We have received funding from IMLS to develop Decision Support Technology, currently in the field as MetriDoc.
II. Discovery/Repository Services: The Libraries have been aggressively developing enhanced discovery and delivery services based on Solr/Lucene and related XML parsing technology. Known internally as the Digital Library Architecture (DLA), this software provides the UI for our public catalog (http://dla.library.upenn.edu/dla/franklin/index.html); the account services associated with the catalog and interactive capabilities that allow users to engage various access services from within the catalog. Associated with the DLA for discovery/delivery is a set of integrated technologies for ingesting and preserving a wide array of digital content, DLA-R (for repository). Repository services will provide the backbone for digital reformatting, dissemination of Penn scholarship, ingestion of research data, and linkage to knowledge management services such as VIVO.
III. New Lines of Service: The Libraries at Penn have rolled out a research intelligence service, VIVO and installed supporting technology (Symplectic/Elements) to provide faculty tools for networking within their disciplines, showcasing their publications, and managing their promotion and tenure process. The Libraries also manage courseware and are bringing on line related curriculum and research support technologies, such as Omeka service, streaming media, and video capture. While these initiatives employ established technologies, innovation comes through the Libraries providing enterprise-level support for new forms of service.

To provide digitization services for hire to other public institutions in the state, in particular, the Utah State Historical Society (USHS).

UVa Library is spearheading the Academic Preservation Trust (APTrust) http://aptrust.org/. The Academic Preservation Trust (APTrust) consortium is committed to the creation and management of a preservation repository that will aggregate academic and research content from many institutions.

We have established technology-enabled group collaboration spaces around the library.

We have recently opened the Lewis & Ruth Sherman Centre for Digital Scholarship. This new centre supports the digital scholarship in its many forms (textual analysis, etc.)

We used GIS software to help develop a digital map of all the trees on campus. The map provides information not only on location and species but also maintenance. Trees are a campus value and faculty and staff with over 20 years service at retirement get to choose a tree to bear a plaque in their honor.

5. **Where did the idea for this innovation originate? Check all that apply. N=44**

Library administration	24	55%
Department/unit head	23	52%
Frontline staff	15	34%
From a workshop or conference	7	16%
From another library	6	14%
From another industry	5	11%
Other source, please briefly describe	20	46%

Builds on ideas the public had been suggesting for participation and crowdsourcing.

Collaboration with the vice president and chief information officer

Collaborative work between two units (our Digital Research and Curation Center and our Entrepreneurial Library Program) led to service creation.

Developed in collaboration with MITH directors.

Frontline instruction librarians and information science professors teaching and studying library instruction.

Listservs

Other campus contacts

Pedagogical trend moving towards greater group collaboration and environments to support group work.

Scholarly Communications Librarian

Small working group of administration members and department heads who work with original, curated digital materials.

The assistant director for information technology wrote a proposal, which the director of libraries took to the vice provost. The vice provost provided special money from the "Quality Initiatives Fund" to pay for one room. The initial investigations were carried out by a committee chaired by the head of reference. Ownership later transferred to a librarian coordinator.

The concept evolved from collaborative discussions among the AUL for Public Services, Public Services department heads, and all of the Division's staff.

The idea was brought up in a library planning retreat.

The original idea for this project grew out of conversations with library administration and leadership at the Mellon Foundation.

The project began long before GIS as a legacy project of a professor of Ecology and Evolutionary Biology. For 15 years students had worked with pre-GIS technology to map the campus trees (CAD?). Students then got training in the library's GIS/Data Center to move the data to a public online environment. The library then approached campus Facilities, Engineering, and Planning to inquire whether they would be interested in tracking additional data to make the map more widely useful. Examples of this data include: times of planting, trimming, and removal; cost of pest removal.

The project idea from a metadata librarian, the Agile methodology came from attending a workshop.

This has been an iterative process; component projects largely executed through teams, including most recent appointment of eLearning lead cohort. All teams represent multiple functional areas.

This innovation was faculty driven. The faculty approached the library as partners.

University administration

University Information Technology Services, our ScholarSphere partner.

6. **What forces were driving the need/opportunity for this innovation? Check all that apply. N=44**

Opportunity to further institutional/library mission	37	84%
User expectations	27	61%
Competition for resources	12	27%
New source of funding	6	14%
Reduction in library funding	3	7%
Other driving force, please briefly explain	29	66%

A range of user needs were going unmet, while some services were being duplicated at multiple locations; some staff continued to be allocated to work that no longer needed to be done. No new positions were added; rather, a number of existing staff were redeployed in new areas of responsibility.

Attempt to anticipate and respond to evolving user needs.

Attract students to library, increase campus security, increase student convenience and innovation.

Changing instructional methods on campus.

Collecting archival content from the web extends the mission of research libraries to support future research and helps to guarantee the integrity of current scholarship by preserving ephemeral content that might otherwise be lost (i.e., addresses the "link rot" issue).

Community engagement—the project was an effort to experiment with whether or not crowd-sourcing was an effective approach to making materials accessible more quickly than through existing resources.

Development of an open access policy and limited funds from grants and other sources to publish in open access journals that require fees.

Efforts to raise the visibility of the library on campus and in the community, and to realign staff organization to better serve the university's mission and the modern student. LibQUAL+® survey results.

Faculty have been concerned at the high cost of textbooks both on grounds of principle and pedagogy. Faculty have noted that the high cost of textbooks for students has been detrimental to courses if students attempt to forgo purchase or use much earlier used editions. Students have periodically complained that the library does not have a textbook collection.

Increased expectations around data sharing and management by Federal funding agencies.

Innovation is part of the library culture. The leadership of the organization encourages, supports and rewards new ways of furthering the library mission. The administration is open to proposals, communicates well so that all feel like they are in the loop, and generously supports continuous learning.

Institutional interests/priorities in eLearning, student retention/graduation rates. Also motivation to make learning and teaching environment more coherent and cost-effective for students and faculty.

Internal bonding; change management; partnership opportunity among separate library departments as well as campus units

Migration to a new client/server ILS (Voyager) from a mainframe environment (Geac) as a cooperative procurement.

Need for comprehensive solution for preservation of digital materials.

Need to further develop collections and resources to support the upcoming 50th anniversary celebrations for the campus.

New trends in higher education requiring students, especially at the undergraduate level, to engage in greater group collaboration.

Opportunity to envision and design a new library from the ground up.

Perceived user expectations

Scholarship in digital media, digital humanities, and the drive for colleges and universities to provide opportunities for undergraduate research, experiential learning, and alternative career paths for graduate students in the humanities are driving the need for this new kind of support that combines website development, scholarly communication, traditional research, data analysis and visualization, and humanities computing. The Libraries, with their extensive portfolio of subject librarians, are uniquely qualified to bridge the disciplines, bringing together diverse interdisciplinary teams and skillsets to this initiative.

The emphasis of open government and the principles of transparency, participation, collaboration from the Open Government Directive.

The initial user was a faculty member in the Graduate School of Education who was looking for ways to improve math education. From the IR perspective, the Analytic provides an approach for utilizing video and audio in more flexible ways. Without the Analytic, media become sequential resources and difficult to use in education. The Analytic and the related website (http://videomosaic.org/) new services and new roles for the research library.

The interest in a new methodology was driven by a desire to complete tasks more efficiently/expeditiously; the RAMP was an interesting research project that would serve a need (enhancing Wikipedia with better information) and raise the profile of the Libraries' collections.

The overwhelming complexity in today's large academic research library of tracking the process of electronic resource selection from request, to trial, to evaluation, pricing, license review, and purchase.

The university's decision to opt out of the Access Copyright interim tariff.

The USHS had large amounts of funding available for its digitization program but did not want to hire staff or build infrastructure. They were interested in out-sourcing this work to another state institution. They launched a competitive bidding process through which our library was selected as the service provider.

Two additional key drivers for establishing the service: Desire to support areas of the library that need advanced technology services but don't have the resident expertise to develop them; Strong interest in recruiting to the library profession undergraduate students with diverse backgrounds and perspectives.

University mission to increase retention rates and ensure student success. State educational mission to increase education levels in the state.

