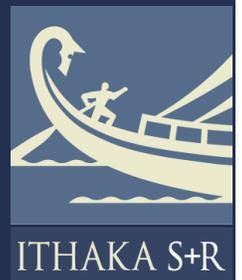


**University of  
Pittsburgh Faculty  
Survey:  
Analytical Memo**



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# Overview

The following memo provides an analytical narrative of the results of the Ithaca S+R Local Faculty Survey, which was administered at the University of Pittsburgh to 5,392 faculty members. The questionnaire covers topics in several key areas, including: the role of the library in supporting faculty members' needs; impressions and usage of library services; faculty members' digital research activities and methodologies; faculty members' data preservation and management behaviors and needs; the role and value of various types of scholarly materials; and teaching and research within a clinical or health sciences context. The survey instrument also included a set of locally developed custom questions regarding faculty members' attitudes related to a potential merger between the University of Pittsburgh and Carnegie Mellon University libraries.

In addition to an analysis of the University of Pittsburgh findings, comparisons are also drawn against the Local Faculty Survey results from Carnegie Mellon University and the 2012 U.S. Faculty Survey.<sup>1</sup> The Carnegie Mellon Local Faculty Survey was administered to 1,100 faculty members in parallel with the University of Pittsburgh Local Faculty Survey.<sup>2</sup> Both Carnegie Mellon and the University of Pittsburgh implemented the same version of the Local Faculty Survey questionnaire to their faculty members over the same span of time. The only difference between the implementations was the signatory to the email invitations.<sup>3</sup>

The survey instrument covers many scholarly research and teaching-related topics, overlapping with the 2012 Ithaca S+R U.S. Faculty Survey, and in part overlapping with other previous iterations of the Ithaca S+R U.S. Faculty Survey. The 2012 Faculty Survey was the fifth iteration of this survey that Ithaca S+R has run triennially since 2000. In 2012, Ithaca S+R sent email invitations to 160,008 randomly selected faculty members in the U.S., and received 5,261 completed responses, including 1,708 completed responses from faculty members across 96 of the 108 institutions classified as R1s under the Carnegie framework. For context in interpreting the University of Pittsburgh findings, we present the aggregate national-level results by the University of Pittsburgh's Carnegie Classification (Research Universities – very high research activity, or “RU/VH” referred to as “R1” in the report).

During spring 2015, 5,392 University of Pittsburgh faculty members and 1,100 Carnegie Mellon University faculty members received an email invitation to participate in a

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<sup>1</sup> Ross Housewright, Roger C. Schonfeld, and Kate Wulfson, *Ithaca S+R U.S. Faculty Survey 2012*, (New York: Ithaca S+R, 2013), available at <http://www.sr.ithaca.org/research-publications/us-faculty-survey-2012>

<sup>2</sup> Findings from both universities are included in this memo as per a fully executed Reciprocal Data Sharing Agreement signed by Carnegie Mellon, the University of Pittsburgh, and ITHAKA.

<sup>3</sup> Invitations were sent from the Office of the Chancellor at the University of Pittsburgh and the Office of the President at Carnegie Mellon University.

survey about the impact of electronic technologies on their research and teaching. Two email reminders were sent before the close of the survey. In total, 1,509 University of Pittsburgh and 395 Carnegie Mellon University respondents clicked the survey link (about 28% and 36%, respectively), with 959 of those University of Pittsburgh faculty members and 270 of those Carnegie Mellon University faculty members completing the survey, for overall response rates of 18% at the University of Pittsburgh and 25% at Carnegie Mellon University. In this analysis, we also report findings at the disciplinary level in addition to the aggregate for further context.<sup>4</sup>

