The character of the global research environment is changing rapidly, and stakeholders including funders, universities, researchers, businesses, and publishers and libraries are all impacted in significant ways. Governments and funders are increasing their investments in research and requiring accountability. Research institutions are developing new ways to measure the effectiveness and impact of their research programs and researchers. New forms of collaboration are emerging. Publishers and libraries are seeking to understand and align their roles in an increasingly open environment.

This emerging ecosystem is characterized by intensified activities at all levels. Five characteristics of the new environment are particularly noteworthy:

- **Growth orientation**
- **Collaborative impulse**
- **Evaluative focus**
- **Competitive aspect**
- **Open publishing**

### Growth orientation

Growth in R&D expenditures reported by governments, nonprofit organizations and private industry worldwide from 1996 to 2009 doubled (from US $522 billion to US $1.3 trillion), well outstripping...
the rate of growth of global GDP. Many governments and funders justify these investments with expected ancillary economic, social, health and welfare benefits. These investments have yielded tremendous increases in outputs such as scholarly publications (3.5 percent per annum) and patents (a 70 percent increase in patents between 1995 and 2009).2, 3

Collaborative impulse

Research is increasingly collaborative in character. The average article has four co-authors and, if current trends continue, will reach eight authors by 2050.4 More than 60 percent of scholarly articles have more than one author, and more than half of those authors are from more than one country.5 In the science sector, hybrid research teams are emerging that include non-university partners, such as colleagues from government and private industry. All actors within the emerging global research ecosystem are competing for resources, researchers and recognition.

Evaluative focus

New ways to evaluate the impact of research are also emerging, supplementing the traditional emphasis on publishing in journals with high impact or influence factors. These new measures of impact at the article level include usage and citation data, as well as a new set of “altmetrics,” alternative measures that rely upon social media statistics such as “captures” and “social mentions.” Efficiency is assessed at the individual researcher level by measuring research income, as well as new measures such as the h-index and g-index.

Competitive aspect

All actors within the emerging global research ecosystem are competing for resources, researchers and recognition. Researchers constantly strive to increase their research efficiency and are impatient with access restrictions. A 2009 study of Indian scholars confirmed their preference for scholarly sharing of their research through informal communication rather than interlibrary loan (ILL).6 A 2012 study of American scholars revealed their preference for searching for a free online version of an article before requesting an official copy via ILL.7

Impatient with the speed with which citations appear, researchers are seeking out more timely ways to assess the impact of their articles while an article is in the process of publication or shortly afterward.8 Research institutions place an increasing emphasis on improving institutional efficiency. New research profiling systems and assessment tools such as SciVal, Symplectic, InCites, and VIVO support internal assessment and evaluate institutional competition. Benchmarking with peer institutions is a common practice. The number of global university ranking systems has grown dramatically during the past several years. Some institutions have professional staff dedicated to tracking their institutional data in order to (among other things) ensure high institutional placement within the rankings.

Open publishing

The rapid growth of openness in research practices and outputs is an important aspect of this new ecosystem. Gold open access (OA) article content is growing at 30 percent per annum according to one recent study, suggesting that gold OA articles could represent 60 percent of all articles by 2020.9 New genres of open publishing such as research data and educational resources are emerging. Innovative gold OA business/publishing models are appearing. We are witnessing the emergence of OA policy development at a global scale. The Global Research Council, which represents more than 70 government scientific funding agencies worldwide, issued a statement in May 2013 supporting OA. The G-8 science ministers issued a similar declaration in June 2013. National and regional OA policies are in place or under development in the European Union, the UK, Australia, the US and Canada.

Open content responds to the desire among researchers for ready access to research outputs, removes barriers to collaborative work within multi-sector research teams imposed by licensing, and reduces legal, technical and administrative costs associated with content licensing. The emerging research ecosystem is one in which research acceleration and open access are likely to be mutually reinforcing trends.

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8. The San Francisco Declaration on Research Assessment which emerged from the American Society of Cell Biology exemplifies this trend. http://am.ascb.org/dora/
Designing libraries for research collaboration in the network world

By Sheila Corrall, Professor and Chair, Library & Information Science Program, School of Information Sciences, University of Pittsburgh, Pittsburgh, PA, USA

Digital scholarship and the problem of research data offer libraries the chance to shed their “support service” label and become research collaborators. Yet academics often see the library as “a dispensary of goods,” not project partners.¹ Studies on this issue have surveyed service innovation² and skills renewal³ in research libraries, but not structural designs. In summer 2013, I explored how UK libraries are organizing and presenting their services and expertise to support e-research. My sample was the 24 members of the Russell Group of leading research universities.⁴ The findings confirm that many libraries are gearing up for more active roles in research.