Workflow enhancement

LIBRARY INNOVATION: LEADERSHIP AND STRUCTURE

7. Please identify the position(s) and/or unit in your library that are/were administratively responsible for initiating this innovation. N=41

Position Title(s):	Department/unit:
Assistant Dean for Digital Humanities Research, Digital Systems and Stewardship/Associate Director, MITH; Assistant Director, MITH	Maryland Institute for Technology in the Humanities (MITH)
Assistant Dean of Libraries	Administration
Assistant Dean, Technical Services, Collections, & Systems	Technical Services
Assistant Director for Information Technology	Library
Assistant Director of Information Technology	IT
Assoc. University Librarian for Research & Instruction	Library Administration
Associate Dean	Dean's Office
Associate Dean for Public Services	Library
Associate Dean for Research and Scholarly Communications	Administration
Associate Dean for Research Data Management	Digital Research and Curation Center
Associate Director for the Digital Library	Information Technology (IT), Digital Library Initiatives
Associate Librarian	Instructional Services Team
Associate Provost & University Librarian	Library
Associate University Librarian for Bibliographic Services and Collection Development	Bibliographic Services and Collection Development
Associate University Librarian for Digital Initiatives and Open Access	Library Administration
Associate University Librarian for Digital Library Systems	Technical and Automated Services
Associate University Librarian for Public Services	Public Services Division
Associate University Librarians for Research & Learning and AUL for Data & Technology	Various
Chief Innovation Officer	Office of Innovation
Dean	Library Affairs
Dean of Libraries	Library

Position Title(s):	Department/unit:
Deputy University Librarian	Administration
Director	Library
Director, Library Digital Initiatives	Digital Initiatives
Director, Louie B. Nunn Center for Oral History	Special Collections
Head	Curation and Preservation Services
Head	GIS/Data Center
Head-Digital Ventures, Head-Digital Operations	Information Technology
Head, Special Collections & Archives	Special Collections & Archives
Instructional Services Librarian for Undergraduate Programs and other instructional services librarians	Learning, Research, and Engagement Department
Liaison librarian in geomatic	Humanities library
Metadata Librarian	Cataloging & Metadata Services
None specified	Library Information Technology
Orientation Services Librarian	Undergraduate Library
Public Services Librarian	Education & Physical Education Library
Scholarly Communications Librarians, Dean of Libraries	Center for Digital Scholarship, Medical Library, Law Library, Administration
Technically, no one person is responsible. Group membership is extracurricular from job descriptions.	None—group cuts across departments.
Technology Officer, Taylor Family Digital Library	Information Technology, Libraries and Cultural Resources
University Archivist and Director, Archives & Special Collections	Archives & Special Collections
University Librarian	Library
University Librarians	University of Waterloo, University of Guelph, Wilfrid Laurier University

8. Please identify the position(s) and/or unit in your library that are/were/will be working to implement this innovation. N=41

Position Title(s):	Department/unit:
	Public Services Committee
	Library Information Technology
	Public Services
1) Digital Collections Librarian; 2) Web Resources Librarian; 3) Digital Technologies/Systems Librarian	1) Archives & Special Collections; 2) Web Resources; 3) Office of Libraries Technology
Access Services Manager	Access Services
All managers	All units
All positions	IT, User Experience, Digital Library Initiatives, Engineering Services
All staff	
As above, no one person is responsible. Group membership is extracurricular from job descriptions.	None—group cuts across departments.

Position Title(s):	Department/unit:
Assistant Dean for Digital Humanities Research, Digital Systems and Stewardship/Associate Director, Maryland Institute for Technology in the Humanities (MITH); Assistant Director, Maryland Institute for Technology in the Humanities (MITH); Librarian for the School of Languages, Literatures, and Cultures; Head, User Education Services	
Associate University Librarian for Research & Instruction	Library Administration
Associate Dean	Information Services
Associate Dean of Libraries	Library
Associate University Librarian AND Administrative Director, Lewis & Ruth Sherman Centre for Digital Scholarship	Library & Learning Technologies
Associate Dean for Reference and Instruction, Head of Instruction, Reference Coordinator	Reference and Instruction
AUL for Public Services, UX department head, UX unit heads, all UX staff members, and indirectly all staff in the Public Services Division	Public Services Division
Collaborative Technology Labs Coordinator and CTL Team	Library
Collection Management Librarian, Senior Applications Developer, Assistant Dean Technical Services	Technical Services
Digital Library Architect	Scholarly Communication Center
Digital Projects Specialist, Metadata and Digital Resources Librarian	Information Technology, Cataloging
Director	Digital Humanities Center
Director Web Development, various liaison librarians, copyright librarian, program lead for eLearning	Various
Director, Library Digital Initiatives; Scholarly Communications & Copyright Coordinator; Rights and Permissions Manager; Rights and Permissions Assistants	Digital Initiatives
Head	Entrepreneurial Library Program
Head	Curation and Preservation Services
Head of Digital Programs	Digital Library Services
Head of Web & Emerging Technologies; 2 Digital Programmers	Web & Emerging Technologies
Head-Digital Ventures, Head-Digital Operations	Information Technology
Head, GIS Support Specialist	GIS/Data Center
Instructional Services Librarian for Undergraduate Programs and other instructional services librarians	Learning, Research, and Engagement
Liaison librarian in geomatic; TI resources in geomatic	Humanities library
Library Strategist	Strategic Assessment Services
Many are involved; most are library managers and department heads, but non-supervisory staff are also working on implementation.	Across the library system

Position Title(s):	Department/unit:
Orientation Services Librarian; Head, Undergraduate Library; Director, Library IT Production Services; Manager Software Development	Undergraduate Library; Library IT
Digital Content Strategist, University Libraries and the following from the university's ITS unit: Digital Library Architect, Team Leader Application and Repository Services, Project Manager, Director of Service Operations, Developer, Lead Storage and Archival Services	Publishing and Curation Services in the Libraries and Digital Library Technologies in the university IT unit.
Programmer	Library Technology Team
Scholarly Communications Librarians, Assistant Dean (Libraries)	Center for Digital Scholarship, Medical Library, Law Library, Administration, Collection Development
Team Leader Digital Learning & Scholarship, GIS Specialist, Digital Scholarship Librarian	Digital Learning & Scholarship Team
Visualization Research Coordinator	Information Technology, Libraries and Cultural Resources
Web Archiving Project Librarian; Web Resources Collection Coordinator	Original & Special Materials Cataloging, Bibliographic Services and Collection Development
Web Program Manager; Management and Program Analyst for Open Government	Office of Innovation

9. Does the library provide any kind of administrative support to the staff who are working to implement this innovation, for example, assistance with requesting funding, identifying training opportunities, developing an assessment strategy, etc.? N=43

Yes   32   74%
No   11   26%

If yes, please briefly describe the type of support and who provides it. N=30

1) Support for direction/vision (University Librarian, Associate Directors).
2) Commitment to provide resources to realize it (UL and ADs).
3) Identifying training opportunities.

Administrative support is provided for budgeting from one of the libraries. Each library funds staff development individually, but some shared programmes have shared budget as well. Assessment for shared ventures has been done through work groups and committees along functional service lines.

Assessment assistance from Assessment Librarian, freedom to collaborate campus and statewide, travel and research funding

Assessment support provided by the Assessment & Planning Coordinator. Grants management support provided by the Grants Manager. Communications and marketing support provided by the Communications & Marketing Coordinator. Training support provided by the Training Coordinator.

Assistance with requesting funding, identifying training opportunities, developing an assessment strategy

Assistance with requesting funding; development opportunities; administrative assistance

Assistance working with grant proposal. Staff person is currently being hired to create training opportunities, as well as assess current models of OHMS implementation and working with OHMS to engage university students and faculty.

Budgeting assistance

Centrally supported travel funds to research novel solutions (such as visits to peer institutions, and vendor showroom visits such as attending the NeoCon exhibition in Chicago). Library administration supports contributions of library staff time from a wide array of units, including media production, PR, facilities, multimedia, A-V, and systems.

For the Scrum/Agile aspect, the administration provided funding to attend a 3-day workshop in this methodology.

Funding and travel support to attend relevant professional development events, participate in training, and take advantage of ongoing education opportunities.

Funding for the above would be available if needed.

Funding support to bring potentially interested and actively participating faculty together for meetings. A Library Finance Specialist provides support in transferring the grant funds to the faculty members' departmental budgets.

Help with assessment is offered. This innovation did not require additional funding, but did require additional effort from the department heads and their staff.

Innovation Office staff work with agency staff on a case-by-case basis. Further innovation support is currently being developed.

Library Strategist has been managing the development of the APTrust.

Professional development support, travel, consulting assistance, reassignment of staff for project management assistance

Project manager (director of science and engineering library), Web Development Coordinator, Content Development/ Communications (director of management library)

Salaries of some managerial staff, support services in Financial Management and HR, building overhead, etc.

Salary, financial support for the project, staff support (IT, tecnicien, etc.)

The library administration has created two new exempt positions to support this initiative, GIS Research Specialist and Humanities Programmer. In addition, the library has made a significant investment in human and capitol resources to support three current digital humanities projects, including providing dedicated research space, equipment, and student employment.

The library has provided assistance with assessment tools.

The Library Planning, Budgets and Assessment Team provides support with the design and implementation for renovating current space, marketing of new and existing services, and creating metrics to assess outcomes of both in-person and virtual services.

The library supports the technology infrastructure for the service, and it supports the preparation of grant proposals, as well as professional training and development (on a case-by-case basis) of the library faculty and permanent staff who are focused on implementing the service.

There is support related to the purchase and installation of the equipment.

