The Evolving Institutional Repository Landscape

Judy Luther
Informed Strategies

A Choice White Paper

Published with underwriting from the Taylor & Francis Group

CHOICE
Start with better options

Taylor & Francis Group
an informa business

About Choice

Choice is a publishing unit at the Association of College and Research Libraries, a division of the American Library Association. Through its publications—including *Choice Reviews*, *ccAdvisor,* and *Resources for College Libraries*—and its professional-development webinars, podcasts, and white papers, it supports the mission of the ACRL by providing the academic library community with information that helps academic and research librarians learn, innovate, and lead.

www.choice360.org

About Taylor & Francis Group

Taylor & Francis partners with world-class authors, from leading scientists and researchers, to scholars and professionals operating at the top of their fields. Together, we publish in all areas of the Humanities, Social Sciences, Behavioral Sciences, Science, Technology and Medicine sectors. We are one of the world's leading publishers of scholarly journals, books, eBooks, text books and reference works.

taylorandfrancis.com

Choice White Paper no. 1, The Evolving Institutional Repository Landscape

We gratefully acknowledge the support of the Taylor & Francis Group, whose generous contribution provided underwriting for this paper.

© Copyright 2018 American Library Association. This work is licensed under a Creative Commons Attribution NonCommercial 4.0 International License. To view a copy of the license, please see http://creative-commons.org/licenses/by-nc/4.0/.

Attribution-NonCommercial CC BY-NC

About Choice White Papers

With this study, "The Evolving Institutional Repository Landscape," Choice is inaugurating a series of research papers designed to provide actionable intelligence around topics of importance to the academic library community. Researched and written by industry experts and published with underwriting from academic publishers and other parties, these papers are part of a continuing effort by Choice to extend its services to a broad cross-section of library-related professions.

This White Paper is based on market research that includes interviews with academic librarians and industry leaders in addition to an open survey with more than 150 responses.

About the Author

Judy Luther is passionate about connecting users and content. She has experience in the development, production, distribution and use of digital products and services in all stages of their life cycle. Her first career in libraries, followed by a decade in sales to institutions, led to the creation of Informed Strategies as the web became a global distribution channel for all forms of content. A Past President of the Society for Scholarly Publishing (SSP), Judy serves on the editorial boards of several journals and is a Chef in The Scholarly Kitchen. She has both and MBA and an MLS.

Citation

Luther, Judy. "The Evolving Institutional Repository Landscape." ACRL/Choice, publisher. 2018. http://choice360.org/librarianship/whitepaper

Acknowledgements

We are grateful to the many librarians who responded to the survey and the open questions, as your feedback was helpful in understanding the complexity of the IR environment and useful in characterizing it for your colleagues. Any misinterpretations should be attributed to the author.

There were a number of people who gave generously of their time in interviews and conversations whose contributions are woven into this document. Thanks are also offered to Mark Cummings and the staff of Choice who provided intellectual and operational support.

Contents

Origins 1
Current State 3
Ecosystem 10
Looking Ahead 13
Bibliography 16

Appendix A-2

The Evolving Institutional Repository Landscape

ORIGINS

Advances in technology affecting content creation and digital dissemination continue to reshape the role of academic libraries. The impact of these changes requires reimagining a strategy for the library built around digital collections–not only those acquired from publishers but the growing variety of files created in the development of scholarship and learning. Institutional Repositories (IRs) are emerging as a vehicle for new directions in how libraries can support the academic community both locally and globally.

The Inspiration

The World Wide Web established the network, followed by Google, which freely connected readers to information. Inspired by the opportunity to exchange the constraints of print distribution for the ease of online access, scholars and librarians began to envision a new future. A confluence of enabling technologies and conversations fueled by the serials crisis led to the development of Eprints as open source repository software in 2000. Two years later the Budapest Open Access Initiative (BOAI) served as a declaration of commitment for scholars to self-archive their work and for the creation of open access journals. That same year the DSpace repository was released by the Massachusetts Institution of Technology (MIT) and Hewlett Packard.

Looking back on this period, Scott Plutchak, in his talk at NASIG's (North American Serials Interest Group) 2016 Annual Meeting, characterized two different aims driving the adoption of IRs. One, articulated by Raym Crow in "The Case for Institutional Repositories: A SPARC Position Paper" (2002), focused on IRs as a way to reform scholarly publishing and to demonstrate the significance of an institution's research. The other, by Clifford Lynch in an ARL "Briefing on Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age" (2003), described the value to the community

of preserving and nurturing new forms of scholarship. Both fall within the broader view of scholarly communication but influence an institution's priorities and the nature of services offered, affecting decisions on staffing, budget, and content.

The Challenges

Despite enthusiasm for establishing an IR, early adopters received few deposits. Nancy Foster, working with Susan Gibbons at the University of Rochester, conducted research to explore users' issues. She discovered that faculty assumed their content was being preserved and that what they needed was a system that would support collaborative authoring and provide version control. Realizing that the focus needed to be on the scholar, Nancy created a model for faculty profiles in the IR that referenced the author's work.

In 2008 Dorothea Salo at the University of Wisconsin wrote a critical evaluation of operational challenges and user issues affecting deposits. IRs frequently lacked administrative support and the staffing to manage the software, promote the service, mediate deposits, and negotiate permissions. Researchers preferred disciplinary repositories where their work could be easily discovered by their colleagues. To address workflow issues Salo suggested that institutions develop software enabling a dual deposit to the IR and the subject repository.

Faculty reluctance to self-archive prompted numerous studies, including Denise Troll Covey's at Carnegie Mellon University. Although the Faculty Senate had passed a resolution encouraging researchers to make their work available, most of the publications in the Research Showcase were mediated by librarians. Faculty suggested that IR deposits be coordinated with the annual reports that they submit to their department heads. There is consensus that expecting faculty to self-archive does not produce desired results and that additional support by dedicated library staff, combined with marketing the benefits, is necessary to develop a collection.

The Opportunity

Within the last five years government funders in the UK, the EU, and the US mandated that researchers openly publish the results of their work. Private funders such as Wellcome Trust and the Bill & Melinda Gates Foundation issued requirements for open distribution and have partnered with F1000Research to publish papers on their own sites.

The launch of preprint servers in biology and chemistry, combined with the original physics arXiv, which has a collaborative funding model, created a suite of large-scale science repositories with stable financial support. BioRxiv has a partnership with the Chan Zuckerberg Initiative that is based on shared goals, and ChemRxiv was introduced by the American Chemical Society (ACS) in collaboration with the Royal Society of Chemistry and the German Chemical Society. When authors submit a manuscript at BioRxiv, they also have the option for it to be submitted to one of a growing number of life-science journals for peer review and subsequent publication.

Published content, such as books and journals, fulfills specific objectives by presenting the outcome of a scholar's work in a designated format at a point in time to support a dialog within his or her respective disciplines and across the scholarly community. However, scholarly information in the digital sphere includes all elements of the research cycle, which are increasingly available in a wide variety of digital formats: images, datasets, code, 3D modeling, lab notes, audio, video, etc. In fast-moving fields, timely access to discoveries is important in advancing solutions to global problems and being part of a larger conversation beyond the academy.

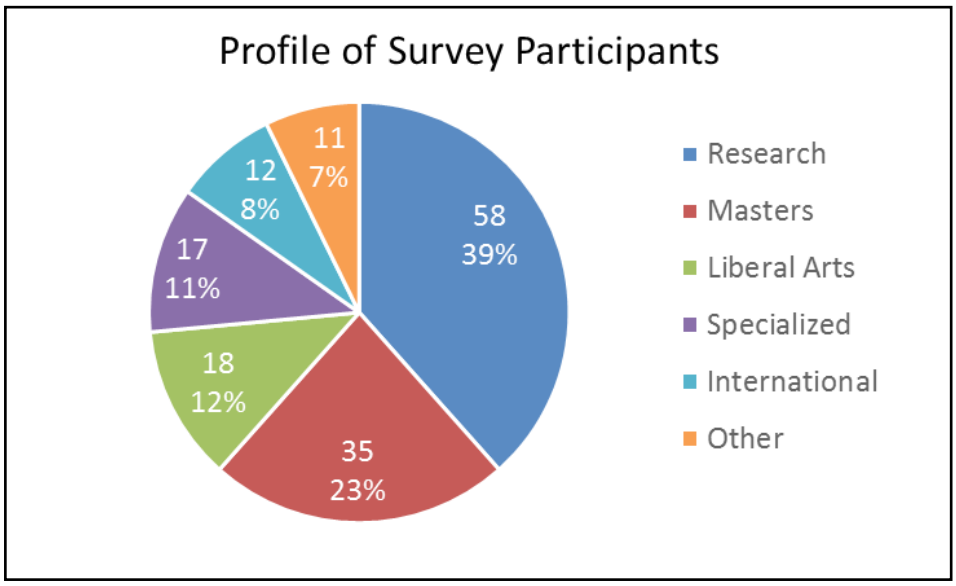
IRs have been embraced on general principles and with specific goals as part of library operations in support of research and learning. Understanding the potential value of repositories in a larger sense may secure a new role for the academic library with other departments on campus and with new services that support the mission of their institution.

CURRENT STATE

To gain insights and gather data on IR operations, we conducted interviews, an open survey, and web research to obtain a snapshot of the current perspective and potential role of IRs in a changing landscape. Relevant data and comments in *italics* from the survey are included throughout this report to provide examples and a better understanding of the variety of applications of IRs and the complexity of the broader environment.

