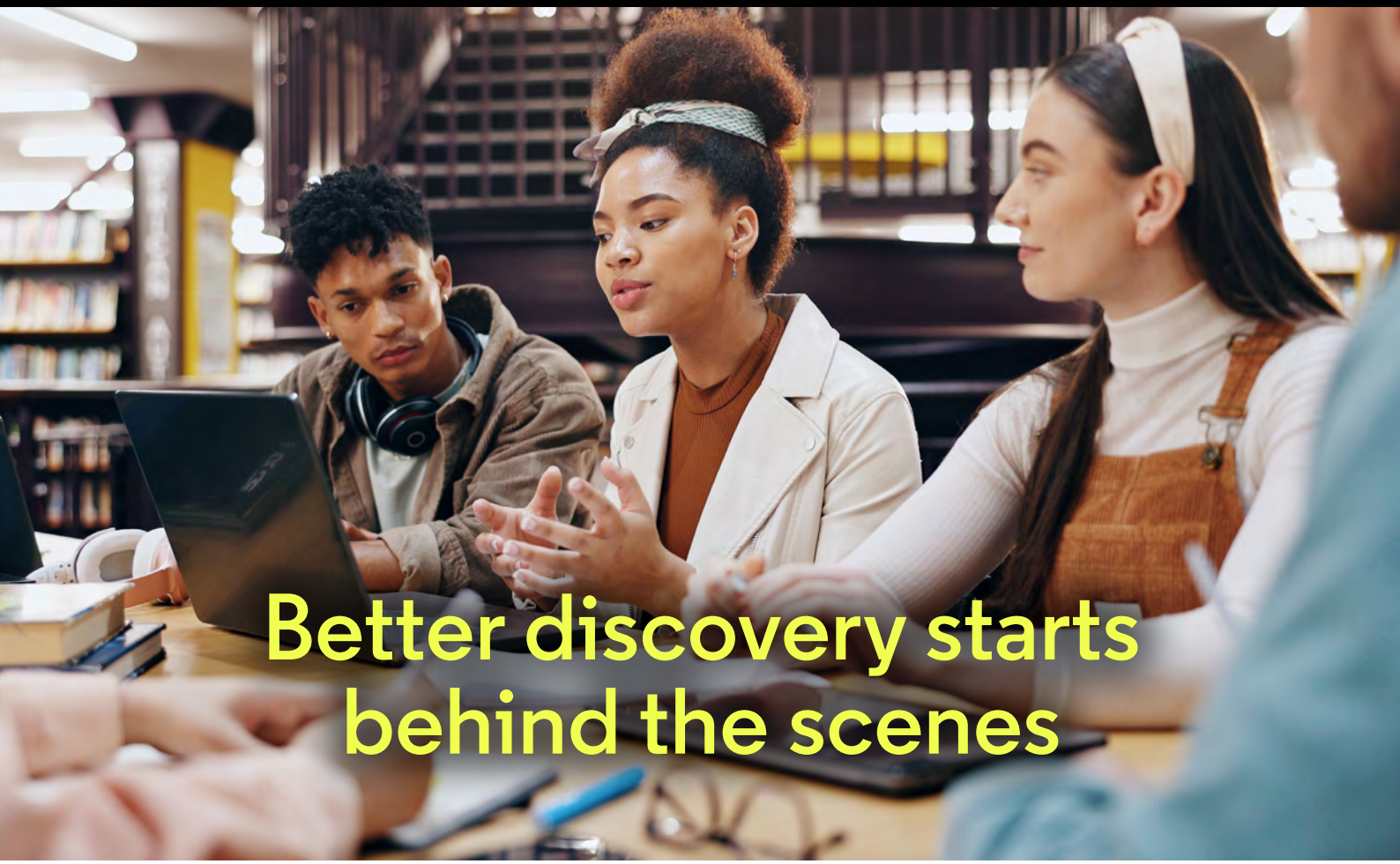


Better discovery starts behind the scenes

How librarians and AI shape what users discover

As AI becomes more visible in consumer search tools, discovery itself is being redefined. Users increasingly judge systems by their ability to interpret questions, surface relevant materials and provide immediate context. Discovery is less about executing a search and more about supporting understanding.

As academic libraries navigate this shift, many are finding that their discovery layer is the key to improving the user experience. Discovery layers reflect the health of the library management systems beneath them. Broken links, unclear formats, dead ends in access or irrelevant results rarely originate at the interface. More often, they are symptoms of fragmented workflows, inconsistent data or disconnected services that compound over time.