Training opportunities provided by Libraries and Cultural Resources.

Training, consulting services for developers

Training, funding, % time off from core duties

Whatever is possible and needed is provided, including time to work on developing configurations and processes, resources for training, and administrative support.

Yes, support is provided as needed. For example, student workers are hired to assist with commons research assessments. In addition, we have partnered with third party consultants to perform post-occupancy research on library commons spaces, as well as the Clough Commons.

LIBRARY INNOVATION: FUNDING

10. Which of the following describes your library's strategy(ies) for funding innovative activities (i.e., does the library anticipate the need to fund innovation on a recurring basis or does it consider requests as they arise)? Check all that apply. N=44

Case-by-case basis	40	91%
Collaboration with other departments in the institution	28	64%
Recurring commitment	27	61%
One-time commitment	22	50%
Other strategy, please briefly describe	7	16%

Ability of librarians to attend the Digital Humanities Incubator workshop series and to then use release time to work on a dedicated project for a semester.

Con-funding partnerships with other institutions; partnering on research grants with faculty; contract work with external organizations, e.g., federal government or scientific agencies

External fund raising; student fee

In some cases, also commercial partners

Outside grants

Special funding, for example through a request to the provost's office.

We have an annual initiatives process tied to the fiscal budget cycle through which staff can submit proposals for innovation funding. These are ordinarily considered on a case-by-case basis for one time initiatives, but if an initial experimental innovation (such as the alternative textbook project) is successful, it is encouraged to re-apply for funding the next year to grow the program and extend the impact of the innovation.

11. Please indicate the source(s) of funds to support both this specific innovation example and innovative activities in general. Check all that apply. N=44

Source of Funds	This example	In general	N
Library operating budget	34	33	41
Library grant to staff	5	15	15
Library endowment fund earmarked for innovation	4	6	9
Library gift fund earmarked for innovation	1	6	7
Separate library innovation budget line	3	5	5
Parent institution grant to library	7	13	17
Parent institution endowment fund earmarked for innovation	1	4	4
Parent institution gift fund earmarked for innovation	2	0	2
Other source of funds	20	19	28
Total Responses	41	40	44

If you selected "Other source of funds" above, please briefly describe that source. N=28

Campus sources include the Quality Initiatives Fund, Technology and Learning Environment (TLE) funds, and Instructional Technology Support funds.

CUL/IS generates revenue from various ventures, including the publication of the Avery Index to Architectural Periodicals and CIAO. Proceeds from these ventures are often used to fund innovation initiatives.

Donation specifically for this innovation

Donors who support specific innovative programs, for example the "Dean's Fellows."

External funding

External small grants

Externally funded collaborative efforts, along the lines of Mellon's support for Kuali-OLE.

Externally sponsored research—grants from IMLS

Friends of the Library grants

Funding from university IT department

Funds for the Academic Preservation Trust are raised through partner fees. In general, through outside grants.

Gifts and endowments not restricted to innovation.

Grant agencies external to the university

IMLS National Leadership Grant

In-kind contributions from campus partners and peer institutions, i.e., development time; research grant monies shared by individuals

Parent institution budget

Private fundraising, gifts-in-kind

Separate dedicated operating budget that was established for the consulting service after a formal proposal was submitted to the deans of the schools that fund the library. Plus a service center established for fee-based archiving services.

Soft funding (federal and foundation sources); Targeted development funding (small and major gifts)

Student technology fees

The library has received monies from university alumni who now work at IBM, and IBM matches their gift to the university. University designated this ongoing gift to the University Library, and has funded computing needs over several years.

The product was sold to several other institutions.

There are some projects that we use donor money or student fees, for example 3D printing.

There is a fund for strategic investments for which we could apply for funding.

This specific innovation is also partially funded by the faculty members' research funds.

Travel funds, equipment funds, departmental budget requests, special requests

Unrestricted gift funds targeted for this project

We consider lapsing salary savings dollars, which in our institution are fungible and spendable as a supplement to our routine recurring operating budget, as a critical source of seed money for innovation, especially in cases where there are potentially large one-time capital or non-capital costs. We have library endowments that are unrestricted in purpose that can also underwrite innovations although these endowments are not earmarked for innovation alone.

12. **If your parent institution provides financial support for library innovation, what is the process for securing funding? N=27**

Included in library annual/periodic budget request	19	70%
Special request by the library director to an institutional administrator	15	56%
Competitive process at the institutional level, e.g., submit a grant proposal	12	44%
Other process, please briefly describe	4	15%

Assorted opportunities for innovation funds from the university. Vice President and Chief Information Officer and Dean of Libraries also agreed to commit resources from their existing budgets.

Campus Library/IT Fee allocation focused on supporting students.

In some cases, shared funding for new services, such as procurement and implementation of a discovery layer (Ex Libris Primo) were jointly submitted to administration for special funding.

University funds earmarked for classroom or technology upgrades, campus teaching grants.

13. If your library has a separate innovation budget line or otherwise tracks the amount that is spent on this and other innovative activities, please indicate how much has been allocated to this innovation example and to all innovative activities in a typical fiscal year. N=8

Funds allocated to this innovation:	Funds allocated to innovation overall:
	1,000
	5,000
11,000	100,000
30,000	285,000
45,000	150,000
50,000	50,000
400,000	420,000
500,000	550,000

LIBRARY INNOVATION: STAFF SKILLS AND REWARDS

14. What skills/knowledge did/will library staff need to implement this innovation? Check all that apply. N=44

Project management	41	93%
Marketing/publicity	32	73%
Web development	31	71%
Programming/scripting	27	61%
Intellectual property rights	19	43%
Grant proposal preparation	14	32%
Other skill/knowledge, please briefly describe	25	57%

All digitization services: scanning, image processing, metadata capture, DAMS ingestion

Assessment skills, usability, front end marketing with campus partners

Assessment, data analysis, usability testing

Collaboration skills, agile development process skills

Collaborative skills in building a consensus in favor of the project

Collection management expertise

Data management and curation expertise, as well as domain expertise

Design thinking, social skills, observation skills, ethnography

Digital humanities research skills

Digital preservation frameworks, advanced digital infrastructure development

Facilities planning

Facility management, software application management

GIS (Geographic Information Service) Research and Development

IT, AV, Media, Visualization

Knowledge of campus and community status and beliefs. Ability to negotiate and collaborate with many different stakeholders.

Knowledge of scholarly communications, other institutional initiatives that were similar, and persuasive proposal writing (similar to grant proposal preparation, but ad hoc in this instance).

Open Source Project management

Political skills were absolutely essential in getting the right parties outside the libraries to agree to support the specific innovation project.

Skill and knowledge in handling large media files (GT 10 GB), including transcoding, efficient network transfer, ingest into the repository, and video play/view technologies. Skill and knowledge in digital preserving media files.

Space assessment/design and user research skills

Subject expertise in copyright

Subject knowledge, language expertise, metadata expertise

Technical skills, interpersonal/collaboration skills

The importance of expertise in facilities management cannot be overstated, for fundamental details such as patron needs for wiring and furniture. Also needed: programming skills to create a novel space reservation system, knowledge of instructional technology trends, and soft skills in team building.

These skills and many others are necessary, but not to make a specific project work. They are necessary to teach and guide our faculty.

15. How did/will library staff gain these skills/knowledge? Check all that apply. N=44

On-the-job experience	44	100%
Self-study	37	84%
In-person workshops/courses offered by external organizations	22	50%
Online workshops/courses	17	39%
In-person workshops/courses offered by the library	11	25%
Other method, please briefly describe	15	34%

Active on-the-job mentoring between senior and junior staff

Center for Excellence in Teaching and Learning (CELT)

Consultants familiar with software

Consultation with experts on campus in intellectual property and technology management. Through collaboration with faculty in the colleges, and with IT and educational technologies professionals, etc.

Following (reading) the literature on open educational resources.

Hired new people with the necessary skills.

Instructional/course development

Mentoring from department heads, administration, and experienced faculty

National and international policy and advocacy experience

New hires who bring transferrable skills.

Our Organization Development division develops initiative-specific professional programs, as well as providing consultation services around a project.

Outreach/networking with peer institutions

Previous work experience before joining the library

Recruited individuals into the organization with the needed skill sets in many instances.

Thinking outside the box is an important skill that is fostered through encouragement by senior leaders.

16. **Please identify any specific professional development programs or conferences you are aware of that inspire innovative thought and activities. N=22**

Access conference http://accessconference.ca/
Coalition for Networked Information (CNI) conference http://www.cni.org/
Code{4}lib conference http://code4lib.org/
Innovation Boot Camp http://innovationbootcamp.wordpress.com/

American Library Association, EDUCAUSE

CNI, LITA, Computers in Libraries, EDUCAUSE, Disciplinary Meetings like MLA, World History Conference, etc.