Of 151 survey participants, 93% are academic and 85% are academic institutions in North America. Worldwide institutions are scattered across Europe, Middle East, Africa, and Asia. Further analysis reflects a market pattern of widespread participation that is greatest in larger institutions in each academic category, but also includes community colleges, hospi-

tals, corporations, government, not-for-profits, a funder, and a national park. A full summary of survey results is included as an appendix to this white paper.



Estimating the number of IRs in North America required more than one reference point. Larger research institutions may have multiple instances of a platform as well as multiple platforms. The Directory of Open Access Repositories (DOAR) in the UK includes various types of repositories, such as disciplinary (e.g., arXiv) and governmental (e.g., NLM). Isolating institutional repositories worldwide shows a total of nearly 3,000 IRs.

Data from DOAR indicates that there are 478 IRs in 396 institutions in North America. However, an analysis of clients listed on the websites of five platform providers suggests that there are at least 600 IRs in an estimated 500 organizations in North America.

Objectives

The defining characteristic of an Institutional Repository is that it contains digital materials created by the institution and its community members. Librarians have focused on collecting content created by faculty and students, mainly comprising articles, books, theses and dissertations, images, grey literature, reports, and digital collections. The emphasis varies based on the nature and size of the institution and whether it uses other more specialized systems designed for special collections and archival content.

Content

According to the Registry of Open Access Repository Mandates and Policies (ROARMAP), there are 157 research organizations and units within them in North America that have adopted an Open Access (OA) policy. These institutions are more likely to devote staff resources to securing copies of journal articles authored by their faculty. This represents an alignment with the stated goals of the institution. However, librarians are also aware of whether OA is a priority for their institution or a library priority. When asked how important various factors are to the institution, a few libraries offered comments noting a difference.

> *Institutional commitment to OA means the campus commitment, not the library's commitment (which is much higher).*

> *Library commitment to OA is much higher than campus commitment.*

In some cases, institutions are able to obtain the necessary resources to develop and implement a sustained effort to secure copies of their faculty's work. In other cases, organizations that are committed to OA question the time-intensive process of identifying, locating, managing rights, and depositing published articles that may be open. They focus instead on unique local resources where there is only one copy, and which may be at risk.

Electronic theses and dissertations (ETDs) are considered a priority. Other resources may include content from hosted conferences, learning objects, and open educational resources (OER).

> *ETDs are very important and different than content developed by students.*

> *We have a statewide repository for theses and dissertations and other local repositories for special collections, institutional articles, and journals.*

"Launched in 2017 with the future in mind but immediate concerns were institutional commitment to an IR and OA publishing of student scholarly work (graduate school)."

Archives and Special Collections

Special collections, archives, and record management are likely to occur on separate platforms with workflows that support metadata creation and provide for the long-term preservation of the content. In general, IRs focus on providing access to content, and most have not performed the work necessary to qualify as a fully trusted repository. There are numerous projects addressing integration of preservation services with repositories.

"So digitized special collections and institutional archival content are important to us, but not for the IR per se."

Preservation workflow and publishing are taken care of in other university units outside this particular repository work.

We host digitize collections, archival content, and library-based publishing in separate systems than our IR.

Data Management

Since the US government began requiring a Data Management Plan as part of grant applications, the role of data librarian has emerged. Last year, the Association of College and Research Libraries (ACRL) published a two-volume set, authored and edited by Lisa Johnston at the University of Minnesota, that provides a thorough treatment of the topic.

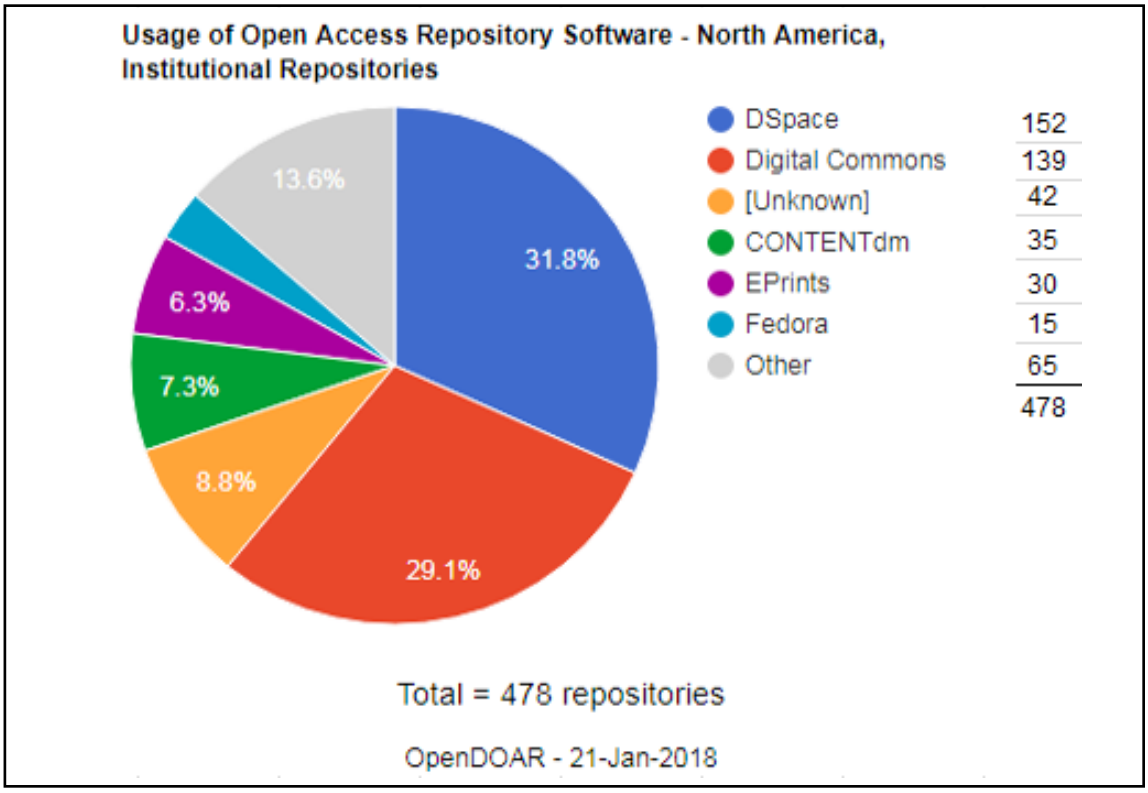
Data that are linked to publications should be accessible for reuse or reproducibility. Workflows have been developed that support data curation and publication within common IR platforms. Data in a standard file format would be mediated to ensure proper documentation for the content, context, and tools that are needed to use the data. If an institution decides to host its own data repository, equal consideration should be given to the consultative services offered.

Researchers may also use a multidisciplinary data repository such as Figshare or Harvard's Dataverse in the US, or Zenodo in the EU. Researchers with large or specialized data sets may already be familiar with the repository in their discipline. Repositories such as Dryad have made provision for long-term preservation and migrating common file formats when older versions are obsolete.

Systems

Most of the IR systems available today are community-developed open source software (such as DSpace, Islandora, Samvera, etc.), which is consistent with the values and culture of institutions implementing IRs. Larger libraries with technical staff prefer to customize software while smaller libraries depend on a service model (such as Digital Commons) that provides IR and publishing capabilities with less impact on staff requirements. Recent growth among smaller institutions favors a service model.

The Directory of Open Access Repositories (DOAR) indicates that DSpace and Digital Commons (bepress) are the most widely held in North America. As the software begins to mature, libraries have access to more functionality which offers opportunities to introduce new services or consolidate platforms.



More than half the survey respondents had an instance of Digital Commons (58%), while more than a quarter had CONTENTdm (27%) and/or DSpace (26%). The wide range of platforms mentioned in the survey represent the variety of products that serve specific applications. Others mentioned include: Github, Islandora, Samvera, Eprints, FigShare, Pure, Drupal, Dataverse, Omeka, Shared Shelf, Luna imagining, ArchiveSpace and a few grant-funded initiatives.

We have several digital collection platforms for various purposes, including OJS and homegrown systems; however, our IR platform is DSpace.

Of course, our users may want all content in one repository and ultimately we should be responsive to this for discovery.

Migration

When asked about content migration, 25% indicated that they had plans to migrate in the next one to three years, while more than half of the remaining 75% indicated no plans to migrate at this time.

We have no concrete plans to migrate, but we are staying informed about other IR options, especially efforts to integrate IR and DL software with digital preservation.

We are constantly assessing our options and evaluating new platforms that could serve as both a repository and a publishing platform.

Migration is currently being investigated to bring all library managed repositories (e.g., archives and special collections, digitization, research, data) in line.

Clifford Lynch, executive director of the Coalition for Networked Information, noted that there are three strategies in play for migrating:

- Consolidate content on an existing platform;
- Migrate collections to a new platform;
- Implement a cross-platform discovery tool.

Lynch observed that migrations are resource-intensive in terms of staff time and expertise required, especially if migrating from an early version of a platform.

"Goals for this year, not yet implemented, include linking between IR and other departments; discovery widgets on main library website; metadata records for OPAC; DOI use."

Discovery

IRs depend on Google for content discovery, and that requires attention to Search Engine Optimization (SEO). Fortunately, SEO was the top activity of survey respondents to increase discovery, followed by more traditional library tools, metadata, and open access resources.

- Search Engine Optimization (SEO)
- Indexed in Library Discovery System
- OAI-PMH data provider
- IR listed in DOAR
- Linking between IR and departments such as research

Metrics

The leading metric identified by survey respondents was growth over time, which recognizes the effort involved in building this digital collection. Usage metrics on the performance of the repository were followed by a total of items added in the current period.

