Do you want a quartile with that?
An innovative solution to
maximising strategic publishing options

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Abstract:
Supporting Research Excellence and Impact is a key operational priority for the University of Adelaide Library. In 2022, the library joined other Australian universities by undertaking Council of Australian University Libraries Read and Publish agreements with key publishers. However, the resulting complexities associated with these agreements were identified as a constant challenge for our users; consequently, our Research & Engagement team received increasing numbers of strategic publishing enquiries. In response, the library developed an innovative solution to overcome these challenges. This paper will explore the rationale, development, promotion, and enhancement of the tool from a user-centred and technical perspective.

The University of Adelaide Library

The University of Adelaide is ranked in the world's top 100 universities and is recognised as a research-intensive university. The University's strategic plan *Future Making* prioritises *Research that Shapes the Future* as a strategic pillar, with a focus on performance in competitive grant funding schemes and increasing the quality and volume of publications and citations.

The University Library offers a wide range of high-quality resources and services to support this priority, aiding researchers and research students throughout the research lifecycle. Support is provided by the Research & Engagement team, with Liaison Librarians aligned to Faculty providing tailored assistance, which is provided both in person and online, with a focus on scalability.

Library priorities are underpinned by our Strategic Themes, Guiding Principles and Operational Plan, all of which are aligned to the university's strategic priorities. A key Strategic Theme of the Library is to *Enable Open Scholarship*, to maximise the global visibility and impact of university research.

Background

In 2022, the University of Adelaide Library joined other Australian universities by undertaking Council of Australian University Libraries (CAUL) Read and Publish (R&P) agreements with key publishers.

R&P agreements use a publisher pricing model combining traditional library subscription fees with Open Access (OA) Article Publishing Charges (APCs) into a single payment. They allow authors of institutions with an agreement to publish OA in subscription journals without separately paying an APC.

Our Senior Manager, Collection & Access Services has responsibility for assessing and managing R&P agreements, and our Manager, Research Engagement has responsibility for outreach and engagement of agreements. The managers meet on a regular basis to discuss agreements, including details of how they are being used by our research community.

Rationale

The emergence of R&P has required our research community to understand a new concept. If researchers wished to take advantage of an agreement, they were required to follow a complex process to determine journal eligibility. This included navigating comprehensive CAUL webpages and lists to determine if a journal was covered by an agreement, and additionally whether the agreement was held by our institution. This was identified as a constant bottleneck and pain point for our users. Feedback regularly indicated that the process was difficult and time-consuming. Furthermore, our Liaison Librarians found it increasingly challenging to provide prompt R&P advice to time-poor authors, as this process involved checking multiple lists; for many researchers, this process became progressively frustrating and onerous.

Six months into the first subscription period of R&P agreements, our Research & Engagement team identified that there were still misunderstandings amongst our research community regarding how R&P fit within the wider publishing and OA context. Increasing R&P uptake was a key objective of the Library's Operational Plan for 2023. The conceptualisation and development of a strategic publishing selection tool would enable the library to highlight our R&P agreements and encourage uptake. Further to this, the tool would provide our Research & Engagement team opportunities to actively engage in discussions about R&P with our research community.

These discussions resulted in repeated suggestions that we could vastly improve the process for our users by providing a single list of journals available only within the parameters of our institution's specific agreements. Subsequently, discussions were held with our Manager, Library Applications about the possibility of creating a bespoke list, which served as the guiding concept of our strategic publishing tool.

Development

After consultation with the Research & Engagement team to outline the problem, the Manager, Library Applications analysed the various data sources required to develop a solution. The initial solution design was guided by the concept of 'more is better'.

This first iteration used data individually sourced from 12 different vendors, the Directory of Open Access Journals (DOAJ), the Excellence in Research for Australia (ERA) list (2018 at the time), and local university-preferred journal lists. However, much of the data sourced was not consistent and/or directly comparable, necessitating the development of a purpose-built database schema.

The early days

Data preparation involved the creation of an intermediary Excel document, which was used to collate all relevant data prior to it being loaded into our customised database. While Extract, Transform, Load concepts would typically be the preferred methodology for this task, the inconsistencies of the data, the ever-changing nature of the sources, and a desire to 'keep it simple' required consideration of an alternative approach. Our chosen sources were loaded into the custom database to create linkages and relationships between them and the R&P lists. Database views and indexes were then developed to provide functionality.

It quickly became apparent that development in this direction would result in a solution too complex to be sustained by our available resources; however, for the proof-of-concept, it was a relatively useful and productive exercise, illustrating the disparities and relationships between each respective data source.

This then led to the development of the prototype proof-of-concept web application, which took the form of a conventional search interface (Figure 1).

Figure 1. Prototype Search Interface

With this initial concept successfully returning basic search results, rudimentary styling was added. A link to this prototype solution was supplied to the library's Research & Engagement team for initial user feedback. Meanwhile, background development continued in order to enhance search capability, improve performance, and refine both functionality and visual appeal.