CNI, EDUCAUSE, Access (Canada), PA-SIG

Coalition for Networked Information, Access, ARL LMSI

Code4Lib

D School, Startup Camp, Next Web Conference, there are tons

Designing Libraries for the 21st Century

Digital Library Federation (DLF) Forum

DLF Forum, Code4Lib, EDUCAUSE, ALA, LITA, ACRL conferences, JCDL, HathiTrust Research Center UnCamp

EDUCAUSE, CNI meetings and events, CLIR workshops on participatory design, some assessment and UX conferences

For library application development, the Code4Lib conference brings together programmers and project managers working on many innovative projects. Other library conferences [ALA, LITA, ACRL, DLF Forum, E&RL, etc.] typically provide exposure to innovative ideas, services, program that can inspire further innovation or new projects

InfoComm, Code4Lib

Joint Conference on Digital Libraries, (Library of Congress) Digital Preservation, iPres, CNI

Joint Conference on Digital Libraries, Coalition for Network Information Membership meetings, Open Repositories annual meetings, Digital Library Federation Forums

Library Assessment Conference, Code4Lib, Open Repository Conference

New Media Consortium (NMC) Contests and Award, Association of College and Research Libraries (ACRL) Cyber Zed Shed events, Open Repositories Developer Challenge, THATCamp

Recent conferences attended: the Hydra Partners Meeting in Boston and the NISO Virtual Conference on how libraries are implementing emerging technologies. There is also the Data Information Literacy Symposium at Purdue University.

SAA, MAC, ACRL, LITA, ALA, and others

Society for College and University Planners, ACRL, ALA, SXSW interactive

SPARC and its sponsored activities and events and the efforts behind the COPE (http://www.oacompact.org/) initiative contributed inspiration to this effort.

The Entrepreneurial Library Program plans annual retreats to encourage innovation, as well as works on individual staff plans to encourage innovation.

17. In what ways does your library recognize and reward innovation? Check all that apply. N=44

In the merit/periodic performance review process	36	82%
Press releases to local, institutional, national audiences	27	61%
Award or other recognition/citation	19	43%
N/A or none	1	2%
Other method, please briefly describe	14	32%

Acknowledgement through library wide communications

Announcements of new services that go out to faculty and students—not really press releases, but campus-wide publicity

Consideration is given during our annual merit salary review and promotion processes.

Encouragement by department heads and library administration

Identify and nominate for external awards.

Internal library newsletter

Opportunities for internal professional development, conference publications/posters, publications in library journals

Promotion and advancement

Providing budget support for innovative ideas and projects. Some innovations and recognition of individual innovators are also mentioned in the annual library report to the provost and deans.

Recognition events hosted by dean or provost and other upper level administration.

Shapiro Library Staff Innovation Award, annual nomination process

The award isn't for library staff, but for faculty that apply for a Freedman Fellows Award. This annual award is given to full-time faculty whose current scholarly research projects involve some corpus of data that is of scholarly or instructional interest (e.g., data sets, digital texts, digital images, databases), involve the use of digital tools and processes, and have clearly articulated project outcomes.

The staff implementer frequently has opportunities to present their work at a conference.

There is not a specific library award for innovation, but there are awards for which innovation is a contributing factor, specifically the Anschutz-Budig award (http://www.lib.ku.edu/awards/anschutz-budig.shtml) and the Rosenblum award (special initiative category, http://www.lib.ku.edu/awards/rosenbloom.shtml).

LIBRARY INNOVATION: ASSESSMENT

18. Has your library assessed or evaluated the outcomes of this innovation? N=44

Yes	17	39%
Not yet, but we plan to	22	50%
No, and we have no plans to	5	11%

If yes or you plan to, please indicate the assessment method(s). Check all that apply. N=39

Collection and analysis of data on use of innovative services or products	26	67%
User survey	20	51%
Interviews with individuals who use innovative services or products	20	51%
Report submission/review/decision process	14	36%
Interviews with focus groups that use innovative services or products	13	33%
Other assessment method, please briefly describe	15	39%

A Library Innovation Fund grant supported an earlier phase of the Technology Prototyping Service. The PI prepared a report and assessment of the use of funds to recruit students with diverse backgrounds to the service.

Assessment was of the productivity of using crowdsourcing vs. assigning to a student assistant or intern. Findings were that crowdsourcing was not more productive but generated other benefits, primarily in terms of campus recognition and community relationship building, e.g., several local TV channels covered the project on the evening news.

Citation analysis of archived web content

Collection of online comments and recommendations

Continuous review and evaluation, networking to share/have ideas challenged, conference presentations to share ideas/solicit feedback

Customer feedback: We continue to expand our digitization program with the USHS, so they like the work we do.

Informal feedback with users during presentations, demonstrations, transcribe-a-thons, and via email

Pre- and post- skills tests, feedback from campus and community partners

Research projects and grants that utilize technologies and space, partnerships with campus and external entities, teaching impact

Seating sweeps

Since this has been a series of components, various assessment techniques used. Data capture and analysis common to all.

The effectiveness of the Analytic and the Video Mosaic website is being assessed in a follow-up grant. The Video Mosaic website collection has the highest average number of downloads per object in RUcore (in which there are some 300 collections).

We have assessed as a pilot but we also plan to do more assessment in the future via focus groups and interviews.

We require faculty who are awarded library grants supporting their alternate textbooks to complete an evaluation report at the end of their project. The AUL then summarizes the findings in a report to the university's "Teaching, Learning, Technology Roundtable." We have made changes in the subsequent iterations of the program based on these evaluations.

Achieving project goals and acquiring new members/partners will indicate the success of this project.

19. **The extent of change due to innovation can be incremental (uses existing knowledge to create minor improvements) or radical (uses new knowledge to make fundamental changes). How would you characterize the extent of change of this example of innovation? N=44**

Incremental	8	18%
Radical	9	21%
Somewhere in between	27	61%

Comments N=15

Change in the courses affected was radical; the alteration in the cost and delivery of learning materials was complete and not introduced in an incremental way (for those courses and textbooks). But on a global scale, looking at the entire university course catalog, the change is incremental in that only a slight percentage of courses have been moved in any given year from expensive commercial textbooks to free alternate textbooks.

For the 2 West post-occupancy study, we noted a 92% increase in space utilization after renovation.

Had two empty floors to fill innovatively, made other modifications.

I would characterize the improvements as radical, but the scale itself for adoption of incremental in that funding for author OA fees is limited to $25k per year which does not cover all potential author OA journal article submissions.

I would say a mix of incremental and radical (vs. "somewhere in between" but I couldn't choose that). As noted, some of these components built on previous components (e.g., affinity string work). The coursepage and coursepack projects were more radical than incremental.

In some sense, the Transcription Pilot Project could be considered incremental (it was designed with other institutions' online transcription projects in mind), but for some at the agency, it was considered radical (the agency had never done transcription with the public or online).

In the end, the impact was more on public relations and knowledge of our collections than productivity.

Large scale visualization is not a new technology but we added new dimensions: 1) Open access to everybody in the university community; 2) Cloud services to make it usable and useful; 3) Programmatic engagement with researchers and corporate partners.

Long term will have radical change to our spaces but near time had more incremental impact.

The information gleaned from the assessment of this innovation has begun to change the way the library and university approaches educating 1st year students on becoming part of a research community.

The new UX Department brings together responsibility for some previously existing services (such as library education and the information commons) and some new functions and initiatives (including assessment, non-academic and community outreach, first-year librarians, user spaces and signage, and the library ombud) into a three-unit department (undergraduate services and user spaces; web and mobile services; learning services). While not earthshaking, the restructuring and creation of this new department is something of a radical departure within our more traditional library structure.

The Scrum/Agile approach to project management is a radical type of innovation within our organization.

This creates a brand new paradigm in the processing and delivery of oral history.

This was a radical change, because prior to implementation, there were no comparable technology-centered user spaces in the library.

We have raised/generated significant amounts of revenue from this program that has been used to fund the ongoing growth and expansion of the digital library.

RESEARCH & DEVELOPMENT

20. Does your library invest resources in exploratory, research & development projects that may or may not be successful (i.e., may not result in production programs or services)? N=45

Yes   31   69%
No   14   31%

Comments N=14

Greatest investment is time, but some funding is available.

On a limited basis, we have invested in exploratory research and development projects that do not always result in a production service or program.

Our Digital Research and Curation Center undertakes R&D activities for the library.

Our library administration is committed to taking risks in an effort to improve spaces, services, collections, and staff development.

Our principal R&D effort has been around MetriDoc.

The library offers an annual Innovation and Program Enrichment grant, available to any library employee who has identified a need in any service or program and has an innovative solution. This is a competitive grant, reviewed by a committee of volunteer library staff.

The University Library invests in research and R&D activities in several ways: internally, through support from the Innovation Fund, and from the Research and Publication committee support, both competitive processes.

Through the Applied Research Division of Information Services at the library.

We commit to a project concept prior to beginning true project development.