- Growth over time
- Number of downloads
- Usage data supplied by platform
- Number of uploads

Research funded by the Institute of Museum and Library Services led by librarians at Montana State University, OCLC Research, University of New Mexico, and the Association of Research Libraries (ARL) produced a new web service that improves the accuracy of usage measures. Known as RAMP (Repository Analytics and Metrics Portal), it addresses problems of undercounting downloads and overcounting robot traffic.

I don't trust the statistics of hits we receive from Google. I suspect many of the hits are bots.

While metrics are the quantitative element in assessment, it is useful to frame the broader question about success of the IR and how that view can vary based on the operational and strategic perspective within the institution.

At this point, success to me is measured in growth over use. We keep hitting points where the campus realizes the importance of providing these resources, and it drives quality content delivered. Submissions are important; download counts are neat.

Representation from across academic units.

Staff

The variety of repositories is reflected in the different roles that are associated with the scholarly communications librarian. A similar set of competencies have recently been documented by two different groups: 1) a collaborative effort of the Association of Research Libraries (ARL), the Canadian Association of Research Libraries (CARL), the Association of European Research Libraries (LIBER), and the Confederation of Open Access Repositories (COAR), and 2) the North American Serials Group. These roles require various functions associated with both institutional and more specialized repositories as well as knowledge and experience in the following areas:

- Institutional Repository Management [archiving and metadata]
- Publishing Services [identifiers]
- Copyright Services [permissions]
- Data Management Services [funder mandates]
- Assessment and Impact Metrics [research office]
- Digital Humanities [innovative emerging platforms]
- Open Educational Resources (OER) [textbooks, learning]

Titles and roles of librarians are changing to reflect all things digital, such as Digital Strategies / Scholarship / Initiatives and Repository Services.

Our department is called Digital Collections and Repositories. We manage digitization workflow, application maintenance, and software development, as well as digital preservation with our preservation partner, Academic Preservation Trust.

One term that occurs often along with outreach is a reference to marketing in order to convey the benefits of the IR.

"A few faculty deposit their own work, but 99% is deposited by library staff."

According to survey respondents, deposits were made by librarians at 94% of IRs. Although half of institutions indicate that faculty and students make deposits, it is clear that the majority of content is mediated or deposited by library staff. Nearly half of the institutions have one or less than one equivalent staff working on the IR. The average staff for an IR is one or two people.

All deposits are mediated by staff in Scholarly Communications.

ECOSYSTEM

Defining the role of the institutional repository in the broader landscape is both the challenge and the opportunity as the capabilities of the platform expand. This challenge became clear in developing the question for the survey regarding which platforms are used. Bepress includes publishing capability; should the survey also include OJS, Ubiquity, and other tools? DSpace has added a model for faculty profiles; should the survey also include bepress' Expert Gallery Suite? If so, what about Elsevier's Pure and Symplectic's Elements? For many institutions these activities are not even part of the library's domain.

The questions raised in this process push us to take a look at the larger landscape to see how these pieces fit together. Where are the points of intersection/interoperability/or integration? Some functions work best when on the same platform. In other cases, the requirements for a set of functions are sufficiently specialized that they should be developed separately. If so, how do we connect them so that they work well together?

In an age of Google, size matters with some key functions such as search and discovery. While SEO and necessary changes to metadata can affect discovery of specific items, recognition of a trusted source can influence whether an item shows on the first page of search results. If libraries expect that users will find the content in their IRs, then it's useful to consider the value of scale with a larger body of content from a single source. Technology is also more cost-effective at scale, and some features that enhance user experience, such as semantic enrichment, which is an additional class of metadata, are only practical at scale.

However, that does not preclude smaller institutions from participating, since each node on the network matters as it offers unique content. Consortial collaboration is another way to share costs, and this is evident in statewide systems in Texas, California, and Wisconsin.

The reason that staffing for the IR is often distributed across many departments is that a wide variety of skills are required–metadata, copyright, identifiers. Sometimes a different combination of those skills and others are needed to support different repositories.

So how are archives, special collections, IRs, publishing, and open educational resources different in terms of the requirements for storing digital files? Aren't they all versions of a content management system (CMS)? Despite a great amount of feature overlap, according to DuraSpace the key difference is that a CMS includes functionality that supports the creation of content, whereas IRs are used to store, preserve, and make the finished document accessible.

"Publishing and faculty profiles happen outside the IR."

Publishing

The publishing functionality available in an IR (such as Digital Commons) has enabled many smaller institutions that lack that capability on campus to begin publishing student journals and other resources. Some larger institutions have then migrated to OJS (Open Journal Systems) or Ubiquity Press. About 20% of university presses report to the library, and a larger number are developing partnerships with the library.

Traditional publishing has served the academy well by producing books and journals that are recognized as the version of record and that support the dialog of scholarship. Those structures are being challenged in a digital world where the content no longer fits the page-based format. Data, code, and multimedia are becoming important to share in support of scholarly communication.

The long view within scholarly publishing is expanding beyond a package of content to include the digital components of the researcher's workflow. Digital Science has a suite of tools that it is combining to create new products, and Elsevier is acquiring the moving parts of this more fluid space. Neither the infrastructure nor the output is as solid as it once was in the physical print world.

Further evidence of these changes are new grant-funded initiatives that are in development–Fulcrum at the University of Michigan and Vega at the University of West Virginia. Fulcrum is developing both a platform and a suite of services that enable linking source materials to book-length interpretations of them. These capabilities will meet the needs of those in the performing arts, archeology, and cultural studies. Vega is creating the EditMe platform, which will allow schol-

arly multimedia to move through the submission, review, and production processes as a single scholarly entity. Promotion and tenure committees will have an expanded range of outputs beyond the legacy book or journal to consider in evaluating young scholars.

Open Educational Resources

The high cost of textbooks has created an opportunity for OER to reduce the student's cost of obtaining a degree. While these are neither simple nor inexpensive to create, they provide an outsize return on investment to all stakeholders–students, faculty, parents, librarians, the institution. The cost of the time and resources to create the suite of tools that can replace a textbook may be underwritten by grants obtained from outside funders. Incentives can be offered by the institution in addition to support from the library in the form of dedicated staff time and library resources

Christine Ferguson at Murray State University describes strategies that vary from highlighting subjects where the institution has a strong reputation to targeting large lecture courses with high enrollment. Version control is one of the preservation challenges because the modular nature of the content leads to a proliferation of versions. The Open Textbook Network, which began in 2014, has 75 member institutions and hosts the Open Textbook Library.

RIMS—Faculty Profiles

Research Information Management Systems (RIMS), also known as Current Research Information Systems (CRIS), are platforms designed to support management of the research life cycle and potentially showcase the results through the use of faculty profiles. Components of these systems such as Pure and Expert Gallery Suite (bepress) include faculty profiles listing their works, analytics for assessment, and compliance with funder mandates, and may include a repository for documents. DSpace is an IR that has developed an extension that provides RIM capabilities.

Faculty profiles as part of this suite of tools are an important development in communicating the value of research conducted at the institution to a much larger audience. While this is part of satisfying grant requirements in the UK, Canada, and Australia, it appeals to institutions in the U.S. as well, since it elevates the reputation of the university.

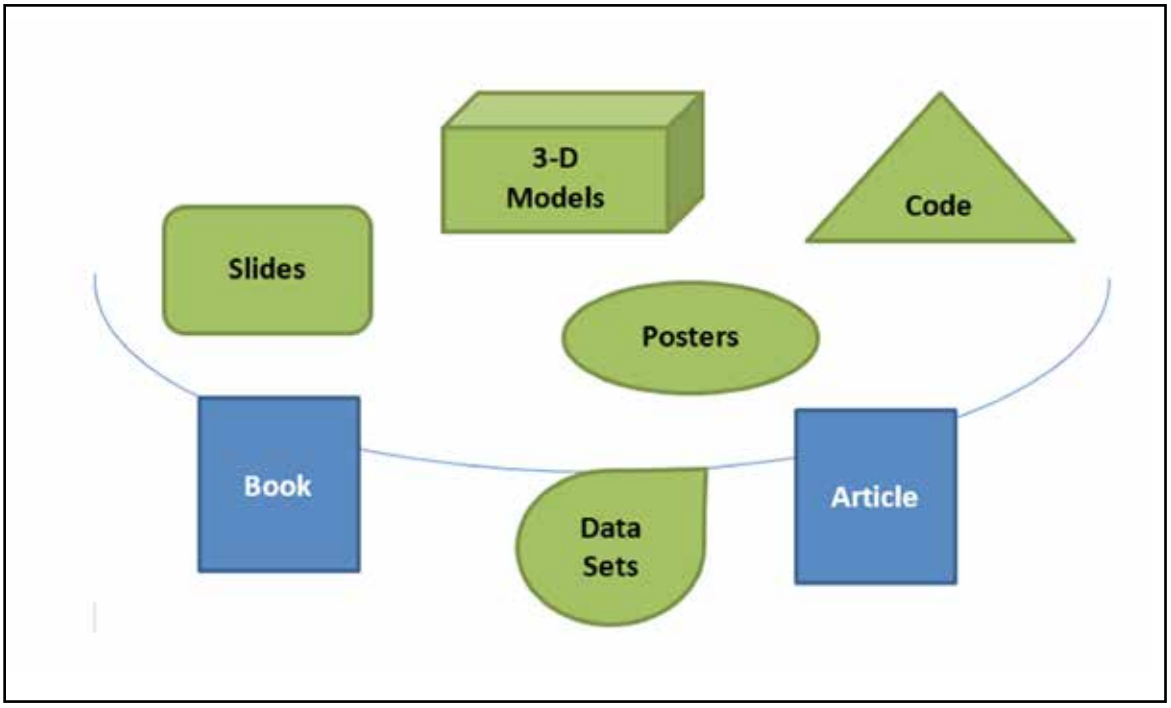
Large research libraries are finding ways to partner with the provost's office and the office of research by providing support in implementing the faculty profile. Closely related to the profile is ORCID, the researcher ID that is also being adopted by publishers.