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<sup>4</sup> For Carnegie Mellon University, disciplinary groupings are stratified in this report in the following manner: 28 respondents from Arts fields, which includes the College of Fine Arts; 32 respondents from Engineering fields, which includes Biomedical Engineering, Chemical Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Information Networking Institute, Institute for Complex Engineering Systems, Materials Science and Engineering, and Mechanical Engineering; 50 respondents from Humanities fields, which includes English, History, Modern Languages, and Philosophy; 9 respondents from Social Science fields, which includes Economics and Psychology; 5 respondents from Information Sciences fields, which includes the School of Information Systems and Management, the Information Networking Institute, and Information Systems; 13 respondents from Mathematical Sciences fields, which includes Mathematical Sciences and Statistics; 40 respondents from Sciences fields, which includes Biological Sciences, Chemistry, and Physics; 43 respondents from Computer Sciences fields, which includes the School of Computer Science; 21 respondents from Business fields, which includes the Tepper School of Business; and, 13 respondents from Public Policy fields, which includes Engineering and Public Policy, the School of Public Policy and Management, and Social and Decision Sciences. For University of Pittsburgh, disciplinary groupings are stratified in this report in the following manner: 332 respondents from Medicine fields, which includes Dental Medicine, Communication Science and Disorders, Emergency Medicine, Health Information Management, Occupational Therapy, Physical Therapy, Physician Assistant Studies, Prosthetics and Orthotics, Rehabilitation Counseling, Rehabilitation Science, Rehabilitation Science and Technology, Sports Medicine and Nutrition, Medicine, Nursing, Pharmacy, Public Health, and the Multidisciplinary MPH Program; 9 respondents from Computer Sciences fields, which includes Computer Science, Intelligent Systems, and Computational and Systems Biology; 13 respondents from the field of Law; 29 respondents from Business fields, which includes the Joseph M. Katz Graduate School of Business and the College of Business Administration; 23 respondents from Public Policy fields, which includes Public and International Affairs and Health Policy and Management; 56 respondents from Engineering fields, which includes Bioengineering, Chemical and Petroleum Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Physics, Industrial Engineering, and Mechanical Engineering and Materials Science; 149 respondents from Humanities fields, which includes Africana Studies, Anthropology, Bioethics, Children's Literature, Classics, Classics, Philosophy, and Ancient Science, Communication, Cultural Studies, East Asian Languages and Literatures, English, Film Studies, French and Italian Languages and Literatures, Gender, Sexuality, and Women's Studies, German, Hispanic Languages and Literatures, History, History and Philosophy of Science, History of Art and Architecture, Jewish Studies, Linguistics, Medieval and Renaissance Studies, Philosophy, Religious Studies, Slavic Languages and Literatures, and Spanish; 20 respondents from Arts fields, which includes Architectural Studies, Music, Studio Arts, and Theatre Arts; and, 26 respondents from Information Sciences fields, which includes Information Science and Technology, Library and Information Science, Telecommunications, Health Information Management, and Biomedical Informatics. Please note that disciplinary categories with less than 20 respondents are not analyzed or reported on in this memo, and please also note the small sample sizes (e.g. under 30) for certain groupings when interpreting disciplinary-level findings reporting in this document.

# Key Insights

A key goal of the University of Pittsburgh Local Faculty Survey is to identify evidence-based strategic benchmarks for tracking prior to a potential formal collaboration or merging of resources with the Carnegie Mellon University Libraries. This analysis aims to analyze the implications of a potential cross-institutional library collaboration on faculty members' engagement with and attitudes regarding library-provided services and collections. The results from the survey revealed the following strategically relevant high-level findings:

- In general, University of Pittsburgh faculty members rely more on the physical collections of primary source materials located at their campus for their research than their colleagues at Carnegie Mellon. Conversely, in the aggregate, Carnegie Mellon faculty members are more likely to use needed physical collections of primary source materials held at another institution when conducting their research. This may warrant further investigation vis-à-vis implications for a potential merger of digital and physical resources between the two institutions.
- Stratifications at the disciplinary level reveal that Carnegie Mellon faculty members in Computer Science would highly value the potential for more open access publishing and research resources.
- Humanities faculty members at both institutions view the library's collections as critical to their ability to produce research. This indicates that humanities faculty members at both institutions appear to be fully aware of the library's role in facilitating access to needed research resources via collections-related expenditures.
- A majority of faculty members at both institutions, across all disciplines, believe that increased collaboration between the libraries of the two institutions would be beneficial with regard to the possibility of increased access to a broader range of resources for themselves and for both populations of students. In addition, a majority of faculty members at the University of Pittsburgh are eager for increased opportunities to collaborate with their Carnegie Mellon colleagues as a potential outcome of such a collaboration.
- Overall, University of Pittsburgh faculty members seem slightly more enthusiastic about the potential benefits from a merger when compared with Carnegie Mellon faculty members, but large shares of faculty members from both institutions clearly see the potential for mutual benefits.

Ithaka S+R believes these topics are among those that are valuable to track for change over time.