> "Users aren't really searching anymore in the traditional sense. They're asking questions, and they expect the system to help them get to an answer, even if they don't know exactly what they're looking for yet."

Nancy Babb, Discovery Services Librarian, University at Buffalo

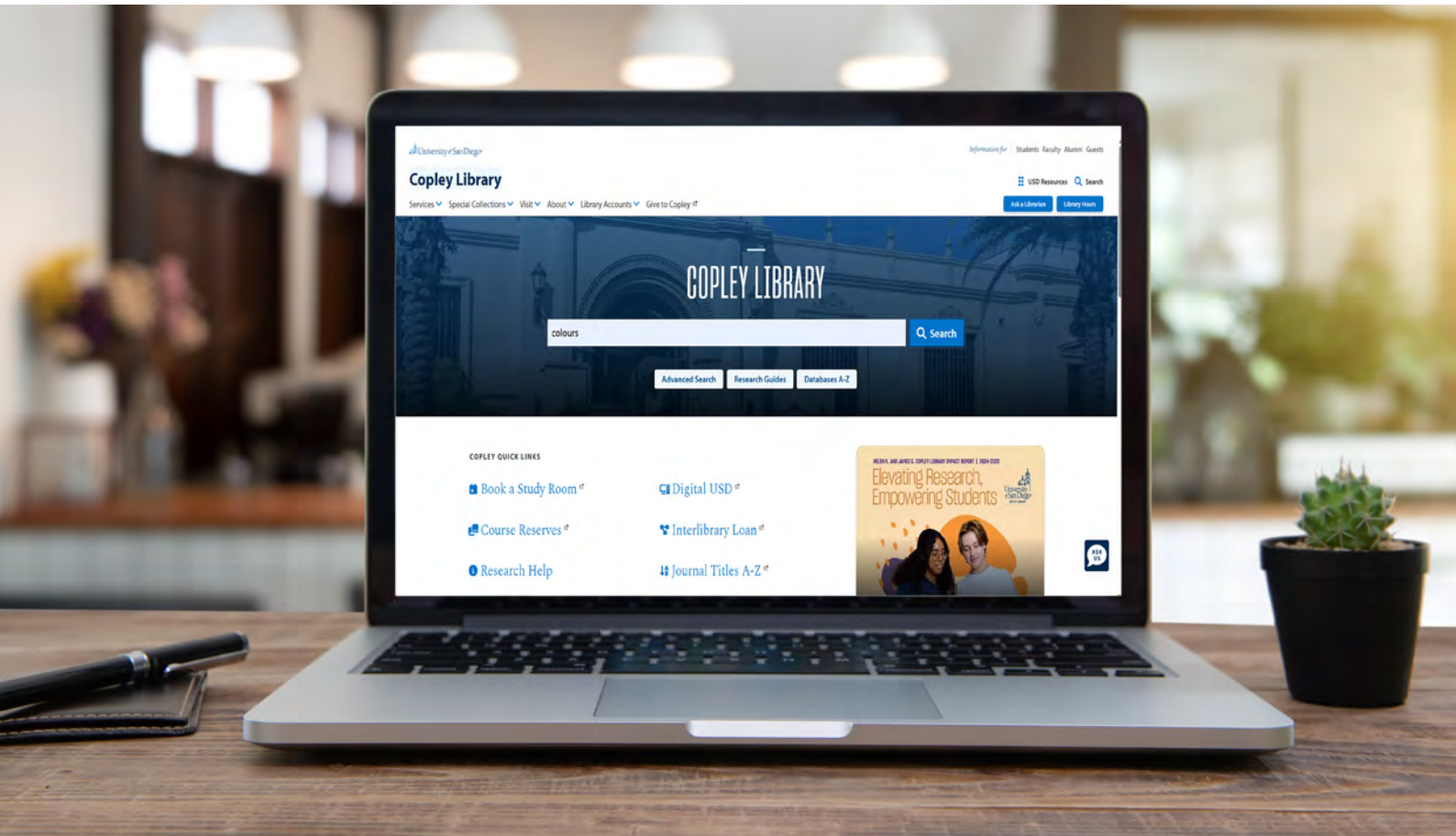
Clarivate

> "We look closely at what students are actually doing to get to information, not what we assume they're doing. Some of those findings don't always match what librarians intuitively expect, but we have an imperative to make discovery as easy as possible."
>
> **Randyn Heisserer Miller,** Associate Dean for Collections, Discovery, and Digital Initiatives, San Diego State University

Libraries that make lasting improvements to discovery tend to focus first on these invisible foundations. By streamlining how work flows through the system and how data is managed across it, they create the conditions for discovery tools to function as intended and deliver the experience users demand.