ORCID is a critical part of the scholarly communications infrastructure that has been missing, as it serves to uniquely identify individuals and disambiguate them for purposes of discovery and attribution in a global environment. It serves to streamline workflow for faculty activity reporting systems and reduce the burden on faculty to report their research activity in multiple systems. Some universities are implementing ORCID starting with their graduate students.

The libraries and campus systems see many functions as important, such as implementation of ORCID identifiers for faculty and integration of the IR with other institutional systems, but those are not necessarily priorities for faculty.

LOOKING AHEAD

Lorcan Dempsey, Vice President of Membership and Research and the Chief Strategist at OCLC, has characterized current trends through the lens of an Outside In // Inside Out model.



"Outside In" is the traditional role of libraries in acquiring external content for an internal audience, and "Inside Out" is the development of internal collections (archives, special collections, IRs) that are shared with an external audience. This framework in useful in understanding the growth of unique local and digital collections that have different requirements in terms of staffing, systems, and the inherent and practical value to the institution.

The books and journals that libraries acquire are a small portion of the digital content created by the academic community in the course of scholarship and learning. A much larger body of content in a growing variety of digital formats represents the output of the academic community and broader presentation of the dimensions of the scholarly information network. Scholarly communication increasingly is not limited to formal publishing. There are an expanding number of outputs in different formats that researchers need to access as part of the scholarly record. The IR writ large can house many of these formats while others will be collectively addressed in disciplinary repositories.

Sustainability

As the library's role continues to evolve, some institutions, such as the University of Minnesota, have been able to analyze data that correlates student library activity with institutional metrics such as graduation rates, time to graduate, and returning students. Collaborating with other departments such as institutional research and IT to achieve joint objectives also raises the profile of the library within the university and aligns it with specific goals of the institution.

Anecdotes can be powerful tools for demonstrating the value of the IR since metrics often function as internal measures of platform performance for the library. Two examples of stories illustrate the role of the IR and its importance to other departments on campus. The Admissions Department at Illinois Wesleyan was enthusiastic about sharing student projects in the IR with prospective students and their parents to show the type of work being done at the university. Librarians at Utah State University gathered work from student-led interdisciplinary research groups in the sciences that highlighted the work of these communities, gaining greater attention for these programs beyond the university and leading to external funding for two projects.

Global Scholarly Information Network

As academic libraries use repositories (both institutional and disciplinary) to handle more of the research and educational output of their institutions they enable the discovery and use of a growing body of digital content by a much larger audience, not just in the region or the country but the global research community.

Although it may seem ambitious to see individual institutional repositories as part of a global scholarly information network, that view has been embraced by the Confederation of Open Access Repositories (COAR), which has more than 100 members and partners throughout the world including more than a dozen in the U.S., including the Association of Research Libraries (ARL), OCLC, and a number of universities.

Based in EU, COAR's strategy includes a global network, community support, interoperability, and value-added services for repositories. OpenAIRE reflects the benefits of a centrally funded effort in the EU designed to support mandates for researchers and data providers. In the U.S., ARL has created SHARE (Shared Access Research Ecosystem) in response to the federal mandates.

At the institutional level, it is important to be aware of new initiatives and continued efforts to connect IRs, as their collective value contributes to a richer research environment and extends the benefits well beyond the academic community. With this view of the bigger picture each library can better understand the role of its repositories at both the institutional and global level.

BIBLIOGRAPHY

Arlitsch, Kenning. Driving Traffic to Institutional Repositories. How Search Engine Optimization can increase the number of downloads from IR. Confederation of Open Access Repositories, Webinar, Sept. 19, 2017. Accessed on 30 Jan. 2018. https://zenodo.org/record/894564#.Wm90hq6nFhE

Crow, Raym. "The Case for Institutional Repositories: A SPARC Position Paper." *ARL Bimonthly Report* 223, August 2002. Accessed 20 Jan. 2018. https://sparcopen.org/wp-content/uploads/2016/01/instrepo.pdf

Dempsey, Lorcan. "Library Collections in the Life of the User: Two Directions." *LIBER Quarterly*, vol. 26, issue 4, pp.338–359, 2016. Accessed 20 Jan. 2018. DOI: http://doi.org/10.18352/lq.10170

Dempsey, Lorcan. "A New Information Management Landscape: From Outside-In to Inside-Out." *New Roles for the Road Ahead,* Essays Commissioned for ACRL's 75th Anniversary, by Steven Bell, Lorcan Dempsey, and Barbara Fister. Association of College and Research Libraries, 2015. Accessed 20 Jan. 2018. http://www.ala.org/acrl/sites/ala.org.acrl/files/content/publications/whitepapers/new_roles_75th.pdf

Ferguson, Christine L. "Open Educational Resources and Institutional Repositories." *Serials Review,* 2017. Accessed 25 Jan. 2018. https://works.bepress.com/christine-l-ferguson/33/

Foster, Nancy Fried, and Susan Gibbons. "Understanding Faculty to Improve Content Recruitment for Institutional Repositories." *D-Lib Magazine,* vol. 11, no. 1, January 2005. Accessed 20 Jan. 2018. http://dlib.org/dlib/january05/foster/01foster.html

Institute-Wide Task Force on the Future of Libraries, Preliminary Report. Massachusetts Institute of Technology (MIT). October 24, 2016. Accessed 20 Jan. 2018. https://future-of-libraries.mit.edu/sites/default/files/FutureLibraries-PrelimReport-Final.pdf

Johnston, Lisa R. Editor. *Curating Research Data, Volume One: Practical Strategies for Your Digital Repository*. American Library Association, Association of College & Research Libraries, 2017. Accessed 20 Jan. 2018. http://www.ala.org/acrl/sites/ala.org.acrl/files/content/publications/booksanddigitalresources/digital/9780838988596_crd_v1_OA.pdf

Lynch, Clifford. "Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age." *ARL Bimonthly Report 226,* February 2003. Accessed 20 Jan. 2018. https://

www.cni.org/wp-content/uploads/2003/02/arl-br-226-Lynch-IRs-2003.pdf

Lynch, Clifford. "Rethinking Institutional Repository Strategies: What We Learned at the Executive Roundtables." Coalition for Networked Information, March 29, 2017. Accessed 20 Jan. 2018. https://www.cni.org/wp-content/uploads/2017/05/CNI-rethinking-irs-exec-rndtbl.report.S17.v1.pdf

Lynch, Clifford. "Updating the Agenda for Academic Libraries and Scholarly Communications." *College & Research Libraries,* vol. 78, no. 2, February 2017. Accessed 20 Jan. 2018. http://crl.acrl.org/index.php/crl/article/view/16577/18023

Making Institutional Repositories Work. Edited by Burton B. Callicott, David Scherer, and Andrew Wesolek. Charleston Insights in Library, Archival and Information Sciences. Purdue University Press, 2016.

Obrien, Patrick, Kenning Arlitsch, Jeff Mixter, Jonathan Wheeler, and Leila Belle Steman. "RAMP – The Repository Analytics and Metrics Portal: A prototype Web Service That Accurately Counts Item Downloads from Institutional Repositories." Library Hi Tech, Vol. 35, Issue 1, 2017, pp. 144–158. http://dx.doi.org/10.1108/LHT-11-2016-0122. Accessed 30 Jan. 2018 . http://www.emeraldinsight.com/doi/full/10.1108/LHT-11-2016-0122

Plutchak, T.Scott, and Kate B. Moore. Dialectic: The Aims of Institutional Repositories. Vision Speaker at NASIG Annual Conference, June 2016. Accessed January 15, 2018. http://tscott.typepad.com/tsp/2016/09/dialectic-the-future-of-institutional-repositories.html

Robertson, Wendy C., and Carol Ann Borchert. "Preserving Content from Your Institutional Repository." *Serials Librarian*, vol.66, pg. 278–288, 2014. Accessed 20 Jan. 2018. https://ir.uiowa.edu/cgi/viewcontent.cgi?article=1251&context=lib_pubs

Salo, Dorothea. "Innkeeper at the Roach Motel." *Library Trends,* vol. 57, no. 2, Fall 2008. Accessed 20 Jan. 2018. https://minds.wisconsin.edu/handle/1793/22088

Troll Covey, Denise. "Recruiting Content for the Institutional Repository: The Barriers Exceed the Benefits." *Journal of Digital Information*, 2011. Accessed 20 Jan. 2018. http://repository.cmu.edu/lib_science/82