Integrated library and computing services have fallen from favor. A decade ago the combined information service organization was the dominant model in UK universities.⁵ Recently, however, several major players (The University of Nottingham, University of Bristol, King’s College London, London School of Economics) have de-converged. Another high-profile example, the University of Birmingham, re-converged the library into a new academic services division with education-related and student-facing functions, excluding the previously merged computing services.

Reporting lines for library and information services have shifted. University library directors traditionally reported to an institution’s vice chancellor or president or, more recently, to a deputy or another senior academic administrator (e.g., a pro-vice chancellor). Three-quarters of the sample now report directly or indirectly to the chief operating officer, alongside an array of other professional services, ranging from finance and human resources to students and research support. The switch from an academic to an administrative grouping may give libraries the advantage of not aligning them specifically with learning and teaching.

Library structures mix function and market/subject elements. The size and shape of the superstructures vary, with leadership teams of three to eight members. The titles of positions and divisions also vary. Some libraries combine one or more functions, but they consistently use five main groupings:

- Academic services/research and learning support (usually subdivided by subject field)
- Collection development/information resource management
- Special collections and archives/heritage collections
- Customer services/reader services/user support
- E-strategy/digital services/information technologies

New senior positions and titles are signaling strategic priorities. Libraries have created leadership positions or extended and relabeled familiar operational functions to emphasize or focus on critical areas. Research services is just one example of a renamed operational area. Some libraries are renaming former academic liaisons as academic engagement or even relationship management positions. Additional examples of new or renamed positions are directors or heads of archives and information management, assessment, library services development, resource and innovation services, and scholarly communication.

Subject liaison arrangements are being enhanced and remodeled. Despite its critics,⁶ the system of assigning named individuals as subject librarians for academic departments, schools or disciplines remains a vital element of UK research library design. Of the study’s 24 members, 22 used this system, and one other was working toward its introduction. Different labels are used, but titles including “liaison” outnumber those using “subject.” The number of positions ranges from six or eight at the smallest institutions to 32 or even 52, with an average around 14. Many have team structures mirroring the institutional structure of colleges or faculties. Some have strengthened their models with assistant liaison librarians or liaison assistants.

Digital scholarship and the problem of research data offer libraries the chance to shed their “support service” label and become research collaborators.

Two unusual cases at either end of the spectrum offer possible future models. The University of Southampton senior team includes the librarian, deputy and five heads of faculty services, providing a subject focus at the top table. The University of Manchester has replaced a longstanding model of academic liaisons for faculty teams with three teams (for research services, teaching and learning, and academic engagement), with liaisons part of strategic marketing and communications.⁷

Specialist research positions are emerging as a significant trend. Although subject liaisons have traditionally provided research support, policy shifts and technical complexities in the research environment have prompted rethinking. Many libraries recognize the need for higher-end services (e.g., bibliometrics, research data management) and strategic coordination of specialist activities within and beyond the library.⁸ They have cross-cutting roles with titles such as library liaison manager (research) and research support leader, and new coordinator positions or specialist teams for research skills, systematic reviews, data curation and open access publishing. These new positions at operational, team leader and senior levels are creating matrix/hybrid structures and new career paths. There is a similar trend in the US.⁹

Groups and websites are promoting boundary-spanning services. Beyond the library, many directors and specialist staff are coordinating institution-wide policy...
development and implementation—especially for research data and open access—with academic and professional colleagues in steering committees, project boards, action groups, and implementation teams. Three-quarters of the libraries offer unified support for researchers through websites that try to present useful and meaningful information instead of professional jargon or a list of services. A notable trend is websites bringing relevant library, technology and other support together, irrespective of the provider. A good example is the King’s College London Library website, Support Through the Research Lifecycle.10

New websites, groups, positions and other structures are enabling libraries to promote their expertise, build relationships, and position themselves as key players in the research arena. LC

This article is based on a presentation at the 2013 LIBER Annual Conference in Munich, Germany.