As expectations shift from searching to asking, libraries face increasing pressure to respond with systems that can interpret intent, provide context and help users move from results to understanding. This work is increasingly shaped by AI-assisted capabilities built into library platforms, applied deliberately and with care. Rather than replacing professional expertise, libraries are using AI to strengthen the foundations of discovery: improving metadata at scale, supporting users through complex research processes and allowing staff to focus attention where professional judgment matters most.

Read on to learn how librarians at **San Diego State University** and **University of Buffalo** are improving discovery by making smart decisions about infrastructure, focusing on visibility, accessibility, reliability, readiness and smart use of automation.



Visibility: One unified system as the foundation

> "Working in a unified system gives us a common language for understanding and describing what's going on, what we need to do and where things are breaking down."
>
> **Nancy Babb,** Discovery Services Librarian, University at Buffalo

At San Diego State University and University of Buffalo, improving discovery means sustained investment in workflows, metadata and systems that work together coherently. At the center is the library management system itself. When acquisitions, metadata management, discovery, and resource sharing are connected in **a unified system, discovery becomes a reflection of the library's operations rather than just the user interface**. For example, a system like the **Alma library management system**, with its embedded **Primo discovery service**, aligns backend workflows with what users see, helping staff understand how internal decisions affect the discovery experience. Integrating these functions gives libraries a clear operational environment where staff can quickly address issues and users can easily access relevant materials.

In a unified system, **discovery becomes a feedback mechanism**, highlighting where backend decisions are helping or hindering users:

- Staff can trace what users experience back to the source
- Issues surfaced in discovery are investigated and corrected within the same operational ecosystem that produced them
- The approach to discovery improvement changes: instead of compensating for system gaps through manual workarounds, staff focus on fixing underlying causes.

> "Because discovery and backend systems are so closely connected, we can see where users are struggling and trace that back to what's happening underneath. Sometimes small fixes — a misleading record, a broken link — can lead to significant improvements for users."
>
> **Nancy Babb,** Discovery Services Librarian, University at Buffalo

In a unified system, **discovery becomes a feedback mechanism** and staff can then apply their expertise to fixing root causes rather than chasing individual problems, keeping discovery grounded in informed backend decisions rather than surface-level interface changes.

Accessibility: Broadening discovery with embedded ILL

> "I like tools that allow the user to take the library with them, no matter where they're searching. It's real boon and a real change."
>
> **Nancy Babb,** Discovery Services Librarian, University at Buffalo

For Babb, the shift to Alma and Primo also fundamentally changed what discovery made visible to users. **Moving into a unified environment expanded discovery beyond the local collection**, exposing users to materials held across the library's consortium and reinforcing the idea that access is not limited to what sits on a single shelf.

Rather than treating resource sharing as a separate service users had to seek out, the system normalized it as part of discovery. When users see more of what is available and are supported in requesting it, they gain confidence that the library will help them get what they need, regardless of where it lives.

That same visibility and normalization of access helps explain why, once requesting was fully integrated into discovery, San Diego State saw such a dramatic shift in how often users moved beyond the local collection. By embedding resource sharing options directly into the discovery workflow through **Rapido**, requesting items became a visible and expected part of the research process rather than a separate, friction filled task. As Miller puts, it, **"Eighteen-year-olds don't want to fill out a form; they want to click."**

> "We saw interlibrary loan requests quadruple. Users weren't suddenly doing more research – they were finally able to see requesting as a normal, supported next step."
>
> **Randyn Heisserer Miller,** Associate Dean for Collections, Discovery, and Digital Initiatives, San Diego State University

Reliability: Metadata quality as a discovery asset

> "One of my talking points is always in favor of metadata, and in favor of excellence in metadata."

Nancy Babb, Discovery Services Librarian, University at Buffalo

Metadata remains central to effective discovery and unified systems focus librarians on where to apply effort. Rather than treating metadata work as an end in itself, libraries can align it more closely with user experience.