# The Roles of the Library

The University of Pittsburgh and Carnegie Mellon University faculty survey included a set of items developed to measure faculty members' views regarding the primary functions of academic libraries in supporting their research and instructional needs. Three of these items cover activities regarding different but inter-related aspects of the content-provision roles of the library, including facilitating the discovery of scholarly content, paying for resources and licensing content, and serving as an archive or repository. The remaining three items cover the library's varying roles in engaging directly with constituent communities, including support services for research, teaching, and information literacy instruction.

In general, the majority of faculty respondents at both institutions view the library's six content-provision and support roles as important. In particular, faculty members at both institutions are more likely than faculty members at other R1 institutions nationally to value the library's role in the discovery of and storage of research-related information resources. However, as Table 1 shows, in general, a larger share of University of Pittsburgh faculty member respondents value each of the six roles of the library when compared with their Carnegie Mellon colleagues. Consistent with trends at the national level, the largest majority of University of Pittsburgh faculty members (91%) and Carnegie Mellon faculty members (90%) value the role of the library in providing access to needed resources. A much greater share of University of Pittsburgh faculty members (63%) value the library's role in serving as a discovery "gateway" for locating information when compared to faculty members at Carnegie Mellon (about 50%).

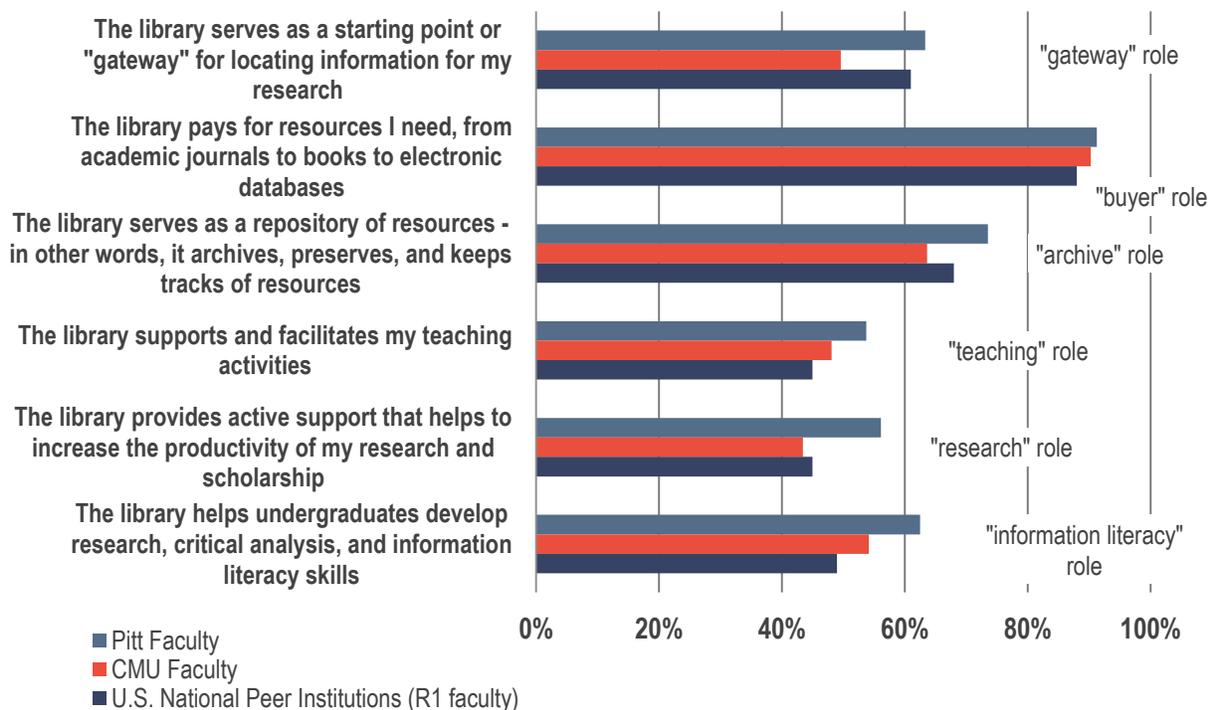
In addition, a much larger share of University of Pittsburgh faculty members (about 74%) value the archival role of the library when compared to Carnegie Mellon faculty members (about 64%). This is consistent with the differences between faculty members at each institution regarding their use of archival materials for their research. A larger share of University of Pittsburgh faculty members (53%) utilize the physical collections of primary source materials housed at their campus for their research when compared with faculty members at Carnegie Mellon (44%). Conversely, a larger share of Carnegie Mellon faculty members (52%) report that they use physical collections of primary source materials held at another institution for their research when compared with faculty members at the University of Pittsburgh (49%). This indicates that Carnegie Mellon faculty members who use physical collections of primary sources for their research are already comfortable locating materials off-site or utilizing resources beyond those located physically at the Carnegie Mellon campus.