APPENDIX: SURVEY RESULTS

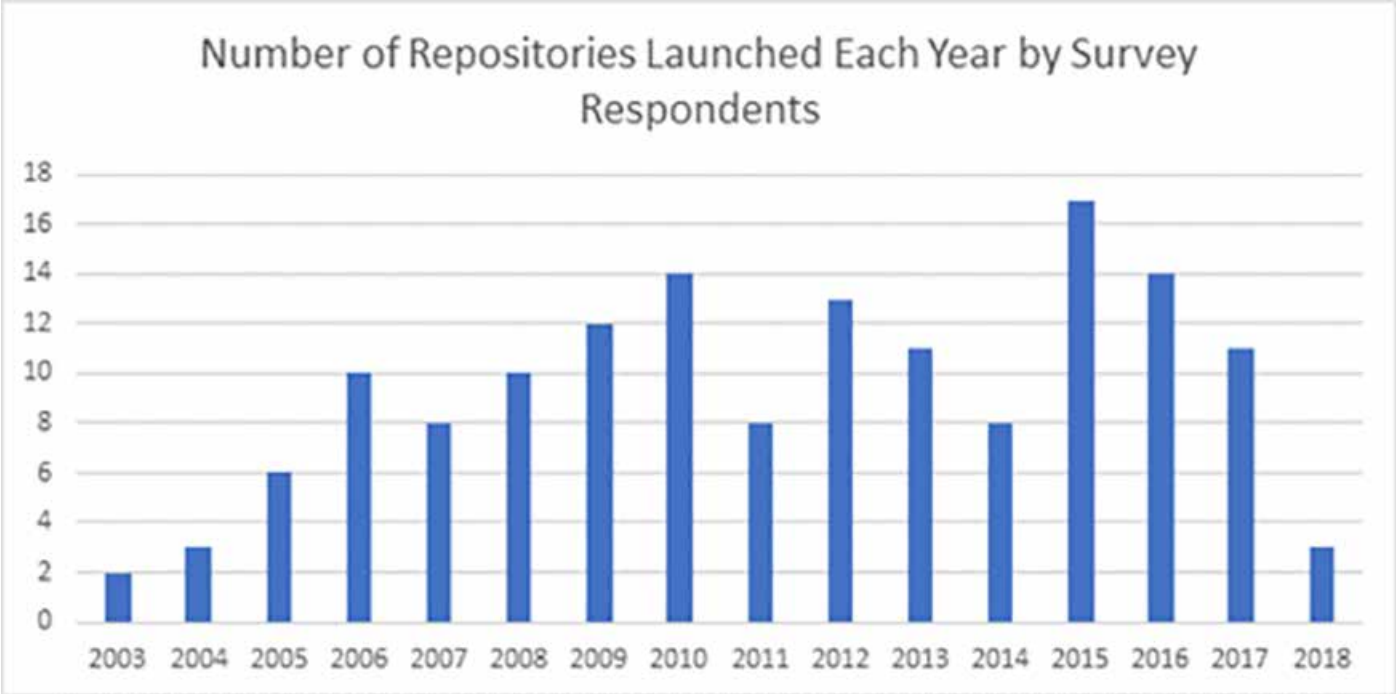
Q1 Please provide the following institutional data.

Answered: 149 Skipped: 5

ANSWER CHOICES	RESPONSES	
Institution name	99.33%	148
City	98.66%	147
State/Province	98.66%	147

Q2 Approximately what year did your IR launch?

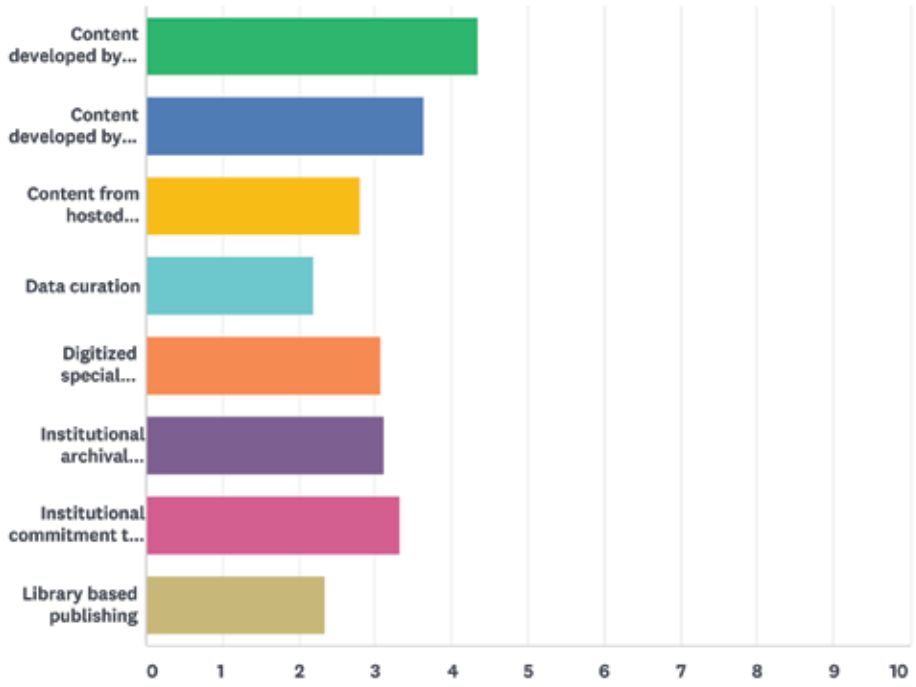
Answered: 153 Skipped: 1



APPENDIX: SURVEY RESULTS

Q3 To the best of your knowledge, how important were each of the following objectives when the IR was launched?

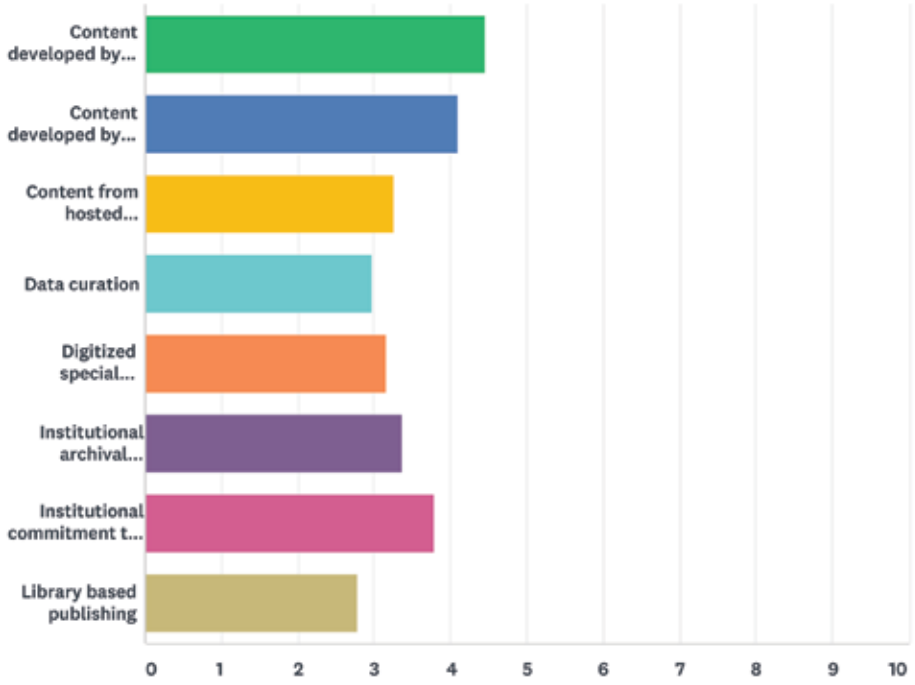
Answered: 152 Skipped: 2



	NOT IMPORTANT	SLIGHTLY IMPORTANT	MODERATELY IMPORTANT	IMPORTANT	EXTREMELY IMPORTANT	TOTAL	WEIGHTED AVERAGE
Content developed by faculty	2.01% 3	5.37% 8	8.05% 12	24.83% 37	59.73% 89	149	4.35
Content developed by students	14.77% 22	7.38% 11	14.77% 22	24.83% 37	38.26% 57	149	3.64
Content from hosted conferences and research centers	21.62% 32	20.27% 30	24.32% 36	22.97% 34	10.81% 16	148	2.81
Data curation	40.94% 61	24.83% 37	16.11% 24	10.07% 15	8.05% 12	149	2.19
Digitized special collections	25.83% 39	10.60% 16	17.22% 26	23.18% 35	23.18% 35	151	3.07
Institutional archival content	22.82% 34	16.11% 24	14.77% 22	20.13% 30	26.17% 39	149	3.11
Institutional commitment to OA	15.33% 23	13.33% 20	20.00% 30	26.00% 39	25.33% 38	150	3.33
Library based publishing	33.77% 51	25.17% 38	21.85% 33	11.92% 18	7.28% 11	151	2.34

Q4 How important are each of the following objectives for your IR in 2017?