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Growing data management support services in the University of Virginia Library

By Andrew L. Sallans

At the time of writing Andrew L. Sallans was Head of Strategic Data Initiatives and Data Management Consulting Group, University of Virginia Library, Charlottesville, VA. He is now managing partnerships, collaborations, and funding for the Center for Open Science, a technology start-up non-profit organization focused on making the scientific workflow more open, transparent, and reproducible.

In May 2010, the University of Virginia Library recognized the potential obstacle that broader data management requirements for federal funding might pose to the institution’s sponsored research projects. As a preemptive step, we established a new data management service unit. Initially called the Scientific Data Consulting Group, this unit targeted science and engineering researchers who had the most at stake—those supported by the US National Science Foundation.

Scope of services

Today, as the Data Management Consulting Group, we serve all research areas across the university and offer three main services covering the entire data life cycle:

- Pre-project data management planning
- Project support
- Post-project archiving

We offer free consultation to all researchers at the institution, provide training workshops, and run an annual boot camp to help graduate students develop broader data management skills in a group environment.

Assessing data management needs

As we planned our services, our team asked select researchers about existing data management and sharing practices to evaluate how difficult it would be to respond to new requirements. This structured series of interviews also helped us promote the new service mission, introducing the library investment and the strategy behind it.

While we had many of the needed competencies before starting this work, we have had to continually gain deeper knowledge of the research process and real behaviors in a wide range of domains.

After two years of providing services—mainly consulting on preparation of data management plans for funding proposals—our team reevaluated the landscape and worked with our Office of Sponsored Programs to conduct an informal private audit of all submitted data management plans. This helped us to develop a more complete picture of sponsored research planning practices, and to refine many of the assumptions that we had developed while consulting.

In both our initial and secondary assessments, we observed many of the same issues. Researchers were often unfamiliar with—or unaware of—the new data management planning requirements and didn’t know how to respond appropriately to many of the topical areas. We heard many researchers compare the new data requirements to the broader impact requirements in the 1990s, and many called the changes trivial or marginal in terms of actual proposal ranking. Though we dreaded hearing it, we were (and still are) frequently asked for boilerplate language to submit directly with the rest of the proposal.

In parallel with the insufficient understanding of requirements or solutions, we also found that institutional policies are out of sync with the increasing trends for public access to research products. While funding and contractual requirements usually trump institutional policies in the end, these inconsistencies still cause significant confusion for those working at the operational level. Through our services, we strive to help researchers clarify and understand policies, licensing guidelines and practices. This improves the general transparency of the research data management process and helps us advocate for policy revision.

A collaborative approach

As a complement to our various assessment efforts, consultations, and training programs, our participation and leadership in various community initiatives has also been incredibly helpful in expanding our understanding and skill in supporting the data management needs of our researchers.

For example, we led the development of the web-based DMPTool project with several other institutional collaborators and an extensive community of users. Through this project, we participated in a much broader conversation about the issues with colleagues from funding agencies, national research institutions, other universities, and all parts of the research support ecosystem.

All of these activities have been vital to the process of growing our services. While we had many of the needed competencies before starting this work, we have had to continually gain deeper knowledge of the research process and real behaviors in a wide range of domains. Establishing these new services has been challenging at times and not always seen as an appropriate path for the library. However, we have built strong relationships at many levels to support our new services, and we continue to revise and improve our approaches to gain a better understanding of our users and their needs. We believe that these services are fundamental to the success and growth of research within our institution. LC

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The library is an essential element in the strong culture of research excellence at The University of Queensland (UQ), an Australian university that has been ranked repeatedly among the world’s top 100. By developing and maintaining partnerships with clients across the university—including senior executive staff and researchers—the library has been recognized for the integral role it plays in supporting learning, discovery and engagement, and its delivery of services that support and benefit the research enterprise.

UQ Library Metrics Service

The library supports the university’s mission by providing advice and practical assistance in citation metrics for research evaluation and research performance measurements. This also highlights the library’s role as a partner in scholarship.

The use of metrics in research evaluation has become increasingly important both in a global context and within Australia. The government’s Excellence in Research for Australia program has resulted in an increasing emphasis on tracking research outputs and understanding their academic impact within the UQ community.

Individual academics are aware of the importance of using relevant metrics to support claims of research excellence in research grant applications and promotion rounds. UQ Library staff work closely with individual researchers to provide targeted, contextualized information and detailed advice about tools and methods for tracking research outputs and their impact. The service is tailored and reflects the significant disciplinary differences in applying metrics solutions for research evaluation. An understanding of the context in which the metrics are being used is essential to being able to provide relevant information. Developing and maintaining relationships with researchers throughout the research cycle is critical to delivering this service.