Regarding the service-related items, University of Pittsburgh faculty members view the library's role in providing teaching and research support as more important when compared to Carnegie Mellon faculty members. In particular, a majority of University of

Pittsburgh faculty members view the library’s role in supporting teaching activities (about 54%) and services related to research productivity (56%) as very important when compared with a minority of respondents at Carnegie Mellon who view these two roles as important (48% and 43%, respectively).

**Table 1**

How important is it to you that your college or university library provides each of the functions below or serves in the capacity listed below?\*



\*Percent of respondents rating each item as “extremely important” (5-6 on a 6-point scale)

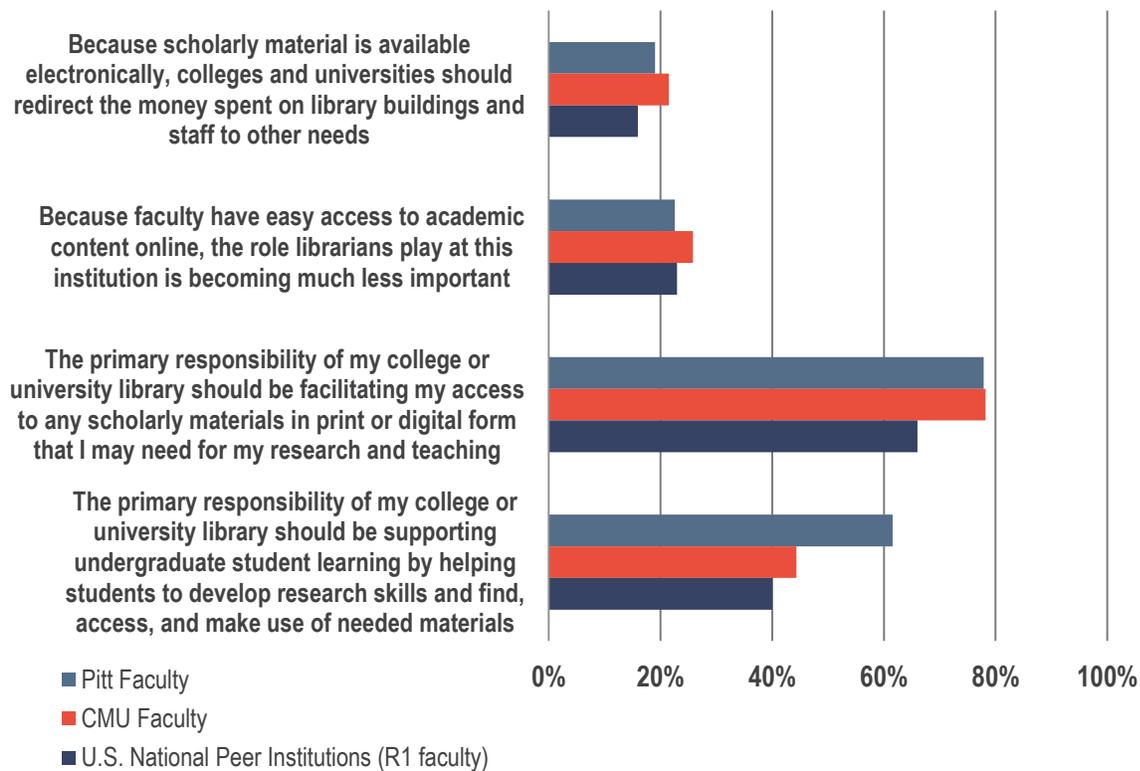
However, these results vary by discipline. A larger share of University of Pittsburgh faculty members in Humanities (90%) and Arts (85%) fields value the library’s role as a repository of resources when compared with 77% of Information Science faculty members, 72% of Business faculty members, 70% of Medicine faculty members, 57% of Public Policy faculty members, and 55 % of Engineering faculty members. In addition, humanists at the University of Pittsburgh are more likely to value all three of the library’s service roles when compared to faculty members in other disciplines at the University of Pittsburgh. For example, about 73% of Humanities faculty members at the University of Pittsburgh view the library’s role in providing active support to help faculty members increase their research productivity, when compared with 48% of Engineering faculty members, 50% of Information Science faculty members, 56% of Medicine faculty members, 48% of Business faculty members, 55% of Arts faculty members, and a concerning 30% of Public Policy faculty members.