Promotion and initial feedback of prototype

After an internal review by the Research & Engagement team, the Manager, Research Engagement consulted a variety of stakeholders within the university in order to collect feedback on the released R&P Journal Search Tool ("the tool"). This engagement asked stakeholders to consider the searchability of journals (by title, subject, and field of research (FoR)), the functionality of the tool, including exporting results, and the value and relevancy of the results and information returned.

This feedback provided valuable insights, from both a technical and usability perspective. Stakeholders identified ambiguous labels and missing search results as primary usability issues, and consistently highlighted a desire for further improvements. Suggestions for enhancement included the inclusion of additional metadata (i.e. journal rankings data from Clarivate, Scopus, and ShanghaiRanking), and the ability to filter search results. Feedback was collated and discussed with the Manager, Library Applications to determine the next steps for incorporating these user insights into the future development of the tool.

However, initial feedback regarding this prototype was overall very encouraging. Our research community indicated that the tool made the task of checking the availability and eligibility of journals included in our R&P agreements much easier, and therefore saved them valuable time, thereby fulfilling two of the fundamental objectives of this project.

Later days: Can I have a quartile with that?

Like many other universities, our Research & Engagement team were increasingly fielding publishing enquiries regarding journal rankings. Examples of these enquiries included how to access and use the platforms that provide metrics information (i.e. Clarivate, Scopus, and ShanghaiRanking), how to assess journal quality, and how to search for reputable discipline-specific journals. This led to further discussions exploring the idea of incorporating quartile rankings into the tool.

Parallel to this project, work was occurring to support the R&P realm in another area: analytics. This analytics project involved the collection of data reflecting the uptake of R&P agreements within the university, the corresponding cost savings, and the quartile rankings of the journals in which our authors had published.

It was clear that the data gathered from this analytics project would successfully address the desired inclusion of quartile rankings within the search results of the tool. This analytics data was prepared and modelled using Microsoft's Power BI, a process which strongly resembled that which was undertaken to produce the database for the tool; different methodologies yielding very similar results.

The team responsible for conducting the analytics project was the same team tasked with the development of the tool. This team possesses far greater comprehension of, and familiarity with, use of Power BI and Excel Power Query compared with database development, in part due to the widespread application and user-friendly nature of these Microsoft platforms. Indeed, Murray (2020, p.228) describes Excel Power Query as, "a nice easy-to-use interface with buttons that many Excel users will recognize. Most operations can be performed without knowing advanced formulas or any code".

Recognition of the similarities between these two projects led to yet further reconsideration of the technologies used to develop the tool. A key objective of the project was to make the tool less reliant on software development, primarily due to the increasing scarcity of in-house technical expertise. Microsoft's Excel Power Query was chosen as a replacement option to address this concern as, "Power Query can carry out the simplest data transformation tasks to the most complex data restructuring challenges in a few clicks" (Aspin 2020, p.xx).

At this stage in the process, a consolidated R&P journal list became available from CAUL. This online list contains all journals covered by R&P agreements negotiated by CAUL. This both simplified and streamlined vendor sources, albeit still requiring some data cleanup. This newly available data was loaded into Excel's Power Query tool, where it could be dynamically transformed and matched against previously collected data. Where once the tool was reliant on communicating with a somewhat expansive database, we now possessed the ability to uncouple the disparate data sources and redevelop the tool to be more lightweight and agile, as it was now based upon a much less complicated dataset. Additionally, this enabled us to incorporate the quartile ranking data with ease - an elegant solution to a previously arduous process.

Promotion (soft launch)

The tool was soft-launched in Quarter 3 of 2023, with a focus on Liaison Librarians promoting the tool in one-on-one appointments and when responding to publishing enquiries from our research community. This enabled us to focus on user testing and introduce enhancements in response to user feedback as it was provided.

Later, our Manager, Research Engagement developed a communication plan incorporating targeted outreach activities across various channels. This enabled us to promote the tool to research staff involved in publishing. A key feature of this

communication plan was demonstrating the value of information across all R&P agreements, specifically promoting the 'search by subject' capability of the tool and highlighting discipline-specific journals. This facilitated targeted promotion to disciplines, such as humanities, who were not previously aware of the journals within their field covered by R&P agreements.

The Research & Engagement team have subsequently hosted R&P webinars during which the search tool has been demonstrated. The resulting feedback indicated that the tool was the 'most useful' part of the session, and that researchers found it 'easy to use' and 'much clearer' than navigating the CAUL list.