We don't PLAN to do this, however, it is the case that some projects just don't work out, e.g., a type of software, or a preservation technique.

We have a very active User Experience office.

We have an Emerging Technologies and Service Innovation unit with responsibilities for environmental scanning and experimentation of technologies that may be useful to the Libraries and our users.

We have invested in supporting human resources in exploring innovative technology spaces. There is an expectation that librarians will explore new trends and topics.

We have no formal entity assigned to R&D as defined in this survey. We have an assessment unit charged with gathering quantitative and qualitative data on which we base decision to make changes. But we have no one department or budget line for R&D.

If you answered Yes, when you click the Next>> button below you will skip to the section Research & Development: Structure.

If you answered No, when you click the Next>> button below you will skip to the section Futurecasting.

RESEARCH & DEVELOPMENT: STRUCTURE

21. **Please briefly describe some examples of R&D activities your library has undertaken. N=28**

    1. Development of a Learning Commons dubbed the "learning studio."
    2. Development of a process to pass an open access policy for faculty.
    3. Development of demand-driven-acquisitions for print and e-resources.
    4. Development of a mobile web presence.

    1) Multi-Touch System for Gesture Based Authoring, Research, and Presentation: The library's Digital Scholarship Lab installed a multi-touch display which allows faculty from diverse disciplines a place to experiment with new ways of displaying and creating visual representations of their work.
    2) The U & You Veteran's Project: An Asynchronous Human Library: An outgrowth of the Digital Scholarship Lab's "The U & You" Project, student veterans are encouraged to participate in both longitudinal and one-time video interviews that capture student experiences.

    An anthropological study of student use of our Learning Commons, the creation of the Digital Scholarship & Consultation Services (described in the questions about innovation), usability studies of various services

    Applied: 1) User studies: i.e., video diaries and personas; 2) Mobile: i.e., Physical Space Assessment Toolbox

    At Theology, we started a "personal librarian" program in 2011 in which each incoming student is assigned a "personal" librarian who is their contact at the library, and who periodically contacts the student with information about upcoming library programs, services, and resources. The Theology Library continues to implement digitization projects, including the digitizing of the complete run of motive magazine (a Methodist journal, aimed at young people), as well as digitizing materials related to the Methodist Church's missionary efforts in Russia. The university's assessment program, which involves all libraries.

Born digital, video capture, screen sharing, social media, presentation tools

Catalog usability study, research flow study

Digital preservation, digitization, research data management, metadata design

Examination, exploration, and drafting of a business case for a Research Data program. Examination and recommendations for a Research Commons. Drafting of a Digital Preservation Policy and continuing research and gap analysis to make infrastructure and digital repository development decisions.

Grant funding to conduct research behavior analysis, which lead to another grant to develop a virtual community for a field (which grew out of the behavior analysis).

In 2012, classrooms in the university's Humanities and Social Sciences Building, the largest classroom building on campus, were renovated to include mobile furniture and interactive classroom technologies as part of a campus plan to encourage blended and active learning teaching techniques in the classroom. As part of this effort, The University Libraries partnered with the Teaching and Learning Center and the Classroom Upgrade Committee to create a classroom in the library outfitted with new furniture and technologies. This classroom would serve as a training area for faculty, instructors, and GTAs to familiarize them with the new mobile furniture and teaching technologies. The collaboration targeted, trained, and assessed over 600 faculty at the university. The project solidified the Libraries' reputation as the main street of campus as well as a leader in innovation in teaching and learning.
The room was outfitted with:
• ceramic boards on all walls and an annotation board
• 30 Node chairs with tablet arm
• 2 Node chairs without tablet arm
• 2 Mobile ADA tables
• instructor furniture and equipment stack
• wall-mounted, interactive projection system in addition to ceiling-mounted projector

Major library software: the entire NOTIS system was designed at Northwestern. More recently, we have designed several more targeted software applications, for example a page-turner and book mark-up application for processing the digital files from a book scanner. We did some explorations to develop a preservation technique for diazotypes but the preliminary work did not result in findings that funding agencies felt were indicative of a need for unique new solutions.

MetriDoc is a modified form a data warehousing developed for the specific needs of libraries and the peculiarities of library transactional data.

Open source software development in partnership with external stakeholders; research to improve access of library webcasts, particularly for integration with university courses; development and implementation of an electronic course reserves system; development of a copyright permissions database; various web interface improvement projects.

Previous funding of academic university research projects on electronic records, automated transcription, etc.

RAMP [described above]. Cuban Theater Digital Archive: development of an open source content management system designed especially for the collaborative documentation of theater performance. Participation in the Variations, Variations-on-Video/Avalon, Shared Shelf. ArtSTOR, and Kuali OLE R&D initiatives

Research into data curation and digital preservation options (collaborative activity with SURA and ASERL), joint initiation of the CLIR-Vanderbilt Committee on Coherence of Scale, development partner for Primo (Ex Libris), NSF study grant

Review, analysis, and implementation of open repository platforms. Review, analysis, and implementation of open publishing platforms. Development of data archiving processes and software. Development of research fluency framework for guiding development of embedded instructional learning modules. Development of software to help students collect environmental data. Development of curated digital humanities collections.

Software exploration, evaluation of early Sony e-reader

Technology: Ethics CORE Portal: http://nationalethicscenter.org/ an interactive resource designed to provide researchers and professionals in the sciences, social sciences, engineering, and mathematics with information on ethical practices and materials on Responsible Conduct of Research (RCR), is now available at http://nationalethicscenter.org. The University Library played an integral role in the $1.5 million National Science Foundation (NSF) grant awarded to Illinois to develop the site, which is housed in the Grainger Engineering Library Information Center. William Mischo, Head of the Grainger Engineering Library, was the library lead. The grant provided learning opportunities for new librarians and LIS graduate students to develop digital library expertise.

Collections: The library has used the materials allocation to fund small pilot collection development projects that have the potential to result in ongoing services. Local experiment in demand driven acquisitions (and partnerships with the state library consortium, CARLI) were funded that way. The acquisition of small data sets was funded in this way. The examination of different methods of cataloging via some outsourced services was also funded that way. Approximately $20,000/yr is devoted to these types of experimental activities.

Preservation: The University Library will receive a National Leadership Grant from the Institute of Museum and Library Services (IMLS). The library will partner with the William R. and Clarice V. Spurlock Museum; the McLean County Museum of History; Heritage Preservation, Inc.; the Chicago History Museum; the Illinois Heritage Association; and the Illinois State Library to develop the Preservation Self-Assessment Program, a free computer-based tool that will help library, museum, and archives staff to conduct physical assessment and prioritization of preservation needs for paper-based and photographic materials. This tool will build upon the project director Jennifer Hain Teper's previous work developing a similar tool for assessing audio-visual collections, and will produce a detailed preservation report prioritizing collection items in order of preservation need. The tool will be designed to allow interoperation with other emerging software tools such as the open-source Archives Space collections management tool.

The Coordinator of Information Literacy and the Digital Technology/Systems Librarian are conducting a survey of user interaction with a pilot discovery portal to our collections to determine if there is potential for further development. The Information Literacy Coordinator and Head of Reference and Information Literacy conducted an analysis of student essays about their approach to research to determine if there were implications for info lit instruction. In the past few years, we have conducted pilots of reference chat service and the use of Gimlet software as an enhancement to traditional data collection about reference transactions. Both have been adopted and Gimlet data is being used to redesign reference services and as the prompt for exploring more technology-based help services in the libraries. We have a Student Advisory Board that has provided insight into study patterns in the building in order to reallocate space and redesign one floor.

User Experience testing, Big Data initiative, Scholars' Lab's PRAXIS (new program for graduate education in the humanities)

User Research (ethnographic studies), preservation assessment for special collections, website interface/architecture for digital collections

We examined reservation system data to discover patterns of patron usage, and computer login data to see which publicly available computers got the heaviest use. After exploring reservation system options, an internal library unit wrote its own software. A user experience team conducts observation of patron use of the library website.

We have several R&D research activities. The two I will highlight are "hubs" that we've developed to serve as R&D think tanks. We have one for Learning and one for eResearch. There are others but these two are more well formed. This effort ranges from theoretical exploration to prototyping to developing entirely new products or services.

We recently undertook a study of patron use of one of our library facilities. The study involved the periodic observation of library spaces and taking notes on patron activity.

Website and discovery system integration and redesign, refurnishing areas following observation and measurements of user behavior and preferences

Working with students to redesign interior spaces, partnering with students in developing mobile applications as part of a student project, working with faculty to pilot a new research data management platform.