Research managers appreciate that citation metrics, when aggregated to different levels across the institution, can provide useful data about the performance of a research group, a discipline or field of endeavor, a school, a center, or the entire university. Important information about the nature and extent of research collaborations can also be gained through, for example, an analysis of co-authorship patterns, which contributes to the university’s business intelligence.

For research managers and heads of organizational units, library staff provide custom advice on research performance based on citation metrics. In these cases, the staff develop the scope, extent and capabilities of the service with the organizational unit. For senior executives, the UQ Library is an important source of business intelligence, providing custom advice on research evaluation and citation metrics, and tailored reports on collaborative publishing activities.

Resources/toolkit

The UQ Library is the main source of citation metrics data for the UQ community. Through subscriptions, we provide access to the major commercial providers of citation information, including Elsevier’s Scopus. The UQ Library hosts and manages the institutional repository UQ eSpace, the authoritative source of UQ publication data. Thus the UQ Library is well placed to engage with UQ academics on issues relating to publications, including citation metrics. To ensure the usefulness of UQ eSpace as an open access repository and beyond, the library:

- Augments the institutional data with Scopus citation counts, through a combination of manual data entry and automated integration of the external data using web-based APIs
- Tracks UQ research outputs and their impact through ongoing integration of external data sources (current projects include introducing an automated bibliometric profile with h-index calculations and career citation counts for UQ academics)

The UQ Library also subscribes to Elsevier’s Scopus Custom Dataset for 2005 onward, to enable year-specific and discipline-specific benchmark calculations. We incorporate article-level metrics in our repository and aggregate this data to various levels (such as individual, research group, or organization) by combining it with institutional data. With this dataset, we have developed visualizations such as collaborative publication patterns at the country and institution level, and tag clouds of the subject areas of our collaborations. We can, for example, visualize how collaborations with an institution have changed with time by looking at the subject areas of the co-authored publications. The following tag clouds show publications co-authored by UQ and Imperial College London:

Acknowledgement: Cameron Green, a senior web developer with the UQ Library Technology Services, is responsible for working with the Scopus Custom Dataset.
Pull out and display the Camp Research Library poster on pages 8-9
Welcome to Camp Research Library, where the library counselors are here to teach the skills you need to survive and thrive. From newcomers to experienced campers, you will have access to the best equipment and instruction for the tasks at hand. By the end of your stay, we want to ensure your full development as a researcher, collaborator, and contributor to your Research Nation.

Library Lodge & Research Commons

**Activities**
- Skills instruction to help you earn your badge
- Individual counseling for your Research Nation
- Target practice to increase your impact
- Campfire for all nations to meet and mingle
**Researcher**
Master search and discovery, source evaluation, PDF management, proper citation, and copyright.

**Collaborator**
Establish research identity online, participate in academic networks, and seek mentors/collaborators.

**Contributor**
Publish in reputable journals, discuss your work (blog, conferences, social media), and share your data.

**Library Lodge & Research Commons**

**Research Data**

**Research Impact**

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Librarians and institutional assessment tools: A new opportunity

By Elizabeth Brown, Scholarly Communications and Library Grants Officer and Subject Liaison Librarian, Binghamton University Libraries, Binghamton, NY, USA

More and more academic campuses are acquiring access to institutional assessment tools to track faculty productivity and identify peers and competitors. How can libraries and librarians use these tools to support campus programs?

Increasingly larger citation data sets can now provide author-level and institution-wide dashboard information. This is possible through the adoption of author identification schema (such as ORCID and Scopus Author Profiles), incorporation of grant funding data linked to individual journal articles, and standardization of institution names and profiles. Semantic search algorithms can now identify relationships between researchers—including collaborators and peers who produce similar work—and compare productivity levels to gauge effectiveness of research programs.

Supporting research analysis with SciVal®

SciVal Spotlight is one tool that identifies research strengths and relationships between researchers from both a subject discipline and interdisciplinary perspective, drawing from the Scopus citation database along with Scopus Author IDs. It can also move beyond the traditional boundaries of academic disciplines to compare researchers within similar programs. Comparative profiles within Spotlight allow subscribers to compare the output of research and also the distribution of research among various disciplines.