Similar to the University of Pittsburgh results, humanists at Carnegie Mellon value each of the six roles of the library more than their peers in other disciplines. For example, 78% of Carnegie Mellon humanists value the library's role in serving as a starting point for research, compared with 32% of Engineering faculty members, 38% of Business faculty members, 21% of Computer Science faculty members, 50% of faculty members in the Sciences, and 63% of faculty members in Arts fields. Likewise, humanists at Carnegie Mellon are more likely to value the library's research-related service role when compared to their peers in other disciplines. For example, 67% of Carnegie Mellon humanists value the library's role in helping faculty members increase their research productivity through active support, when compared with 43% of Business faculty members, 59% of Arts faculty members, 41% of Engineering faculty members, 32% of Sciences faculty members, and a concerning 19% of Computer Science faculty members. In general, the disciplinary-level findings of the six items measuring faculty members' attitudes towards the roles of the library indicate specific opportunities for both institutions to focus on enhancing engagement among faculty members in certain technical STEM disciplines regarding library-provided research and instructional support services.

A much larger majority of University of Pittsburgh faculty members (about 65%) report that they are highly dependent on the library for the research they conduct when compared with Carnegie Mellon faculty member respondents (about 56%). A larger share of University of Pittsburgh faculty members (34%) value the library as a partner for their research and teaching, as opposed to viewing the library as one of many potential service providers, when compared with 24% of Carnegie Mellon faculty members. As Table 2 shows, regarding the library's role in supporting student learning, a substantially larger share of University of Pittsburgh faculty members (about 62%) view this as the library's primary role when compared with a minority (about 44%) of Carnegie Mellon faculty members. It is worth noting, however, that the largest share of faculty members who value the library's role in providing access to scholarly content at Carnegie Mellon (98%) are Science faculty members.

**Table 2**

Faculty members' views regarding the role of the library and library staff\*



\*Percent of respondents rating each item as representing their viewpoint "extremely well" (8-10 on a 10-point scale)