22. **Does your library have a separate unit that is devoted to such exploratory, research & development projects? N=31**

Yes	9	29%
No	22	71%

23. **If your library has a separate R&D unit, please identify the unit, indicate the number of staff, and the position to which the unit reports. N=8**

Unit name:	Full-time staff:	Part-time staff:	Unit reports to:
Applied Research	5		Chief Information Officer
Digital Library Initiatives	10	1	Associate Director for the Digital Library
Digital Research and Curation Center	7		Associate Dean for Research Data Management
Emerging Technologies and Service Innovation	2		Head of Reference
Office of Research and Technology	1		University Librarian
Program on Information Science	1	2	University Librarian
Scholar's Lab	9	4 student assistants	Director, Digital Research and Scholarship who reports to Deputy University Librarian
User Experience (UX) Office	1	2	AUL for Access Services and Information Technology

24. **If your library does not have a separate R&D unit, please briefly describe the staff and structure for R&D activities. N=22**

Administration encourages staff throughout the library to work with their supervisors to improve services and resources as much as possible. R&D activities are conducted within departments and branches.

Almost always dedicated project teams, with expertise drawn from multiple relevant sectors.

Associate Dean of Libraries, Director of Scholarly Communications, Library Digital Services personnel

Every manager is encouraged to include innovative opportunities in annual goals of staff.

In the case of MetriDoc, IT, subject experts, and business analysts collaborate.

It is expected that the leadership in our information technology, digital collections, and preservation departments is always empowered to explore projects informally and to propose formal R&D for external funding. As a result, it is also the case that other departments such as Reference, or Bibliographic Services, will occasionally propose a custom service or application development.

Most are idea-generated by departmental heads or staff and develop through cross-functional project teams.

Personally, I am really against the skunk works approach. I strive to encourage innovation throughout the organization. To me R&D has value being library-wide effort rather than being in silos. Obviously, there might be some teams or some projects that have more R&D needs than others, but we are not interested in creating barriers around who can or cannot do R&D. I think it can actually damage the organization.

Project basis; vetting through library management group

R&D activities are also embedded in other units, as well, including the Entrepreneurial Library Program, Center for Educational Resources, Conservation and Preservation, Scholarly Resources and Special Collections.

R&D activities are undertaken as needed by appropriate staff.

R&D activities are undertaken on a case-by-case basis by various functional units.

R&D activities may originate in any unit. Typically, units engaged in R&D activities are those that have a public services, instructional, or technology focus (Digital Initiatives; Learning, Research, and Engagement).

R&D tends to be focused on an interest of a person or a group. R&D in IT focuses around new service and software exploration, such as the development of mobile applications.

There is no formal staff or structure. We recognize the importance of it and want the organization to be flexible enough to allow for different units to engage in R&D activities as necessary. Most of our efforts are on a small scale, and our resources in general are limited, so this approach suits us well.

This often comes from liaison librarian opportunities, working with student government, or as part of a research leave by librarians. We recently hired a Head, Digital Initiatives, who will be working in a lot of this area.

We do have a full-time position in our Library Technology Systems Department that is devoted primarily to R&D. Other R&D effort is drawn as needed/available from other departments including Digital Library Initiatives, Special Collections Research Center, Reference, etc., in ephemeral working groups focused on the project.

We have a new User Experience/Assessment Librarian and a long-standing Assessment Team, and a Web Development Team. Both groups have routinely undertaken R&D type activities. In addition, individual departments and professional school libraries have used pilot projects to experiment with new approaches to doing their work and providing user services.

We have had a Director of User Research since 2005 who has involved a diversity of staff members in ethnographic studies ranging from studying the undergraduate research process to space planning. The director recently left this position to pursue new employment opportunities. The website interface/architecture project and preservation needs assessment are both grant funded studies carried out by a P.I. in the library with staff members from a cross section of library staff members chosen for their specific skill sets.

We incorporate R&D activities into each librarian's position description to encourage capacity building.

We typically utilize staff from our Web & Emerging Technologies, Systems, Digital Initiatives units, supplemented by others throughout the Libraries depending on the topic/field being explored.

While the library does not have a separate R&D unit, there are two committees tasked with fostering innovation. The Innovation and Program Enrichment grant committee accepts grant applications on a yearly basis for innovative solutions to observed program and/or service needs. Launch Pad Services assists library staff with digital publishing or innovative business ideas for the library.

RESEARCH & DEVELOPMENT: FUNDING

25. Please indicate the source(s) of funds to support library research & development activities. Check all that apply. N=30

Library operating budget	29	97%
Library grant to staff	8	27%
Separate library R&D budget line	3	10%
Library gift fund earmarked for R&D	3	10%
Library endowment fund earmarked for R&D	2	7%
Parent institution grant to library	12	40%
Parent institution endowment fund earmarked for R&D	0	0%
Parent institution gift fund earmarked for R&D	0	0%
Other source of funds, please briefly describe	14	47%

Campus funds earmarked for technology or space upgrades or teaching and learning grants

External funding: foundations and general sources, targeted gifts (major & minor)

External grants and partnerships

External grants or non-restricted endowment funds

External grants, one-time funding from university administration

Externally sponsored research (i.e., federal, state agency; private or corporate foundation)

Foundation and federal grants

Grant funding (Mellon, IMLS)

Grant funding for specialized purposes

Grants directly sought by department.

Library non-specific discretionary funds. We do not really differentiate between "innovation" and "R&D" in how we fund projects. They are often a little bit of both, and we use the same pots of money.

Occasional grants

Outside grants from NEH, Mellon, etc.

Partnerships, internal & external, e.g., research grants. Fee for service contracts, e.g., digital preservation & research data management.

26. If your library has a separate R&D budget line or otherwise tracks the amount that is spent on R&D activities, please indicate how much is allocated to R&D in a typical fiscal year. N=5

    5,000
100,000
150,000
420,000
475,000

27. If your parent institution provides financial support for library R&D, what is the process for securing funding? N=16

Competitive process at the institutional level, e.g., submit a grant proposal	11	69%
Special request by the library director to an institutional administrator	10	63%
Included in library annual/periodic budget request	8	50%
Other process, please briefly describe	0	0%

RESEARCH & DEVELOPMENT: ASSESSMENT

28. Has your library assessed or evaluated the success of R&D projects? N=30

Yes	22	73%
Not yet, but we plan to	7	23%
No, and we have no plans to	1	3%

29. If yes or you plan to, please indicate the assessment method(s). Check all that apply. N=29

Collection and analysis of data on use of the project's services or products	26	90%
Report submission/review/decision process	18	62%
Interviews with individuals who use the project's services or products	18	62%
User survey	15	52%
Interviews with focus groups that use the project's services or products	12	41%
Other assessment method, please briefly describe	5	17%

Assessment is on a project-by-project basis. For example, the OA author's fund and demand-driven acquisitions innovations rely on data analysis.

Collaborative assessment with campus entities

Post occupancy observation of facility/furnishings

TBD

UX testing

30. Has your library assessed or evaluated the utility of R&D activities overall? N=29

Yes	4	14%
Not yet, but we plan to	8	28%
No, and we have no plans to	17	59%

31. If yes or you plan to, please briefly describe the assessment process. N=7

Ad-hoc review by steering committee (AUL's + UL)

Assessment is done within Applied Research and evaluated by agency senior leaders.

In 2011–12, the library analyzed 10 years of sponsored research projects, and carried out interviews with library faculty and academic professionals who were investigators on these projects, to determine how to strengthen support for R&D activities in the library. The results of this survey and analysis were written as a paper by Jamie McGowan and Beth Sandore Namachchivaya for the ARL Assessment conference in October 2012. The paper is available at: http://hdl.handle.net/2142/35316

This is quite informal. Because useful improvements that address user needs have come from the UX studies, we have not created a separate assessment.

This would be a long-term identification of R&D initiatives and their long-term success based on outcomes analysis.

We want to formalize assessment of various pilots in a more consistent process. This work will likely emerge as an outcome of the library strategic directions, in which enhancing assessment is strong.

Will be part of a new overall assessment project.

32. Please briefly describe how the library determines that a project should move from an experiment to a production service or product. N=27

1) Management review
2) Senior management review depending on size and nature of project

A formal proposal is made to the dean of libraries including background and rationale for establishing services, detailed service scope, operational plan, and budget.

Adoption can be based on data, on user feedback, or through a formal or informal adoption process. Adoption is not always formal, depending on scale. We do few projects that are high-risk and focus more on outcomes that may have various solutions that are tested and revised over time.

Assessments as indicated above, survey of similar activities/services at peer institutions, staff evaluation

At the Libraries, a variety of projects are initiated on an experimental, exploratory basis. After those trial or pilot programs have had the opportunity to develop, they are assessed to determine whether they should continue, continue in modified form, or cease. Because no two projects are alike, there is no predetermined format for assessment, but in nearly all cases, judgments are made on the basis of factors such as informal feedback from users, reports from library staff members about more and less successful instances of program activity, focus groups or user experience observation (if appropriate), and analysis of statistical information (if relevant and available). Funding needs and potential sources of funding also are taken into account. Finally, a range of promising ideas is evaluated by library

administration in the context of the need to prioritize in our use of library resources (funds, staff time, floor space, technology).

