Research and Academic Engagement Benchmarking Service Areas

Service Area	Definition
Research Services	
Data Analysis: Quantitative and Qualitative Tools	Access to common software packages, including R, Stata, SAS, SPSS, and Matlab for quantitative analysis, and Atlas.ti and NVivo for qualitative analysis. Consultation, training, workshops, debugging of programs, etc. More robust support includes assistance to researchers with formulating and selecting the proper methodology used to analyze their data. Where the data is very large, there are connections to Research Computing/HPC. This service area also connects to Research Data Management (RDM).
Data Visualization and GIS	Software, data resources, hardware, facilities, and services for geospatial/GIS and data visualization technologies.
Linked Open Data and Semantic Web	Linked Open Data (LOD), is an emerging data federation and access phenomenon leveraging multiple standards and frameworks, including RDF in its various forms, including RDFa, RDF/XML, N3, N-Triples. LOD is often associated with the constellation of practices and tools for creating and accessing it, collectively known as the Semantic Web.
Museums, Archives, and Special Collections	This service area covers a range of software systems used for museum collection management systems, archival management systems, and special collections management systems. While this broad and diverse area can include digital collections, library (book) collections and catalogs are explicitly excluded in this consideration. This report does include public portals for discovery of content from these collections and tools for digital forensics, digitization, gathering collection statistics, reporting, etc.
Preservation Services	Broadly available services for preservation and archiving of digital content. Note that this analysis focuses primarily on the availability of preservation services to users beyond the campus Library. The broader requirements for research data are examined more comprehensively in the report on Research Data Management (RDM). Preservation Services area also overlaps with the report on Museum, Archives, and Special Collections.
Research Application Development Support	Coordinated provision of software development lifecycle (SDLC) tools; development staff; application hosting; and other support for development of software applicable to research topics and questions. Architectural and design consulting, recommendation of best practices in this area.
Research Computing (HPC +)	Includes provision of "traditional" HPC (highly parallelized computing); cloud-based HPC; and high-powered workstations (including VMs) to support computation at a level between a typical desktop/laptop and an HPC cluster or VM array. Secure compute, storage, data transfer, and data archiving are also in scope. Services here are provided for both research and instruction.
Research Data Management	Research data management (RDM) covers a full life cycle of activities related to research data, from planning through collaboration, sharing, curation, preservation, discovery and reuse. Also included are services such as consulting, training, and documentation. The research community is the consumer of research data management services. RDM overlaps with several service areas: Research Computing; Preservation Services; Museums, Archives and Special Collections; and Data Analysis (Quantitative and Qualitative).
Survey Research Support	Survey-related activities within universities can be grouped into three general categories: survey operations, survey education and training, and survey software. Each requires different investment. To determine final rankings, we weighted the three categories: survey operations 50%, survey education and training 25%, and survey software 25%. Surveys for institutional research are out of scope for this analysis.

Teaching & Learning Services	
Course and Program Evaluation	Set of tools that centralizes the process of evaluating faculty teaching on campus. The evaluation service can include evaluation instrument creation, student access to complete the evaluations and on demand results reporting for appropriate audiences.
ePortfolio	ePortfolio is a set of tools and processes combined to aggregate, organize, and present an electronic collection of evidence of a student's learning experience while on campus. ePortfolios can also support competency based evaluation of students.
Instructional Content Creation	Program with dedicated service-space to support faculty in development of digital learning assets (e.g. videos, simulations, online learning modules, etc.) for use in on-campus, hybrid, and/or online courses through services such as: course design and instructional development, content production and DIY support, platform support, tools development and integration, rights management support.
Learning Management System (LMS)	Campus services that deliver online systems specifically designed for the delivery and communications of course content, online engagement between students and instructors, and the management of student work in support of face to face and hybrid classes.
Learning Spaces	This category includes formal classrooms, computer labs, library training and study rooms, and other study spaces on campus. Excluded (though recognized as important) are informal learning spaces located in residence halls, student unions, cafes, etc.
Online Courses and Degree Programs	Support for Online Educational Resources (OERs), MOOCs, fully online courses, and degree granting online programs at peer institutions. The target audience for these offerings tends toward external audiences and non-traditional students.
Technology Enhanced Teaching	Training, consultation and support for pedagogical best practices of teaching with technology. Resources, equipment, software, workshops and training on current technologies for students and faculty that enables them to fully engage in the teaching and learning experience.
Enabling Services	
Collaboration Tools	General purpose tools, services and programs that enable students, faculty, and staff to communicate and work together with colleagues. Includes: email, calendaring, IM/chat, file sharing, document authoring, and workspace-oriented collaboration.
Google Apps for Education	Collaborative tools and services that enable students, faculty, and staff to communicate and work together with colleagues, delivered via the Google Apps for Education productivity suite (e.g., Mail, Calendar, Drive, Groups, Sites, and non-core Google Apps).
Portals, Dashboards & Aggregators	A curated experience composed of 1) an information dashboard that presents personalized, timely and relevant data and/or 2) a "one stop shop" for users to find information related to their role at the university.
Scholarly Networking	An emerging service area that aims to capture and use information about scholars' professional activities, often with an emphasis on research and publication. We are focusing on true scholarly networking services, rather than basic web hosting for individual scholars.
Software Licensing and Distribution	Central purchases of licenses for, and/or distribution of, software to support research and teaching. Includes: coordination of campus-owned licenses; consultation on selecting and using software applicable to research and teaching problems; and, instruction, tutorials, consultation on software installation.
Video & Web Conferencing	Tools and services that enable individuals and groups to connect and collaborate via synchronous video and web conferencing.
Web Publishing	Web content management and hosting service, training & consulting for individuals, groups & departments.