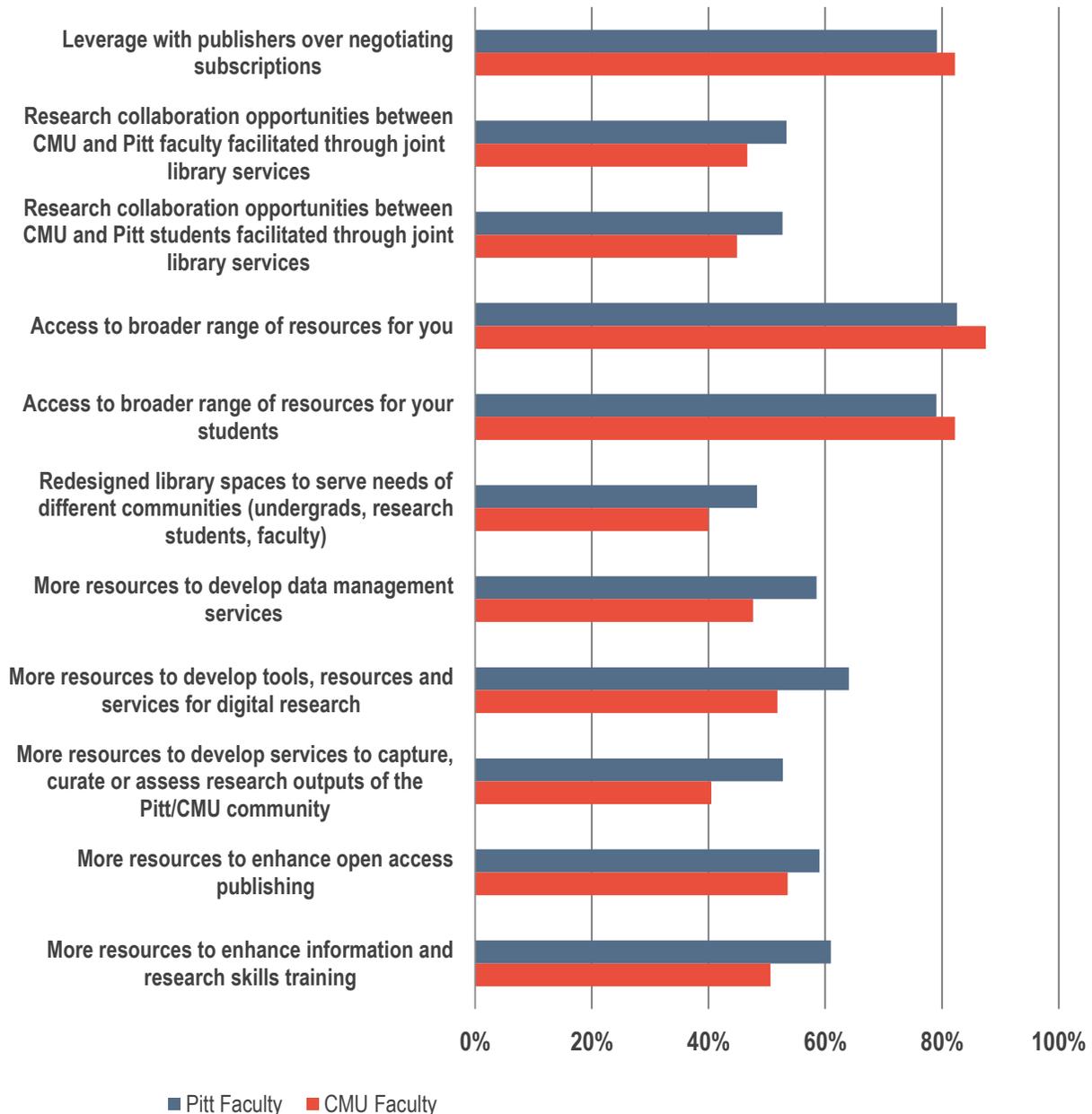
The aggregate findings mask substantial differences among faculty members' responses at the disciplinary level. For example, a much smaller share of faculty members in the Arts (31%) and Public Policy (29%) at the University of Pittsburgh are dependent on the library for their research, when compared to University of Pittsburgh faculty members in the Information Sciences (67%), Humanities (76%), Engineering (65%), Business (54%), and Medicine (70%). At Carnegie Mellon, disciplinary-level differences exist but a much smaller share of Business (47%) and Computer Science (34%) faculty members report that they are highly dependent on the library for their research when compared with Carnegie Mellon faculty members in the Arts (62%), Humanities (74%), Sciences (62%), and Engineering (61%).

The University of Pittsburgh and Carnegie Mellon University surveys also contained a series of custom questions developed locally related to a possible merger between the two institution's libraries. As Table 3 shows, faculty members at both institutions reported on the importance of various possible outcomes from such a merger. Faculty members at both institutions rated the same three outcomes as the most important. First, faculty members at both Carnegie Mellon and the University of Pittsburgh view the possible outcome of increased access to a broader range of resources for themselves

as an important potential outcome of a merger. Another important potential outcome for both sets of faculty members is the possibility for better leverage with publishers over negotiating subscriptions. A third most important potential outcome is the potential for an increase in access to a broader range of resources for both populations of students.

**Table 3**

Please rank the importance to you of the possible outcomes of the collaboration between the CMU and Pitt library systems.



\*Percent of respondents rating each item as “extremely important” (8-10 on a 10-point scale)

Interestingly, these findings remain mostly consistent at the disciplinary level at both institutions. Across most disciplines, University of Pittsburgh and Carnegie Mellon faculty members rate the same three outcomes as most important as in the aggregate. The only discipline that deviates from this pattern at the University of Pittsburgh is Public Policy. Faculty members affiliated with Public Policy fields are more interested in potential opportunities for cross-institutional collaboration with their Carnegie Mellon colleagues than in the potential for broader range of access to resources. The only two disciplines that deviate from this pattern at Carnegie Mellon are Arts and Computer Science. Faculty members affiliated with Arts fields at Carnegie Mellon are as interested in the potential for more resources to enhance information and research skills training as they are in the potential for further ability to leverage with publishers over negotiating subscriptions. Faculty members in Computer Science fields value the potential for more open access publishing resources and opportunities over broader access to resources for their students.