Based on the success of the initial implementation, and available funding, the library may decide to continue or expand use of an innovation project.

Currently, this happens on a case-by-case basis, depending on the type of innovation, whether and how it supports strategic priorities for the library and campus, and what resources are needed to integrate it into mainstream library operations. The experience with the Technology Prototyping Service may help the library identify more straightforward approaches to moving from experiment to production service.

Depending on the nature of the service/product, presentations are given to a variety of groups: executive group, department heads, faculty council. After deliberation, a decision is made whether to move into production.

Depends on user demand for the service/product and on the feasibility or success of the experiment.

Determined on a case-by-case basis.

Discussion at Dean's Library Management Group and then typically through a project team that conducts further investigation and makes recommendations.

Discussion in departments and in the senior leadership group. If recurring funding is needed, the dean's approval is also needed.

Discussions among department and branch heads with their associate university librarians or associate library directors, depending on the library. These project ideas are then discussed among the associate university librarians or the library directors, depending on the scope.

Feasibility and funding are considerations to moving an experiment to production.

Generally, internally sponsored initiatives have a goal of becoming a part of the Libraries' portfolio, so the planning efforts involved include necessary resources. Grant funded projects result in final assessments of sustainability, which may include folding the effort into the Libraries' operating budget.

I like to instill the values of lean startup—in this manner measurements and metrics are build into the process. We try to use more of an agile approach—adapting based on use and other insights which the idea, product, or services is being developed. I think the waterfall approach of launch and then wait-and-see assessment does not translate to "innovation" so that's why I selected no to the questions above. Most of our R&D does not "assess," instead we build/ measure/learn, we constantly adapt and pivot.

Investigatory Project Charter with assessment at the end and a recommendation to move forward with an implementation, and then discussion by library executive.

It's usually the case when we start an R&D project that we assume it is being done in order for us eventually to have a production service, so part of the original proposal (e.g., to a funding agency) outlines the success criteria and the steps to move it to production.

Ongoing consultation among the SLT, especially if there are resourcing issues.

Ordinarily, there is a verbal report and recommendation to responsible administrator(s) of the perceived benefit for users (or efficiencies for staff) balanced against estimated resources (one-time and ongoing funds, space, and staffing) required to attain and sustain the desired production result. This is not always a formal and rigorous analysis. In some cases it is obvious.

Our decision-making process for this type of activity is influenced by many situational factors such as funding, staffing, data, need, political imperatives, return on investment, etc. We do not have one specific path that we follow to determine whether or not we can or will provide a new product or service. Sometimes a successful experiment is discontinued for sustainability reasons. Sometimes a failed experiment is continued for political reasons. Every situation is unique and the decision-making process is appropriately flexible.

The final assessment/evaluation rests with the Administrative Committee that includes the library dean and associate deans.

Those involved in the project make a formal or informal report to department heads and/or library administration. If the project's implementation will enhance the user experience, reduce costs, or support the strategic goals or mission of the libraries, and funding is available, then the project moves to production or implementation.

Typically, report submission/review/decision by steering committee.

Typically, through discussion among the involved groups and individuals, followed by a recommendation to administration, if appropriate.

User demand for product/service

UX studies go to the Executive Committee of the library for discussion and decision on which recommendations will be implemented, and how.

FUTURECASTING

33. What role will innovation have in your library in the future? N=40

A crucial role. Innovation and flexibility are part of the ongoing adaptation that the library must embrace in order to provide relevant spaces, services, and technology amid changing expectations.

A greater role. We hope to devote specific time/resource towards innovation.

As defined for this questionnaire, innovation will be critical to maintaining the alignment of the library's mission with the needs and work of its user communities.

As I mentioned in the early questions, innovation is at the heart of planning for future endeavors. We recognize the importance of it in the quest to continue to make ourselves relevant to users with a rapidly changing set of needs.

Assuming that the pace of change continues to increase, innovation will play an increasingly important role in assuring that library services and resources continue to serve our constituents' needs.

Developing courses and programs with other colleges and museum. Incorporating new technologies. 3-D printer, makerbot, planetary scanner. Increased leadership in scholarly communications, open access, institutional repository.

Expect that innovation will have a larger role in the future.

Hard to tell. The library administration wants to be 100% sure that something will work before they will give the go-ahead.

Innovation is critical to the advancement of the Libraries' portfolio and responsiveness to community needs. We attempt in all that we do to not simply improve existing services, but to look afresh at problems and dedicate talent to addressing the needs.

Innovation is critically important for the long term. Library must be able to collaborate with faculty to develop innovative approaches to information discovery and management.

Innovation is playing a major role in how CUL/IS redefines itself as "the new research library," combining traditional library functions with innovative academic and research technology activities to support the research, teaching, and learning missions of the university.

Innovation will be a vital ongoing activity, expected of librarians and units.

Innovation will be crucial to our library now and in the future. We will roll out new services to meet the needs of 21st century students and faculty.

Innovation will be key to both the near-term strategic directions and future directions as we expand into new service areas such as digital curation and digital preservation. We also envisage new ways of partnering with faculty to accomplish their research goals, including cost recovery for data stewardship services and custom interfaces for managing their research data. We are also working on a shared analysis of collections at all three institutions, which has not been done in Ontario, to the best of my knowledge.

Innovation will continue to be a vital element in the development of services that anticipate evolving user needs. It is also a critical component in the transformation of access, discovery, and content preservation.

Innovation will continue to be an important area of focus for our library as we seek to be responsive to our users. Innovation also presents an opportunity for our library to create fee-based services that help support operational budgets.

Innovation will continue to have a major role.

Innovation will have a major role in the coming year as positions are recast to serve more data-driven and outcomes-based needs in our larger university community.

Innovation will play a large role in the agency's new strategic plan. The Innovation Office will lead projects to support online access of our records and projects throughout the agency.

Innovation will play a major role in establishing Freedman Center 2.0 to become the campus hub that works with partners to understand and support the research process and to expedite the research process so scholars can generate and share their research optimally.

It is probably the most important thing we can do. It will improve our core services (continuous innovation), as well as launch new products and services (discontinuous innovation).

It will be pervasive throughout both our services and our internal operations. We are building spaces and resources to encourage innovative thinking among our users (i.e., maker spaces/new technologies/learning and research commons).

It will play a key role in future planning. Particularly in regards to library services and spaces to support problem-based learning environments, and access to electronic collections. However, we have not discussed, as an organization, specific R&D efforts and how they will be assessed. We are in the very early stages of discussions and exploration of R&D and innovation efforts.

It will play an increasing role, as we will necessarily need new methods to meet our strategic goals as the landscape of scholarly communication and library services continues to shift.

It will remain a value in our planning documents and be recognized through the Shapiro Award and in individual performance appraisals.

Looking into digital humanities project.

Modest but steady role in rolling out new applications and keeping me excited about my job!

Ongoing creative solutions for current challenges.

Ongoing, even increasing, since the budget is not expanding but the service and technology demands are growing. Also, it is a good thing to encourage in order to keep staff motivated and engaged.

Our library will be much more innovative in the future. We hope to cultivate a culture of innovation and collaboration within the library and with the university and community partners through enacting our new 5-year strategic plan.

Significant role. As libraries move from the print to the digital economies, and as a digital ecosystem of resources and services develops to support higher education, radical innovation will be required.

Technology-based innovation will have an increasing role, affecting all aspects of current services and offering the potential to create totally new services.

The dean of libraries and AULs believe we will continue to place an emphasis on innovative and experimental projects and new service initiatives. So continued innovative and some R&D will be important on a local level. However, it is virtually impossible for every library (even every ARL library) to attempt to be innovative and do R&D in all areas. We need to share results and findings that inform best practices so that each of us is not re-studying and re-inventing wheels again and again.

The library plans to continue supporting innovation through these two entities, the IPE grants and Launch Pad Services.

Unclear

We clearly see increased attention to innovation and research & development efforts as we look to meet the changing needs of our users and continue to improve internal operations processes. To date, these have been somewhat ad hoc/ project-based efforts, but we anticipate developing a more formalized approach to funding & otherwise supporting R&D within the library.

We have a long tradition of piloting ideas and making a determination of whether or not to continue and/or seek recurring or more significant funding. This will undoubtedly continue. The dean has sought to expand those initiatives by establishing the Innovation Fund so that pilots requiring money can be undertaken. In addition, he required each librarian to identify a new/innovative project for their annual workplans.

We have a new innovation and strategy division in the libraries, which suggests a new focus on more innovation and more risk-taking.

We will need to be innovative in how we measure and report the value of our library services.

We will take a stronger, more evidence-based approach to innovation.

34. Who will be your innovative partners at your institution in the next 1–3 years? N=40

Academic departments and support services, research centers, and information technology are likely candidates for innovative partnership.