Answered: 152 Skipped: 2

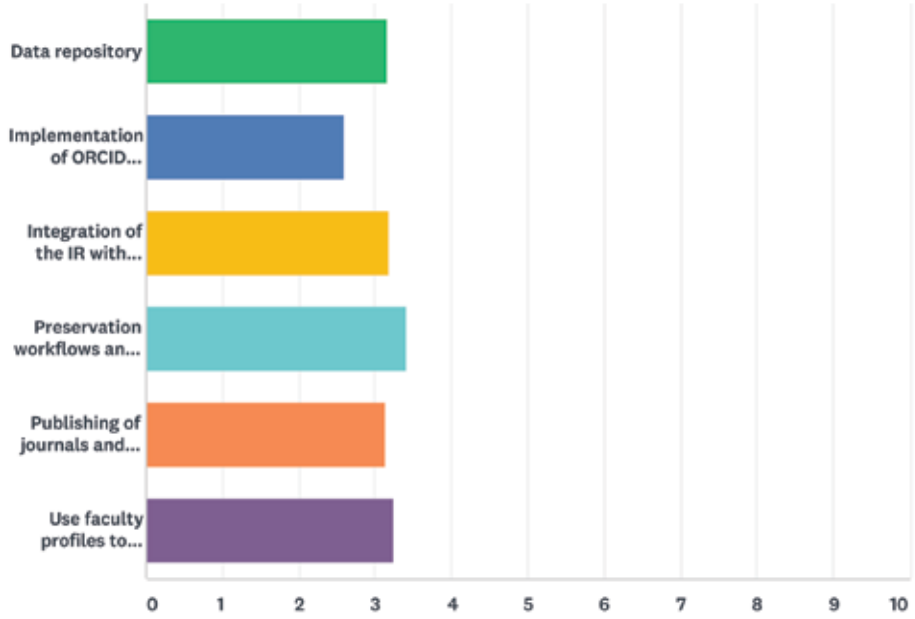


	NOT IMPORTANT	SLIGHTLY IMPORTANT	MODERATELY IMPORTANT	IMPORTANT	EXTREMELY IMPORTANT	TOTAL	WEIGHTED AVERAGE
Content developed by faculty	1.32% 2	3.31% 5	5.96% 9	26.49% 40	62.91% 95	151	4.46
Content developed by students	6.71% 10	4.70% 7	9.40% 14	28.86% 43	50.34% 75	149	4.11
Content from hosted conferences and research centers	15.44% 23	13.42% 20	17.45% 26	36.24% 54	17.45% 26	149	3.27
Data curation	21.33% 32	18.67% 28	18.00% 27	24.67% 37	17.33% 26	150	2.98
Digitized special collections	22.37% 34	12.50% 19	15.13% 23	26.32% 40	23.68% 36	152	3.16
Institutional archival content	16.45% 25	14.47% 22	14.47% 22	25.00% 38	29.61% 45	152	3.37
Institutional commitment to OA	8.61% 13	9.27% 14	15.89% 24	26.49% 40	39.74% 60	151	3.79
Library based publishing	27.15% 41	18.54% 28	19.21% 29	19.21% 29	15.89% 24	151	2.78

APPENDIX: SURVEY RESULTS

Q5 How important are these functions at your institution?

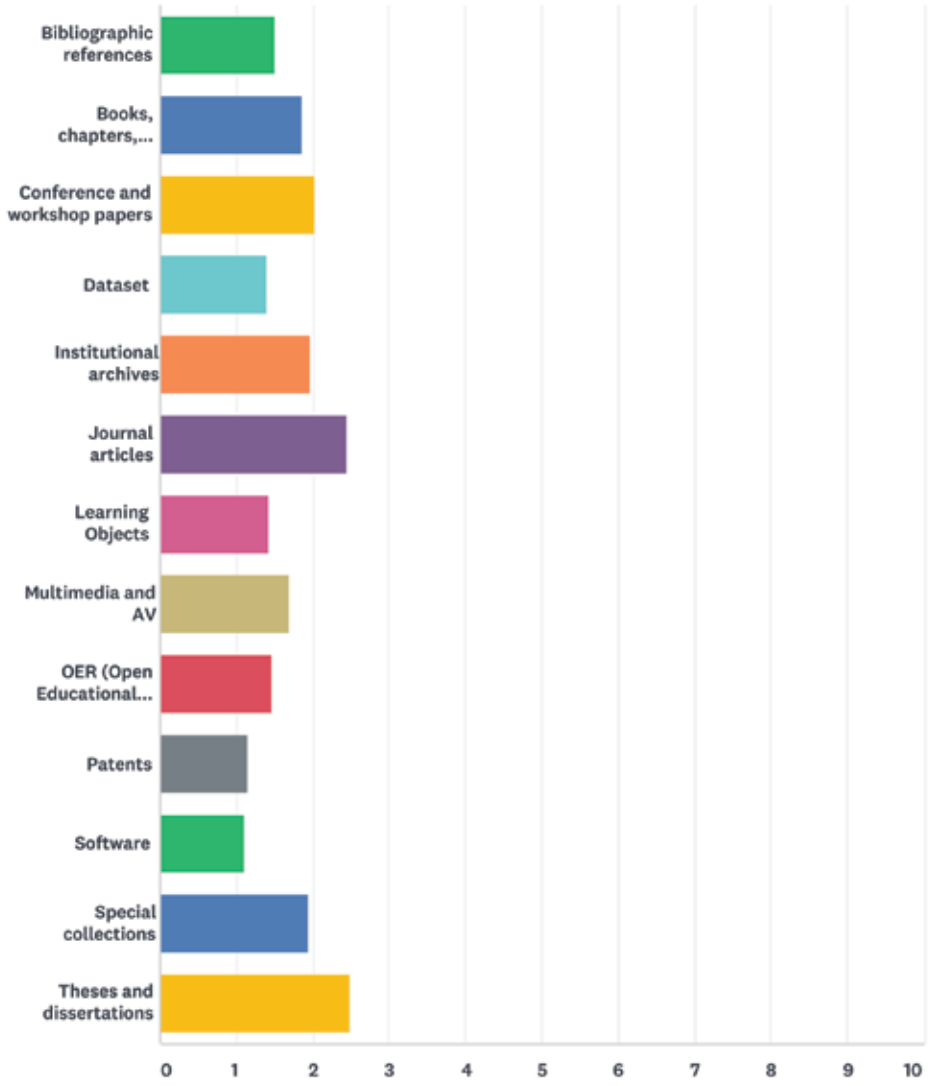
Answered: 140 Skipped: 14



	NOT IMPORTANT	SLIGHTLY IMPORTANT	MODERATELY IMPORTANT	IMPORTANT	EXTREMELY IMPORTANT	TOTAL	WEIGHTED AVERAGE
Data repository	18.57% 26	20.71% 29	12.14% 17	24.29% 34	24.29% 34	140	3.15
Implementation of ORCID identifiers for faculty	33.33% 46	18.12% 25	18.84% 26	15.94% 22	13.77% 19	138	2.59
Integration of the IR with other institutional systems	13.57% 19	17.14% 24	24.29% 34	27.14% 38	17.86% 25	140	3.19
Preservation workflows and infrastructure	8.63% 12	16.55% 23	21.58% 30	32.37% 45	20.86% 29	139	3.40
Publishing of journals and books	15.83% 22	20.14% 28	18.71% 26	24.46% 34	20.86% 29	139	3.14
Use faculty profiles to showcase accomplishments	18.57% 26	14.29% 20	15.71% 22	27.14% 38	24.29% 34	140	3.24

Q6 In your experience, please indicate the relative level of use for the various types of content in your IR.

Answered: 139 Skipped: 15



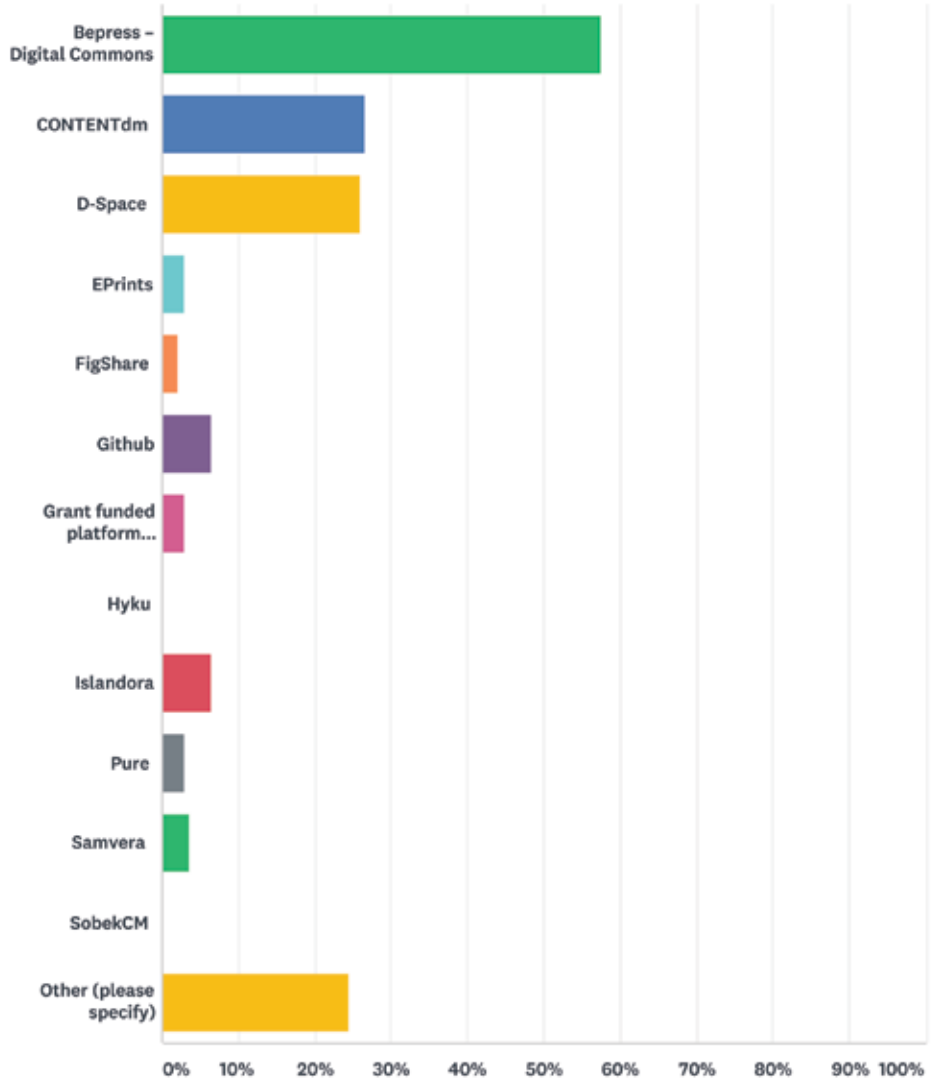
	VERY LITTLE/NO USE	MODERATE USE	A LOT OF USE	TOTAL	WEIGHTED AVERAGE
Bibliographic references	59.23% 77	31.54% 41	9.23% 12	130	1.50
Books, chapters, sections	33.33% 44	46.21% 61	20.45% 27	132	1.87
Conference and workshop papers	25.19% 34	46.67% 63	28.15% 38	135	2.03

APPENDIX: SURVEY RESULTS

Dataset	62.41% 83	33.83% 45	3.76% 5	133	1.41
Institutional archives	29.55% 39	44.70% 59	25.76% 34	132	1.96
Journal articles	14.07% 19	26.67% 36	59.26% 80	135	2.45
Learning Objects	65.08% 82	27.78% 35	7.14% 9	126	1.42
Multimedia and AV	45.45% 60	38.64% 51	15.91% 21	132	1.70
OER (Open Educational Resources)	64.06% 82	25.00% 32	10.94% 14	128	1.47
Patents	87.40% 111	10.24% 13	2.36% 3	127	1.15
Software	90.40% 113	8.80% 11	0.80% 1	125	1.10
Special collections	34.09% 45	37.88% 50	28.03% 37	132	1.94
Theses and dissertations	18.12% 25	13.77% 19	68.12% 94	138	2.50

Q7 Which platform(s) are used at your institution? Please check all that apply.

