REPORT

Supercharging Research:
The Benefits of Digital Libraries
for STEM Organizations

ADVANCING
DISCOVERY

In today's competitive business landscape, knowledge is a key differentiator. To stay ahead, organizations need a dynamic approach to knowledge acquisition, and digital libraries offer a cost-effective and scalable solution that provides researchers with a wealth of curated resources. This paper draws on insights gleaned from interviews conducted with information professionals who have established digital libraries for a variety of organizations in STEM (science, technology, engineering and mathematics) fields. These digital libraries are comprehensive, subscription-based online resources that provide enterprise-wide access to scientific literature, journals, e-books, and databases.

The decision to invest in a digital library is often prompted by an information professional recognizing inefficiencies in existing digital content acquisition and retention systems. These inefficiencies included multiple individual subscriptions, underutilized print resources, siloed content that other groups could make use of, and researchers resorting to personal means to access content.

A data-driven approach to cost-saving and content access

The information professionals interviewed all highlighted the importance of data-driven decision making when considering a digital library, based on analyzing current usage patterns, conducting user surveys to assess needs, and evaluating potential cost savings through enterprise licensing.

- An information professional in a pharmaceutical firm described how she reviewed data from the procurement office and identified all the individual subscriptions the organization was funding. As she said, "I was able to tell a user that I would save them $40,000 on just this one journal; the cost savings were just wild to see."

- A biotechnology firm's corporate librarian noted the enhanced ROI derived from offering researchers a comprehensive subject-based digital library. This approach provided them with access to a significantly broader range of content compared to their previous individual subscription model. The expanded access not only enhanced research capabilities but also offered unexpected discoveries in adjacent fields, potentially accelerating innovation and cross-disciplinary insights. As the librarian noted, "showing the potential cost avoidance is compelling. I point out that researchers would often spend $50-$60 per article and with the digital library they are downloading thousands of articles at a substantially lower total expense. When we get licenses that provide all researchers within the organization access to digital content, we not only have some significant cost avoidance, but everyone has access to content that otherwise would have been accessible only to an individual researcher. While it's hard to calculate the cost of missed opportunity, we know that there are insights that a researcher wouldn't have gotten without the broader range of content to review."

Maximizing access and strategic value and the role of information professionals

One of the advantages of bringing information professionals into the decision-making process is that they offer an organization-wide perspective on how users discover and access content. An individual researcher may evaluate the cost and value of a subscription based on their local information needs. An information professional, on the other hand, will also consider what other groups might make use of the content, whether other digital collections contain the same content, the reputation of the vendor, and the likelihood that there will be an ongoing need for the content.

Speeding up access to scientific literature

Information professionals value the immediate access to scientific literature that a digital library provides, as well as the cost-effectiveness of organization-wide licensing and improved compliance with copyright laws. One information services manager at a pharmaceutical firm explained that "we want all our researchers to have the whole world of science at their fingertips, so they can stay on the cutting edge in their field. We don't want them to have to worry about paywalls, getting reimbursed for a credit card purchase, or waiting for a print journal to arrive."

Enhancing search capabilities

Digital libraries also offer enhanced search capabilities and customization options for users. A biotech librarian noted that "subscribing to a broad collection of journal titles from Springer Nature ensured comprehensive access to the subject area, and also allowed researchers to use the digital library as a discovery platform, not just a landing page for journal access. The researchers find that this is a more robust tool than free sources such as PubMed; while the researchers may be more familiar with the public databases, they find their research with our digital library to be more efficient."

"Customization of searches and alerts is an additional benefit, as the users can run alerts on a subscribed platform as opposed to a public site such as Google, where they could be inadvertently sharing confidential information," the librarian added.

Showing significant time savings

The implementation of digital libraries significantly streamlines operations for library and information service managers. A key benefit is the dramatic reduction in user complaints and inquiries related to article access. In one notable example, a library manager reported that user requests dropped from around 200 a day to just 20 after implementing a digital library. This reduction was largely due to eliminating common issues like paywall restrictions and difficulties in locating full-text articles from free databases. The result is a more efficient workflow for staff and a smoother research experience for users.

Ensuring continued support and funding

The information professionals interviewed all emphasized that user engagement and ongoing communication about the value of digital library resources are critical to ensure continued support and funding.

- **Regular training sessions**, awareness campaigns, and engagement events keep users informed and encourage better resource utilization. One consultant for STEM libraries noted that "I always work closely with publishers to organize joint training sessions. I talk about the content that we are bringing into the organization, how to access it and why it's important from a copyright-compliance standpoint. Then the publisher rep describes their collection and how it can be used most strategically. It's a win for everybody."

- **Creating a "power user" group** can provide valuable feedback and create internal champions for a digital library. An information professional at a biotech company explained her approach. "It's not a formal advocacy group really. I see it more like a focus group of the researchers who use the digital library the most and who are interested in giving us input. At least once a year, I pull them together and ask them how we're doing, what we should be doing differently, and how they can involve the library more in their projects. In fact, right now we are engaging them in conversations about generative AI."

- A pharma library manager emphasized the importance of being prepared with the **data and a slide deck to demonstrate the case for continuing support for a digital library**, incorporating graphics that illustrate cost savings and increased utilization resulting from organization-wide subscriptions. She emphasized that these proposals frequently reach senior leadership, so her presentations need to be both clear and persuasive. "Springer Nature journals are an easy sell, because people are already reading them. But when you are coming with a brand-new database that is looking at information in a new way, or with an interface and platform that isn't intuitive to upper management, you really must make the value and use cases clear."

The strategic edge of digital libraries in the knowledge economy

Digital libraries present a compelling value proposition for organizations, particularly those in STEM sectors. These platforms provide researchers with immediate access to extensive, curated content collections, significantly enhancing productivity and driving innovation. The financial benefits are twofold: substantial cost reductions through enterprise-wide licensing agreements and improved compliance with copyright regulations.

Information professionals benefit from the streamlined workflows afforded by digital libraries. The elimination of managing individual subscriptions and the reduction in access-related inquiries allow these professionals to redirect their efforts towards strategic initiatives and enhanced user engagement. This shift in focus can lead to more impactful outcomes for the organization.

Advanced search capabilities and customizable alert systems empower researchers to conduct more thorough and efficient literature reviews. These features facilitate the discovery of previously unrecognized connections within their fields and promote collaboration. The resulting knowledge exchange fosters improved decision-making processes and strengthens the organization's competitive position.

The long-term strategic value of digital libraries extends beyond immediate operational efficiencies. By providing a comprehensive, readily accessible knowledge base, these platforms position organizations at the cutting edge of their respective fields. In today's information-centric economy, this represents a critical strategic advantage for forward-thinking organizations.

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