Arts, computer science, engineering, medicine

Campus IT; Center for Written, Oral and Visual Communication; Center for Digital Learning and Scholarship; Office of Vice Provost for Interdisciplinary Initiatives (MOOCs); Chao Center for Asian Studies; Facilities, Engineering and Planning

(building renovations); Humanities Research Center; individual faculty members and departments

Center for Teaching and Learning, Office of Assessment, Office of Information Technology

Central IT, external/community-based cultural organizations, other academic/research libraries

CIO, provost, chancellor, Vanderbilt Institute for Digital Learning, digital humanists, researchers

Disciplinary faculty, Office of Interdisciplinary Studies, College of Arts, Sciences, and Engineering

Division of Information Technology, Office of Research, Graduate School, Future of Information Alliance, Vice-Provost for Innovation

Each of the academic colleges, Information Technology Services, Undergraduate Education, World Campus, Vice President for Research

Faculty, Information Technology Services, schools & college, Baker-Nord Center for the Humanities, UCITE [University Center for Innovation in Teaching and Education], think[box].

Faculty, Library of Congress NDSA, OCLC, Sloan Foundation

Faculty, students, researchers; Academic computing/Academic technologies/Center for Teaching excellence; research centers and institutes; GSLIS faculty and students; Office of Research; NCSA (National Center for Supercomputing Applications); Office of Undergraduate Research

Graduate School of Arts & Sciences, Office of the Executive Vice President for Research, University Writing Program, School of Engineering & Applied Sciences, many individual faculty members with whom we partner on grants and other projects

Information Services & Technology, university administrators, faculty, and students

Information Technology Services, Center for Excellence in Teaching and Learning (CELT)

Information Technology, registrar, schools and colleges

Institutional Research, University Research Council

Instructional technology support units within academic computing as a whole

Not sure.

Office of Institutional Technology, Office of Institutional Research, Center for Faculty Teaching & Development, Office of the Provost

Office of Research and Engagement, Office of Information Technology, Teaching and Learning Center, Student Success Center and other academic support providers, Classroom Upgrade Committee

Office of Research, Central Computing, other universities

Office of Research, individual faculty and research teams, student government and individual student entrepreneurs

Other UC campuses and the California Digital Library, Office of Information Technology, Office of Research, deans at various schools.

Our partners will be a variety of internal and external offices, other government agencies, and cultural institutions.

Our user community (researchers, students, staff, etc.) are important partners in innovation.

Past partnerships have included academic units on campus, campus IT, computer science, and undergraduate education offices. Those will likely obtain in future. We also have a number of partnerships with other institutions on innovative efforts, largely grant funded or through consortial efforts (e.g., Committee on Institutional Cooperation, CIC).

Planning & Design, Institutional Research & Effectiveness, IT, Research Office, Grad School, Provost's Office

Researcher in humanities

Researchers, both faculty & student, campus technology partners, campus service departments, VP research office

School of Business, Computer Services, Computing Sciences Department, and individual faculty in various disciplines

The library is open to and actively pursues partnerships with entities across campus. We will continue to forge these partnerships as we expand innovations in library programming and services.

The schools of the university

There will be much more collaboration with teaching faculty. For example, the library is currently collaborating with faculty in the Classics Department and the School of Communication and Information to provide online access to a unique collection of Roman Republican Coins.

Unclear

University computing, university media lab/language services, student government

University IT department; Centre for Teaching, Learning and Technology; Office of the University Counsel; Office of Research Services; various academic faculties

University IT services, APTrust partners, Hydra partners, Fedora 4 partners, VIVA (Virtual Library of Virginia consortium), university schools. Collaborating within and outside of UVa is a major strategy.

University museum, university press, university college, other colleges, student services

We have over 25 partners from our campus. Some of the core partners in terms of R&D and Innovation are Campus IT, Provost's Office, Grad School, Student Affairs, and Office of Research. We also have external services in our buildings like the Writing Center, a Communications Lab, and other academic support units.

35. If it is not already, will R&D be a line item in your budget in the future? N=35

Yes	9	26%
No	26	74%

Comments N=16

Already exists for practical purposes, although not identified as R&D per-se.

Don't know.

Funds are available as needed.

I believe we will attempt to increasingly consolidate some library R&D in various institutions or cooperatives so that each of us is not separately doing the same repetitive R&D and that we collaboratively approach R&D opportunities. So R&D is likely to become an identifiable cost item. As examples, the R&D efforts to create ArchivesSpace or HathiTrust.

I foresee library R&D continuing to derive support only from the operating budget.

In the near future I don't imagine there ever being a line specifically for R&D. We build R&D practices into everything. For example, I am currently developing a presentation rehearsal room. I have a set budget for that project which includes R&D as well as furniture and technology and publicity. Our approach is to bundle R&D into project or departmental budgets rather than saying it be a line item in the total library budget.

Our operating principles and culture suggest that innovation is an essential strategy in how we plan and develop rather than a separate enterprise. We expect staff to think creatively and to be flexible in assignments that address new needs. Similarly, research (i.e., data analysis, assessment) is core to advancing our service portfolio and contributing to the profession. Reappointment and continuous appointment (tenure) is contingent upon these types of contributions.

R&D activities will continue to be embedded in the library program.

R&D will not likely be a line item in the budget in the near future. Library R&D activities will continue primarily within grant-funded projects.

Right now, there is not a dedicated line item in the budget. It is not definitively yes or no as an R&D project could be funded if it arose and was viewed as a high priority. Future discussions of R&D and innovation will most likely inform how budgeting is managed for those types of efforts.

Under discussion

We expect R&D planning to be a large part of our future and budgets will need to accommodate this.

We have no plans for this in the near future.

We have tried to have innovation permeate both our culture and the budget process. At different times, we have put out a call for innovation grants internal to the library; the decision to do that precluded other sources of funds to do innovative work.

While this could change, current practice is to rely on either special sources of income as documented in other questions, or to earmark unrestricted endowment and operational funds for any R&D projects.

Will always be in strategic plan, but we have more flexibility if we fund it through a variety of mechanisms.

ADDITIONAL COMMENTS

36. **Please enter any additional information that may assist the authors' understanding of innovation and R&D activities at your library. N=9**

Our library administration is very committed to startup thinking. We try to encourage lean practices in terms of ideation and idea development, but innovation is also an outlook. It is very much an attitude rather than just a recipe. This involves looking for new service models, new liaison roles, new skills and capacities that we need. It all centers on developing a better understanding of the needs of our users and then addressing the infrastructure to make that happen. In short, our drive isn't just making things a little bit better but asking new questions about what we should even be doing to have the most impact on our community.

Our Library Systems Department has built a lot of innovative applications over the past ten years, all self-funded and all self-inspired.

The small size of our staff relative to our services and collections does not allow a large quantity of resources for bleeding-edge development. We actively monitor innovative, research-based activities in other libraries and quickly adapt what will work well in our environment. The two additional staff working with the User Experience Librarian is an estimate of between 1 and 2 FTE composed of additional librarian/staff hours, students, and library school practicum students. Informal research goes on in every department, sometimes at a very high level in connection with complex projects.

The tracking of R&D spending is a challenge for internal initiatives.

There can sometimes be a downside to being an institution that has a long history of innovation. We assume we always will get a better product/service if we do it from scratch here, rather than buy it off-the-shelf. This can mean that things take a long time and cost a lot of labor.

There is an assumption that the print-to-digital trends in librarianship will continue to demand flexibility and innovation.

Though we don't anticipate creating an R&D/innovation department or budget line, there is a desire to support more research and development across the library system.

We highlight these activities at all-staff meetings and talk about innovation as part of this library's culture. Staff and administration become discontent when there is not some highly visible, cutting-edge activity underway.

While we have always had pockets of innovation and projects that relied on some level of R&D, we are fairly new to the concepts of committed effort and risk required for innovation. The new Innovation and Strategy Division is a next step for us toward becoming a more innovative organization.

RESPONDING INSTITUTIONS

University of Alberta

University of Arizona

Auburn University

Boston University

Brigham Young University

University of British Columbia

University of Calgary

University of California, Irvine

Case Western Reserve University

University of Colorado at Boulder

Columbia University

Georgia Institute of Technology

University of Illinois at Urbana-Champaign

Iowa State University

Johns Hopkins University

University of Kansas

Kent State University

University of Kentucky

Université Laval

University of Louisville

McMaster University

University of Maryland

University of Massachusetts, Amherst

Massachusetts Institute of Technology

University of Miami

Michigan State University

University of Minnesota

National Archives and Records Administration

North Carolina State University

Northwestern University

University of Pennsylvania

Penn State University

Purdue University

Rice University

University of Rochester

Rutgers University

Smithsonian Institution

Southern Illinois University Carbondale

Temple University

University of Tennessee

University of Utah

Vanderbilt University

University of Virginia

Virginia Tech

Washington State University

Washington University in St. Louis

University of Waterloo