Answered: 139 Skipped: 15

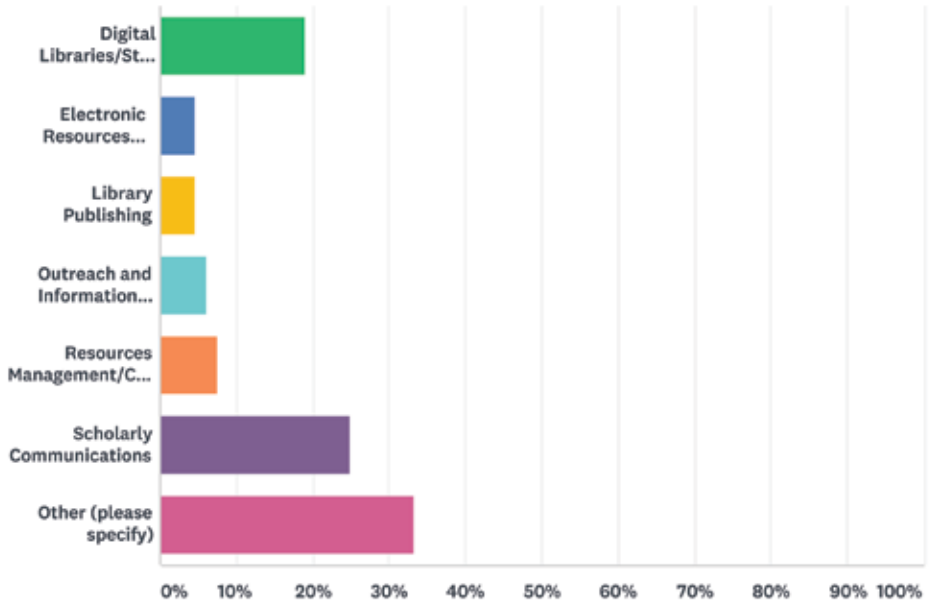


ANSWER CHOICES	RESPONSES	
Bepress – Digital Commons	57.55%	80
CONTENTdm	26.62%	37
D-Space	25.90%	36
EPrints	2.88%	4
FigShare	2.16%	3

Github	6.47%	9
Grant funded platform initiative	2.88%	4
Hyku	0.00%	0
Islandora	6.47%	9
Pure	2.88%	4
Samvera	3.60%	5
SobekCM	0.00%	0
Other (please specify)	24.46%	34
Total Respondents: 139		

Q8 Where in the library's organizational structure is the primary IR administered? Please select one.

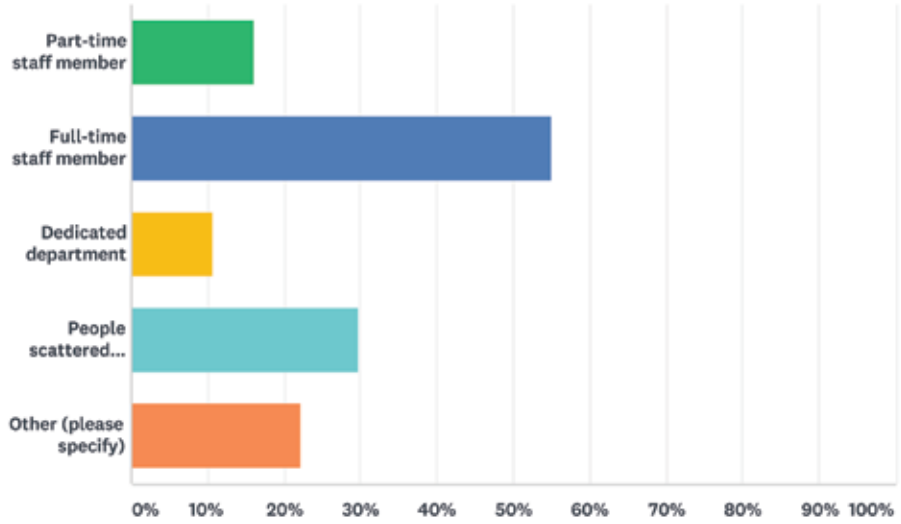
Answered: 132 Skipped: 22



ANSWER CHOICES	RESPONSES	
Digital Libraries/Strategies	18.94%	25
Electronic Resources Management	4.55%	6
Library Publishing	4.55%	6
Outreach and Information Services/Research and Learning	6.06%	8
Resources Management/Collection Development	7.58%	10
Scholarly Communications	25.00%	33
Other (please specify)	33.33%	44
TOTAL		132

Q9 Please indicate how the staff for the IR are organized.

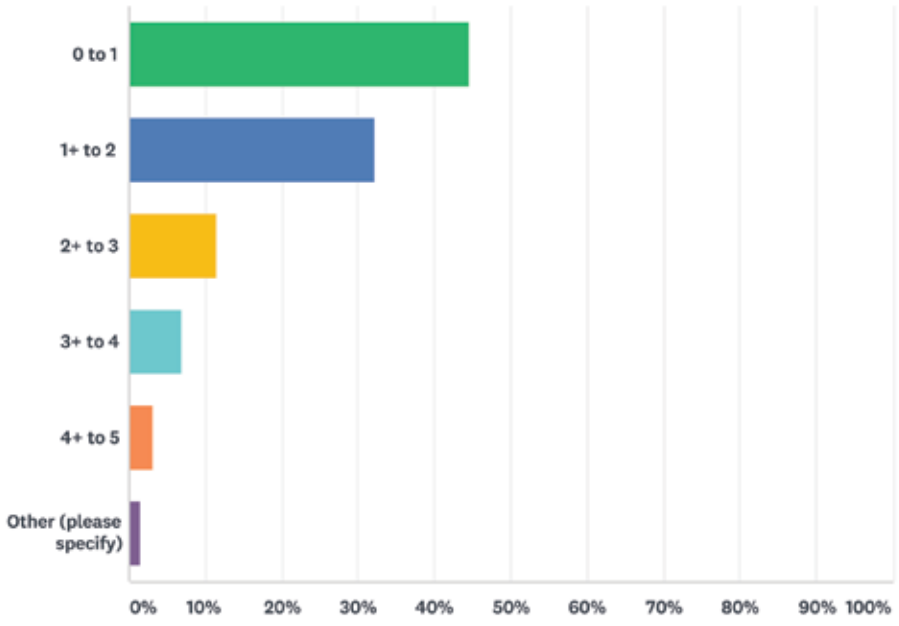
Answered: 131 Skipped: 23



ANSWER CHOICES	RESPONSES	
Part-time staff member	16.03%	21
Full-time staff member	54.96%	72
Dedicated department	10.69%	14
People scattered throughout the library	29.77%	39
Other (please specify)	22.14%	29
Total Respondents: 131		

Q10 What is the equivalent of full time staff dedicated to managing and supporting the IR?

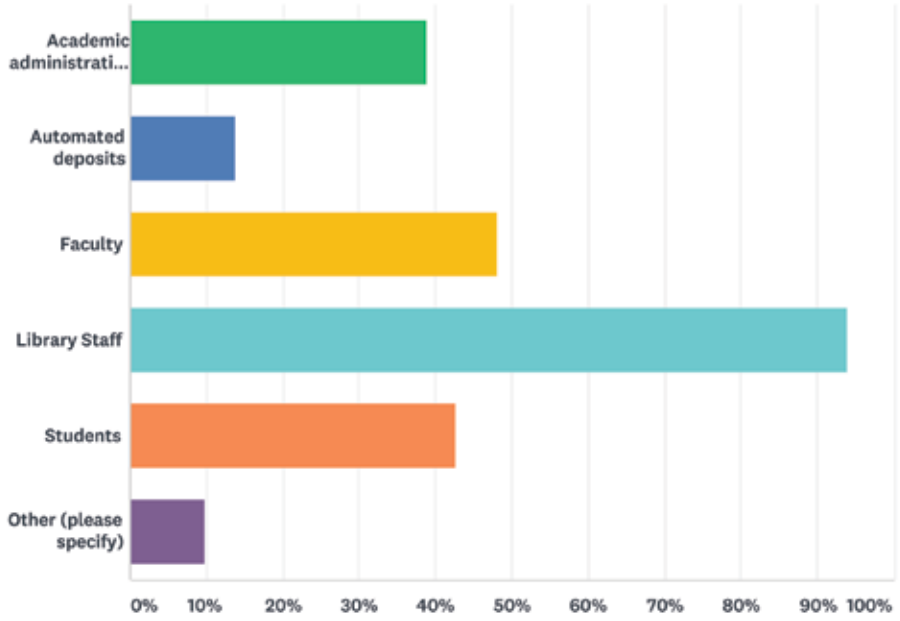
Answered: 130 Skipped: 24



ANSWER CHOICES	RESPONSES	
0 to 1	44.62%	58
1+ to 2	32.31%	42
2+ to 3	11.54%	15
3+ to 4	6.92%	9
4+ to 5	3.08%	4
Other (please specify)	1.54%	2
TOTAL		130

Q11 Who makes deposits into the IR? Please check all that apply.