Usage

Usage of the tool was initially modest as it was predominantly used by the Research & Engagement team in order to demonstrate its use to researchers during user engagement activities. Once the Communications Plan was implemented, usage increased to approximately 500 searches per month by 40 users, statistics of which appear to align with the research publishing cycle. Usage is expected to increase as more researchers become aware of its existence and overall benefits.
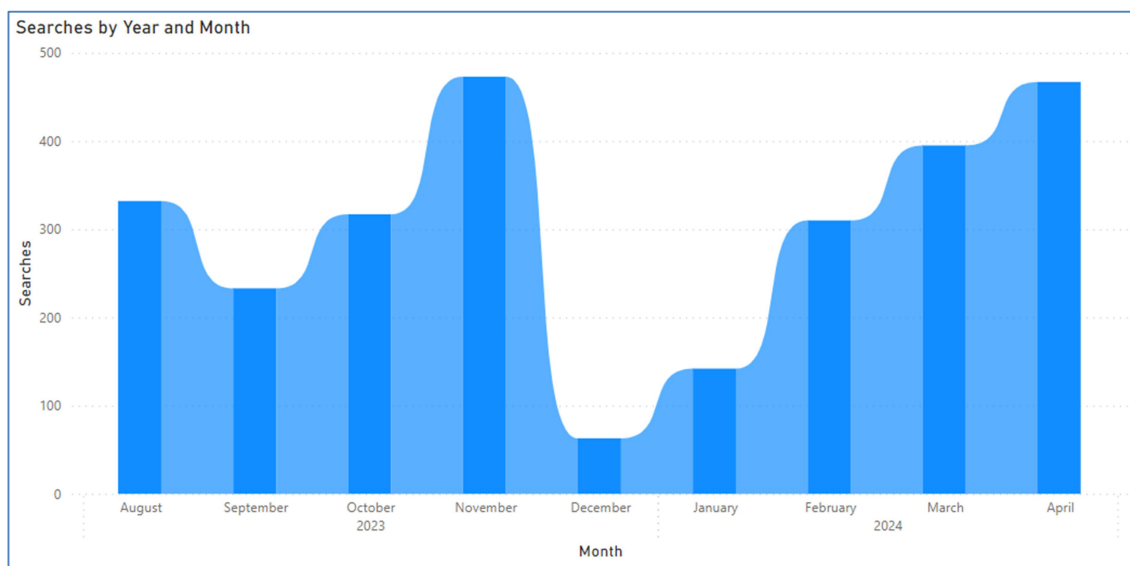

Figure 2. Searches by Year and Month (August 2023-April 2024)

'Search by title' was initially implemented as the default search function and was therefore used three times more frequently than 'search by subject'. After a later release of the tool, we changed the default search function to 'search by keyword', which searched across both title and subject area, and as such has now overtaken as the preferred search function.

Ongoing analysis demonstrates that our postgraduate students are the predominant users of the tool, followed by staff within the schools of psychology and education, with consistent usage spread across our other faculty areas. 'Dementia', 'microbiology', 'veterinary', 'policy and law', and 'historical studies' were the top search terms between August 2023 and April 2024.

Early development of a usage dashboard has begun in order to provide the Research & Engagement team of a more nuanced breakdown of how the tool is being used. Data, including search area (keyword, title, subject) and search terms, is being captured to analyse how the tool is currently being used, as well as to provide insights into the faculties within the university least and most engaged with using the tool. This has resulted in further opportunities for the Research & Engagement team to use lack of engagement with the tool as a conversation starter. This team has the capacity to directly communicate with staff within the relevant disciplines and discuss how the library can better support them through their publishing journey, including how best to utilise the tool.

Enhancements and next steps

Response to some of the more significant user feedback provided requires further consideration and planning, to ensure that it will not affect existing functionality and usability. Functional developments, including the ability to filter and/or selectively export search results, are currently underway to further enhance the effectiveness of the tool. Our Research & Engagement team staff are continuing to record and communicate anecdotal feedback and observations from users, based on their experience, to aid the Library Applications team in the ongoing development and improvement of the tool.

Administrative enhancements are currently being discussed which would allow our Research & Engagement team to flag any journals that have reached their quotas under the R&P agreements in order to provide up-to-date information to the research community.

Tailored communication plans are underway, led by the Manager, Research Engagement to further promote the tool to the wider university community. This is expected to be delivered in Quarter 2 2024.

Conclusion

In conclusion, the tool developed has successfully addressed a significant challenge for our research community. Whereas time-poor users were previously forced to engage in a relatively complex and arduous process in order to source journals covered by R&P agreements, they are now able to quickly generate search results of relevancy and value with ease. The conceptualisation and development of the tool has required extensive collaboration between the Research & Engagement team and the Library Applications team in order to achieve our intended objectives, and required considered, but agile responses to contemporaneous user feedback. Our future focus will now be on continuing to partner with our stakeholders to deliver appropriate enhancements to the usability and functionality of the tool, and further bolster the university's operational priority of *Supporting Research Excellence and Impact*.

References

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