Spotlight uses collections data to help support specific research programs, as each research competency lists cited and referenced publications. These lists allow a library to quickly identify specific sources to support emerging programs as well as more established research projects. Spotlight also creates collective data on sources so a library can quickly identify its institution’s most cited and published sources. Libraries can compare the distribution of library budgets to the representation within Spotlight to identify potentially underfunded programs.

Spotlight provides the ability to view not only current collaborations, but also collaboration opportunities. Drilling into the data provides details about external researchers for potential collaboration, as well as recruitment possibilities. Additional applications of Spotlight data include the analysis of faculty within the institution’s areas of strength and productivity rankings of the institution’s researchers.

The institutional assessment tool landscape

Other institutional assessment tools (such as InCites, developed by Thomson Reuters) use similar citation data sets to create output measures. Academic Analytics creates an output chart using publication, grant funding and awards data to show percentile rankings for academic programs within an institution. Academic Analytics also provides quintile distributions of faculty productivity within academic programs.

What features might these assessment tools have in store in the future? Creating and linking individual author profiles within an institution is a logical next step, as well as deeper analysis of research collaborators between institutions, or perhaps investigating researcher productivity at different career stages. They could analyze which institutions are more successful in obtaining federal funding and whether this success results in more citations per article or wider dissemination of work among highly ranked universities and programs. There are many potential applications for institutional assessment tools—expect to see expanded functionality and wider adoption in the future.

Library Connect webinars

Did you participate in a Library Connect webinar over the past four months? More than 2,000 librarians from around the globe have and given the webinars high ratings for their useful content. Topics discussed to date include raising researchers’ reputations and navigating open access choices.

To view or sign up for future webinars, visit: http://libraryconnect.elsevier.com/library-connect-webinars

Elizabeth Brown

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Elizabeth Brown
Organize, collaborate, cite: Tools to help students and researchers

By Helen Josephine, Head Librarian, Terman Engineering Library, Stanford University, Stanford, CA, USA

Academic libraries provide websites, databases and discovery tools as the main pathway to the articles and books that researchers need. However, many students and researchers are challenged to find the best method to archive and share these research articles with research groups and to format the citations for the final paper or grant proposal.

Instruction is key

The library staff at the Terman Engineering Library at Stanford University learned that many students were not aware of the bibliographic or citation management tools available to them. In response, we developed a workshop to compare the capabilities of several bibliographic management software programs and help them choose the best tool to meet their needs. Many had never heard of these tools and others relied on out-of-date systems. Both new and returning students expressed frustration at not being able to keep track of downloaded articles or quickly change citation styles to meet the requirements of their professor or lab group.

The Stanford University Libraries provides workshops and help for EndNote and EndNoteWeb, Mendeley, RefWorks and Zotero. The Terman Engineering Library offers most of the workshops during the fall term, but the Lane Medical Library and the Branner Earth Sciences Library also offer workshops. Some librarians offer sessions within classes at the request of the instructor.

A groundswell for Mendeley

In August 2009, Mendeley was introduced on campus and spread from researcher to researcher due to its cost structure (the basic version is free), ease of use, and collaboration features. For example, within the School of Education, a student endorsement of Mendeley’s ability to organize article downloads and format citations was included in the welcome letter to incoming graduate students. The growing and sustained usage of Mendeley among students and researchers in the sciences, the social sciences and engineering led us to investigate and license Mendeley Institutional Edition (MIE) for the entire campus in August 2012.

Mendeley was created to facilitate the research workflow with web-based and desktop software not limited to a specific operating system or web browser.

Within the Stanford Mendeley group we could offer our students more storage, the ability to create more private groups, and one-click linking to the full-text journals that we license. Within three months, 500 students and faculty had joined the group. Today we have over 880 members from across campus. The top five disciplines based on numbers of users are biological sciences (157 users), engineering (154), medicine (67), electrical engineering (65) and computer science (59). An additional 1,900 Mendeley users registered with a stanford.edu e-mail address have not yet joined the Stanford Mendeley group.

Facilitating research workflow

Mendeley was created to facilitate the research workflow with web-based and desktop software not limited to a specific operating system or web browser. It assists researchers with the challenges they face in using a variety of discovery and database tools each with a different method for full-text download or citation export. This often leads to disorganized files, multiple downloads, and misplaced or mislabeled downloads.

Other researchers use multiple desktops or need mobile access in the lab or in the field to the research articles they have downloaded. This past summer, a Stanford researcher in Senegal used the web access to Mendeley and her desktop library of articles while she was working in the field. This allowed her to keep in contact with her faculty advisor and share articles and information related to her anthropology fieldwork.