A majority of University of Pittsburgh respondents (53%) would be eager for increased chances to collaborate with their Carnegie Mellon colleagues than vice versa, with a large minority of Carnegie Mellon respondents (47%) reporting enthusiasm for such opportunities. A smaller share of Carnegie Mellon respondents (48%) are eager for increased services related to data management when compared with their University of Pittsburgh colleagues (59%). Less than half of the respondents from both Carnegie Mellon and the University of Pittsburgh view redesigned library spaces as an important potential outcome of a merger. Overall, University of Pittsburgh faculty members seem slightly more enthusiastic about the potential benefits from a merger when compared with Carnegie Mellon faculty members, but faculty members from both institutions clearly see the potential for mutual benefits.

# Digital Research and Data Curation Support

Carnegie Mellon and University of Pittsburgh faculty members diverge slightly regarding practices related to digital research activities. A larger share of University of Pittsburgh faculty members utilize computational analysis of text, GIS/mapping of data, and the analysis of data that they are not generating on their own, when compared with faculty members at Carnegie Mellon. Carnegie Mellon faculty members are more likely to use software or code, models or simulations, or data that they are generating themselves, when compared with University of Pittsburgh faculty members.

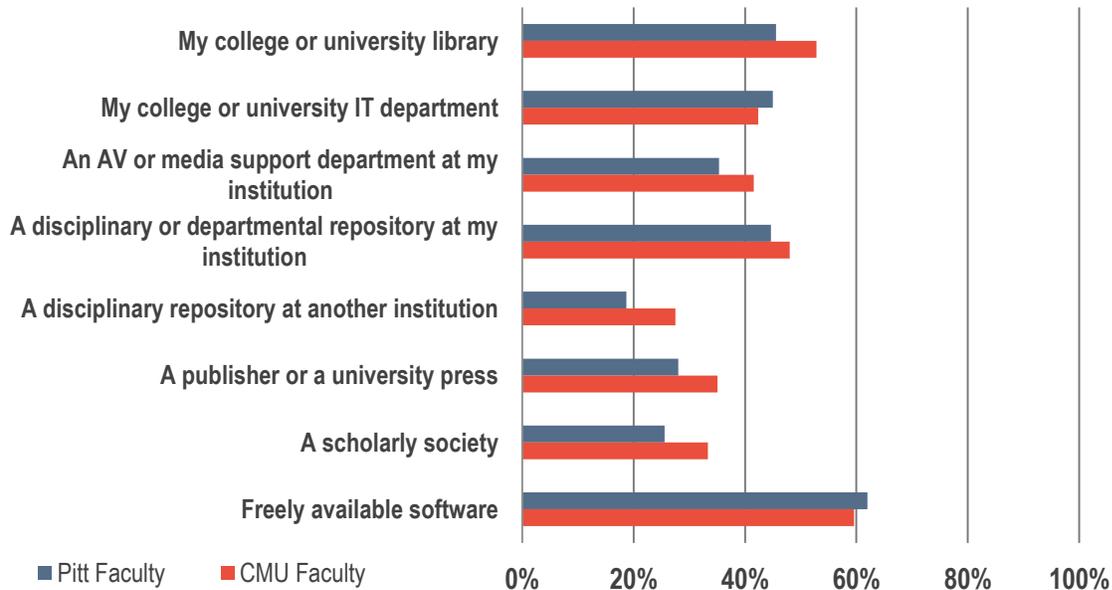
Respondents to both surveys were given the opportunity to indicate their attitudes related to their interest in further utilizing digital research activities and methodologies. Interestingly, a much larger share of University of Pittsburgh faculty members (40%) would like to further integrate digital approaches into their work, but feel that they do not have sufficient technical skills to do so effectively, when compared to 27% of faculty members at Carnegie Mellon. In addition, 32% of University of Pittsburgh faculty members who would like to further integrate digital approaches into their work are unsure of how these activities and methodologies could support their research goals, when compared to 23% of Carnegie Mellon faculty members.

A comparable share of University of Pittsburgh (75%) and Carnegie Mellon (79%) faculty members accumulate original research data or primary source data. A much greater share of University of Pittsburgh faculty members (52%) report that they use datasets for their research that they access via the library's subscription to an online repository when compared to Carnegie Mellon faculty members (45%).

A greater share of Carnegie Mellon faculty members (63%) are accessing data that are freely available online, when compared to 54% of University of Pittsburgh faculty members. A large majority of University of Pittsburgh and Carnegie Mellon faculty members report that they often organize their research data on their own computers, indicating that the norms surrounding data management at both institutions are largely oriented towards self-service. As Table 4 shows, when asked how valuable faculty members would find several possible sources of support for research data management or preservation, a majority of Carnegie Mellon respondents (53%) indicated that their campus library would be a valued resource, when compared with 46% of University of Pittsburgh faculty members. This demonstrates that faculty members value or would value the library's services regarding data management and preservation. However, faculty members at both institutions are more likely to value freely available software as a resource for data curation when compared to the library as a service provider regarding these types of research products.