Strong metadata determines whether resources surface at all, how they are ranked and how clearly formats and access options are presented. In unified environments, issues with relevance or clarity in discovery can be traced back to **specific metadata decisions, allowing staff to focus their expertise where it matters most**.

Within Alma, tools such as the Metadata Assistant reflect a broader move toward supporting reliability at scale. As collections expand and formats multiply, maintaining consistent bibliographic description becomes difficult to sustain through manual work alone. The Metadata Assistant uses AI to suggest descriptive elements when records are created or enhanced, drawing on information from the resource itself while remaining aligned with established cataloging standards. The workflow remains fully mediated: catalogers review, refine or reject suggested metadata and add local expertise where it matters most. By accelerating routine description while keeping professional judgment in control, the AI Metadata Assistant helps libraries **address backlogs and improve consistency without sacrificing accuracy, strengthening the metadata foundation that discovery depends on**.

Readiness: Linked data as discovery infrastructure

Some of the most significant changes to discovery readiness occur at the level of metadata structure, not just metadata quality. For decades, **MARC** has provided a reliable framework for bibliographic description and continues to underpin library operations worldwide. Its durability is not in question. At the same time, MARC's record centric structure can limit how explicitly relationships between works, creators, and subjects are expressed.

Linked data models approach bibliographic description differently. Instead of treating each resource as a self contained record, they represent works, instances, people, and topics as distinct but connected entities linked through defined relationships. **This entity based approach allows metadata to express context more directly and integrate more easily with other systems and knowledge sources, both within and beyond the library environment.**

In practice, adopting linked data does not require abandoning existing workflows or formats. Many libraries are beginning with hybrid approaches in which MARC works alongside **BIBFRAME**, the Library of Congress–developed linked data model for bibliographic description, allowing staff to **introduce linked data concepts gradually while continuing to work within familiar systems**. As with other backend changes, sustainable progress depends on building on professional expertise rather than bypassing it.

This kind of structural readiness becomes more important as discovery systems incorporate AI. Entity-based metadata provides the context these systems need to interpret meaning, describe relationships and offer assistance that is transparent and accountable. Linked data does not replace existing practices. It allows AI-supported discovery to remain anchored in authoritative structures shaped by librarians rather than opaque external models.

While users may never see these metadata structures directly, **they shape what discovery systems are capable of over time, particularly as discovery becomes more context driven and AI assisted**.

Expertise: Automation, AI and professional judgment

> "Tools that help users communicate better with the system are promising, but we're intentional about where AI fits. It has to support both discovery and the teaching mission."

Nancy Babb, Discovery Services Librarian, University at Buffalo

What distinguishes AI adoption in academic libraries is intention rather than novelty. Librarians are making clear distinctions between general-purpose, unclear AI tools and Academic AI: capabilities designed for library contexts, grounded in trusted content and embedded in professional workflows and developed by librarians for librarians. This approach allows AI to support discovery without weakening trust or the library's teaching mission.

Automation and AI are increasingly part of backend library systems, but libraries are approaching these tools with caution. The goal is not to replace professional judgment, but to support it.

Across Alma and Primo workflows, Academic AI is implemented as guided assistance inside librarian-defined processes to strengthen the underlying systems that discovery depends on. For example, Alma's Metadata Assistant helps catalogers accelerate routine description and improve consistency at scale, while keeping every suggestion reviewable and reversible so staff can accept, refine or reject it in line with local practice and standards. In Primo, the **Primo Research Assistant** enables libraries to embed trusted AI directly into the discovery workflow students are already using, helping them refine queries, orient to a topic and move from results to understanding while remaining grounded in library-curated content and policies. This human-in-the-loop approach aligns with librarian values by prioritizing transparency and accountability, reinforcing trust in discovery results, and ensuring professional judgment remains the final authority. By improving metadata quality and supporting research interactions within the same unified environment, these AI capabilities help deliver **better discovery: clearer records, more reliable relevance and fewer user dead ends**.

This balance reinforces trust while allowing libraries to adapt their discovery infrastructure as expectations continue to evolve.

Discovery as an outcome, not a feature

In this environment, AI is not something added to discovery at the surface. It emerges from unified systems, strong metadata practices and deliberate design choices that keep human expertise central. By investing in the work that happens behind the scenes, libraries position their discovery platforms to offer clearer paths, richer context and more meaningful engagement—now and as expectations continue to shift.

Curious to see it in action?

Request your personalized Alma and Primo demo and get a guided walkthrough with one of our library specialists.

Get in touch here.