Public and private groups

A key feature of Mendeley is the ability to create and join both public and private groups to share knowledge and information. Public groups share the citations to the articles and comments from users on the topic. For example, I am a member of the public group Reinventing the Scientific Paper, along with 600 other Mendeley users. Within this group, members share information on articles and discuss topics related to new forms of academic publishing. For each article, I can view the date it

Mendeley AT A GLANCE

Mendeley is a free PDF organizer, reference manager and academic social network comprising:

- 2.5+ million users globally
- 500,000 documents (including open-access and user-uploaded documents)
- 1,800+ Mendeley Advisors (product enthusiasts around the world)

To sign up for your own free Mendeley account, visit www.mendeley.com.
Students and researchers are adopting bibliographic management tools with features that support the discovery, organization, collaboration and composition requirements of their research process or program.

A faculty member in the Electrical Engineering department has created a private group for each of the topics her lab is exploring. Each student is assigned to one or more private groups and is expected to find articles related to the topic and add comments for the other members of the group to review.

Tools, and instruction, continue to evolve

Students and researchers are adopting bibliographic management tools with features that support the discovery, organization, collaboration and composition requirements of their research process or program. The tools that provide enhanced search and collaborative capabilities are in high demand and will continue to evolve. The Stanford University Libraries provides access to these tools as well as instruction and support as part of the research services offerings of the libraries. LC

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Library Connect communication preferences survey

As Library Connect celebrates its 10-year anniversary, it’s time to rethink and refresh our communication channels and content forms. Please visit the following link and complete a short, 10-question survey to help shape the future of Library Connect.

https://www.surveymonkey.com/s/LibraryConnectSurvey

Sample questions

1. To read or view content for professional development purposes, I most commonly use a:
   - Desktop computer
   - Laptop computer
   - Smartphone
   - Tablet

2. My most frequently used professional networking channels are:
   - Academia.edu
   - Association groups (e.g., ARL, IFLA, SLA, LIBER)
   - Facebook
   - Google+
   - LinkedIn
   - Mendeley
   - ResearchGate
   - Other: ________________
When it comes to ordering eBooks, a certain experience has become standard: the ability to conduct a simple search, view book covers, add your choice to a shopping cart, and easily check out. Librarians have been ordering eBooks in this manner since 2012 via myElsevier.com. On this e-commerce platform for Elsevier’s institutional and corporate customers, librarians can purchase a wide range of Elsevier’s eBooks, article packages, collections and databases, which then become part of their institutional holdings. They can also renew their ScienceDirect and database subscriptions on myElsevier.com.

Chrissie Boeyens, the University of Pretoria’s e-resources librarian, enjoys the convenience of picking out individual titles. “It’s very easy to use,” she commented, “and what I really like is that it reminds you of what you’ve already ordered.” With many institutions now ordering hundreds or even thousands of eBooks, that history and prompt can be very helpful.

“If I cannot find a title, I send a query email via the website,” said Daléne Swanepoel. Daléne is in Stellenbosch University Library’s Acquisitions Department and is responsible for ordering monographic material. “The response generally comes quickly, with a quotation.”

But where the experience may differ from other mega-sellers is that Daléne and Chrissie still know whom to call if they have a question that can’t be answered easily online.

“People still like to know that there is a real person they can contact,” said Stefan Blanché, the Elsevier account manager for both Stellenbosch University and University of Pretoria. “Though it may be a unique situation to them, we have that wider frame of reference to help troubleshoot and solve the problem quickly. It’s also helpful to have someone to contact who knows the local language and culture.”
Embracing the digital library

By Wayne Sime, Director of Library Services, Royal Society of Medicine, London, UK

Wayne Sime explains why the National Health Service changes mean that medical librarians should no longer fear digitisation and why the time has come for them to truly embrace the digital library.

When I joined the Royal Society of Medicine (RSM) in 2006, a year before the Kindle was invented and four years before the iPad dominated the tablet market, the RSM’s library was a very different place.

Footfall was low, books and journals could take an age to locate as library staff and members needed to use card catalogues to retrieve items. Librarians could often take days to deal with more complex requests and often when they were able to provide the information, books from the historical collection were found in varying states of deterioration.