**Table 4**

How valuable do you or would you find each of the following possible sources of support for managing or preserving research data, media?\*



\*Percent of respondents rating each item as “extremely valuable” (8-10 on a 10-point scale)

Stratifications illustrate that distinct disciplinary contexts shape faculty members’ perceptions regarding the value of various resources, including the library, in managing, organizing, and preserving data. Regarding views that the library is or would be a valued resource in managing data preservation, there are not many differences across disciplinary categories among faculty members at Carnegie Mellon. However, faculty members’ views regarding the utility of freely available software differ according to patterns that seem to indicate idiosyncratic institutional processes or cultures across disciplines at both Carnegie Mellon and the University of Pittsburgh. At Carnegie Mellon, a much larger share of Business (86%) faculty members value freely available software in managing their research data, compared to 67% of Computer Science faculty members, 66% of Science faculty members, 62% of Arts faculty members, 43% of Engineering faculty members, and 41% of Humanities faculty members. At the University of Pittsburgh, a much larger share of Arts (91%) faculty members use freely available software to manage their research data, compared with 68% of Information Science faculty members, 64% of Medicine faculty members, 62% of Engineering faculty members, 56% of Business faculty members, 55% of Humanities faculty members, and 50% of Public Policy faculty members.

It is also worth noting that a larger share of Carnegie Mellon faculty members (41%) indicate that they find it difficult to preserve or store their research data for the long-term, when compared with 32% of faculty members at the University of Pittsburgh. However, stratifications of this item reveal substantial differences at the disciplinary level. At the University of Pittsburgh, a larger share of Humanities (40%) and

Engineering (39%) faculty members find it difficult to preserve their research data for the long-term when compared with 25% of Public Policy faculty members, 26% of Information Science faculty members, 22% of Business faculty members, 31% of Medicine faculty members, and 9% of Arts faculty members. At Carnegie Mellon University, the disciplinary differences are even starker, with a much larger share of Computer Science (61%), Business (50%), and Engineering (48%) faculty members reporting that they experience difficulties in data preservation when compared with 31% of Humanities faculty members, 37% of Science faculty members, and 43% of Arts faculty members. In general, these findings indicate that faculty members at both institutions may benefit from discipline-specific workshops or educational outreach regarding the preservation of their research data.

# Concluding Remarks

The University of Pittsburgh and Carnegie Mellon University implementation of the Ithaka S+R Faculty Survey suggests several key areas to track for change over time or to investigate further:

- With the exception of Business, a majority of respondents across all disciplines at the University of Pittsburgh value the library's role in providing access to subscription-based online repositories of research data, indicating that University of Pittsburgh faculty members, in general, value specialized research content and collections in addition to access to traditional literature. However, this finding varies more across disciplines at Carnegie Mellon, with a majority of Humanities and Arts faculty members utilizing library-provided subscription-based access to repositories of data when compared with a minority of faculty in Business and all STEM disciplines at Carnegie Mellon. This disparity between STEM and humanities disciplines at Carnegie Mellon indicates a growth opportunity regarding the potential for the STEM community at Carnegie Mellon to benefit from a potential merger and/or increased targeted engagement in expanding access and awareness of relevant resources.
- Across all major disciplinary categories, faculty members view their library's role as a repository of collections as critical to their ability to conduct research.
- There is less awareness among Computer Science faculty members at Carnegie Mellon regarding both the library's content-provision and support services roles. In general, computer scientists at Carnegie Mellon are less likely than their colleagues in other disciplines to value the library's role in supporting research activities involving data. However, Computer Science faculty members at Carnegie Mellon are more likely to experience difficulties in managing, organizing, and preserving their research data when compared to their peers in all other disciplines at Carnegie Mellon. This highlights a growth area for the Carnegie Mellon library, in particular, to enhance strategic communications or targeted outreach to faculty members in Computer Science specifically.

Overall, it is clear that the content-provision role of both the University of Pittsburgh and Carnegie Mellon Libraries, including discovery and collections-related activities, is essential for faculty members across all disciplines in terms of their research productivity.