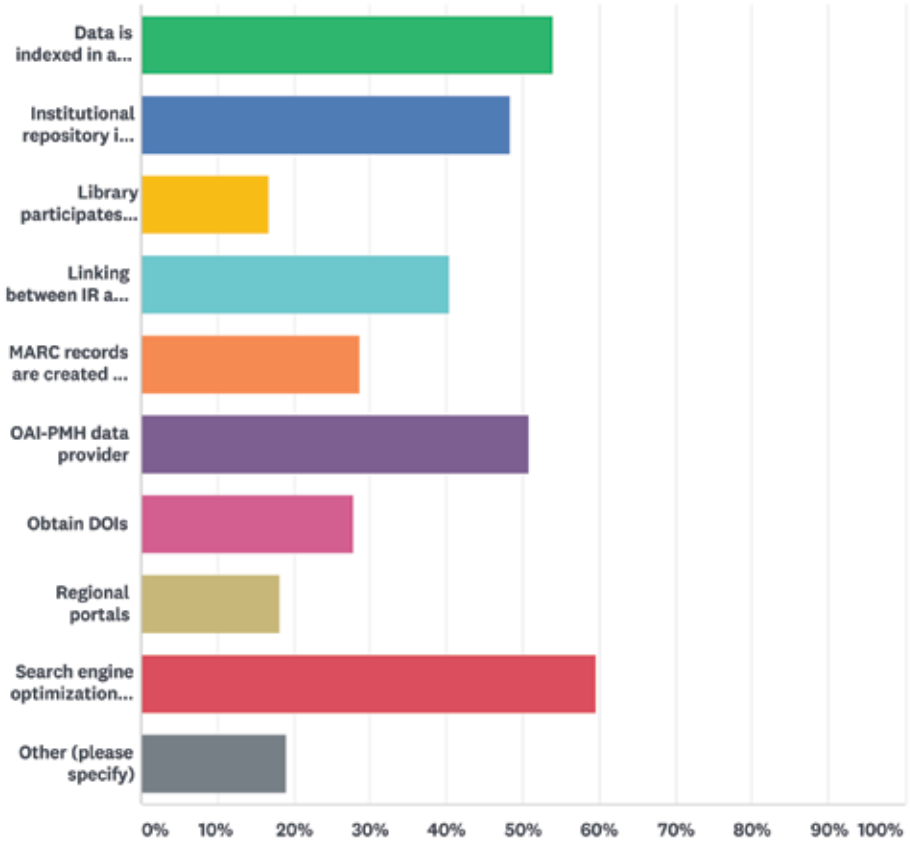
Answered: 131 Skipped: 23



ANSWER CHOICES	RESPONSES	
Academic administrative staff	38.93%	51
Automated deposits	13.74%	18
Faculty	48.09%	63
Library Staff	93.89%	123
Students	42.75%	56
Other (please specify)	9.92%	13
Total Respondents: 131		

Q12 What does your library do to increase discovery of items in the IR? Please check all that apply.

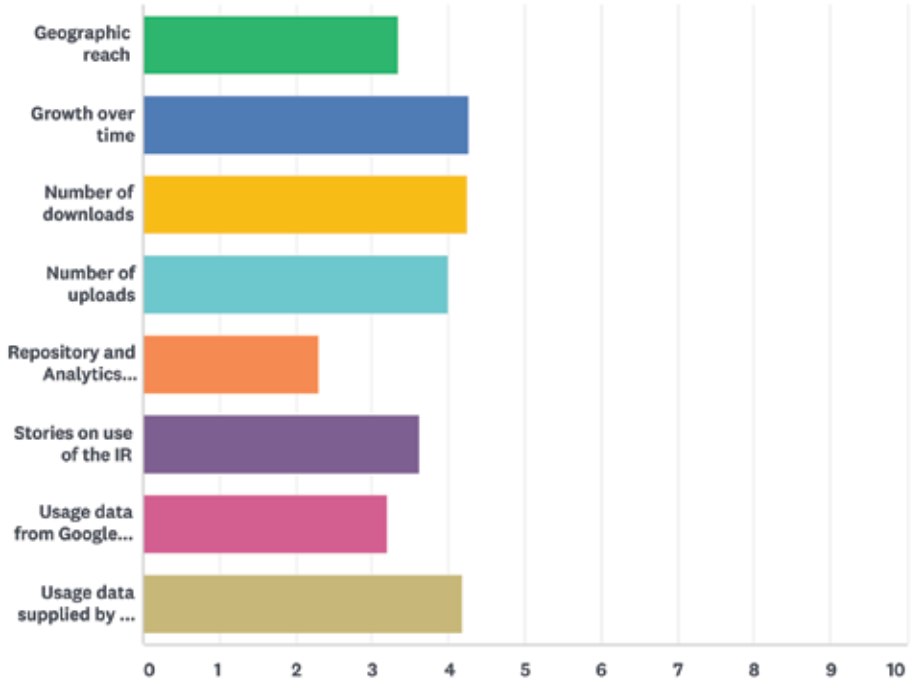
Answered: 126 Skipped: 28



ANSWER CHOICES	RESPONSES	
Data is indexed in a Library Discovery System (Primo, Summon, EDS)	53.97%	68
Institutional repository is listed in Open DOAR	48.41%	61
Library participates in SHARE	16.67%	21
Linking between IR and other departments such as research	40.48%	51
MARC records are created for the online catalogs	28.57%	36
OAI-PMH data provider	50.79%	64
Obtain DOIs	27.78%	35
Regional portals	18.25%	23
Search engine optimization (SEO) for repositories	59.52%	75
Other (please specify)	19.05%	24
Total Respondents: 126		

Q13 How important are each of the following in measuring the success of the IR?

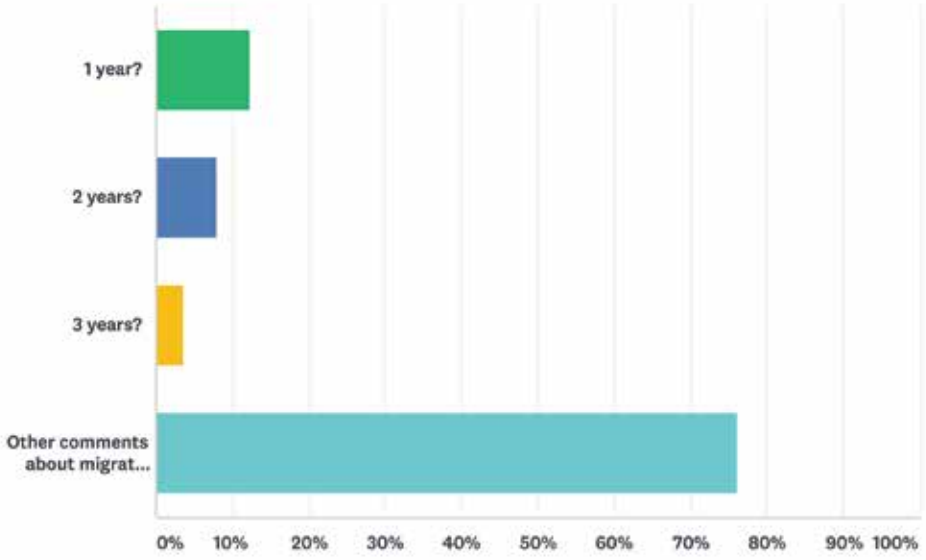
Answered: 131 Skipped: 23



	NOT IMPORTANT	SLIGHTLY IMPORTANT	MODERATELY IMPORTANT	IMPORTANT	EXTREMELY IMPORTANT	TOTAL	WEIGHTED AVERAGE
Geographic reach	11.72% 15	13.28% 17	22.66% 29	33.59% 43	18.75% 24	128	3.34
Growth over time	0.77% 1	1.54% 2	13.08% 17	40.00% 52	44.62% 58	130	4.26
Number of downloads	0.00% 0	3.85% 5	14.62% 19	35.38% 46	46.15% 60	130	4.24
Number of uploads	0.77% 1	3.08% 4	20.77% 27	46.92% 61	28.46% 37	130	3.99
Repository and Analytics Metric Portal (RAMP)	46.36% 51	13.64% 15	12.73% 14	18.18% 20	9.09% 10	110	2.30
Stories on use of the IR	4.69% 6	14.84% 19	17.97% 23	39.84% 51	22.66% 29	128	3.61
Usage data from Google Analytics	11.90% 15	18.25% 23	23.02% 29	31.75% 40	15.08% 19	126	3.20
Usage data supplied by the platform	3.10% 4	5.43% 7	10.08% 13	33.33% 43	48.06% 62	129	4.18

Q14 Do you have plans to migrate in...

Answered: 113 Skipped: 41



ANSWER CHOICES	RESPONSES	
1 year?	12.39%	14
2 years?	7.96%	9
3 years?	3.54%	4
Other comments about migration plans.	76.11%	86
TOTAL		113

Q15 If there are topics we did not cover or if there are ideas you would like to share, please either add them here or send an email to Info@informedstrateges.com to arrange a conversation.

Answered: 12 Skipped: 142

Q16 If you would like to receive a copy of the white paper when it is published, please provide your email address.

Answered: 96 Skipped: 58

CHOICE
Start with better options