Fast forward just a couple of years and despite gradually replacing hardcopy books and journals with electronic versions, the wide reaching impact of commercial eBooks and tablets meant that our members, mostly made up of busy junior doctors and senior clinicians, were becoming frustrated that clinical reference material was not more readily available in a digital format to help them in their daily role. In addition, the RSM was reputed as the largest provider of Continuing Professional Development (CPD) training in the UK and it was our duty to ensure that members could find the training materials they needed in order to continue practicing.

As with virtually every other aspect of their lives, members wanted content to just “be there,” with no blockages or difficulties. Whether that was in the hospital setting on the ward or even at home while doing research, medical professionals needed information as quickly and as easily as possible.

So what next?

However, we faced the same challenges and questions as the many NHS organisations looking at the implications of digitisation. Would the building still be needed if almost everything was online? How would the role of the librarian change? Was going electronic really affordable?

With the library being one of the major reasons our 21,000 members joined the RSM, irrespective of our concerns, the demand could not be ignored. We knew that it was imperative that we did not just become a medical archive and a new strategy was developed, which made digitisation a key strategic priority.

The outcome has been astonishing. The implementation of electronic resources, including recent products such as ClinicalKey, which has seen more than 3,000 journals including The Lancet titles and around 1,500 books accessed directly online, has increased the footfall through the library dramatically. In fact in 2006, 16,000 people came through our doors, and this year we are expecting over 30,000 visitors. Not only is this a record number of visitors for the library but also satisfaction rates for the library service are at an all-time high.

Keeping pace with change and demand

But why has providing information electronically had such a positive effect on the organisation? The amount of information that clinicians need access to is constantly changing and increasing. The vast amount of clinical trials, patient data and new drugs available combined with patients who are much more informed about their conditions, mean that clinical reference material is becoming much more complex and readily available in greater quantities.

Clinicians struggle to keep on top of this using books and journals alone and often if they are not provided with an easy option, they will turn to the likes of Dr Google as a last resort. This can be problematic for clinicians in identifying whether the information they come across is really trusted and whether they feel confident that they are using the right information to make decisions, which may ultimately affect a patient’s life.

It is because of this that medical librarians are becoming even more relevant and important to clinicians. Many clinicians struggle to find the answers that they need and require training and assistance in searching databases to find research evidence to answer clinical questions. In many ways, the librarian’s role is increasingly moving towards becoming a trusted advisor, providing the collective ability to integrate services and practices into teaching and learning processes.

One day a medical librarian might help a doctor to find guidance for treating a rare condition, the next a manager might ask for evidence to support a staffing decision. Either way the role of the medical librarian is vital in helping to obtain and translate research into meaningful knowledge to ensure decisions are made based on the best and most up to date evidence possible.

Medical librarians on the NHS frontline

Digitisation is also changing the role of the medical librarian and extending their remit beyond the walls of the physical space, moving the information to the clinician’s workplace as opposed to waiting for them to come to the library—something that many healthcare professionals may increasingly struggle to find time to do. Librarians have the opportunity to become part of the frontline, which can be incredibly rewarding in seeing how patient care has been improved as a result of their role.

We see that digitisation is simply a way of enabling medical librarians to cope with the increasing demand on them to provide more information to the people who need it most, often using less resource. This challenge is likely to become even more prevalent as the financial strain on our NHS continues.

As for the expense, we are reaping the benefits of using electronic resources. Our librarians are able to use their time more effectively as there is far less laborious searching for information. Although we continue to grow our content, we no longer have to worry about where new books and journals will be housed and are able to provide our members with enhanced working spaces. There will be less need to replace older books that are in poor condition and we are providing far greater access to our members at the same cost to them, as multiple people can view clinical reference material simultaneously.

By the beginning of 2014, we expect all of our journals to be electronic. We anticipate footfall continuing to increase and have no doubt that the library will continue to evolve as the NHS faces more challenges and technology advances. For now, we are confident that the changes we are making are supporting the medical professionals of today in the best way possible. LC

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Knovel’s outreach programs for engineering and science librarians

Librarians know that engaging programs and materials make it easier to reach students with messages about best-in-practice tools. The team at Knovel, a cloud-based application for engineers that integrates technical information with analytical and search tools, has made it easier to find those resources.

Science and engineering librarians can visit a new portal focused on enhancing the student experience with Knovel: http://academy.knovel.com

The site contains information on the Knovel University Challenge (an online quiz), the Student Ambassador Program, and links to study guides reviewed and approved by engineering professors to help students meet requirements of their engineering licensing exams.