Producing, Owning and Managing Knowledge in the 21st Century University

Fieldwork Report

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Owning Knowledge

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The authors are strongly committed to independence and integrity in research and the ethical norms of funded research in intellectual property. No third party has exercised control over the design of the research or the findings and analysis, and no external party has the power to prevent or otherwise control the publication of this report.

Executive Summary

Between 2020 and 2022 we conducted fifty (50) interviews with researchers, research managers and administrators, and librarians from ten (10) Australian Higher Education institutions and two (2) Australian funding bodies. We asked participants open-ended questions about their experiences with and opinions about research policies and practices within higher education institutions in Australia. Participants were asked about policies and practices relating to intellectual property (IP), authorship, collaboration, publishing, open access, data management and Indigenous research.

Our aim was to understand how individuals and institutions navigate the governing frameworks around managing and publishing research in Australia.

Our findings include:

Research policies

- Participants reported that institutional research policies are out-of-touch with research practices.
- Researchers lack confidence in managing intellectual property rights, and struggle to find help in understanding the application of university IP policy.
- Most researchers were unsure about whether they or their university owns the IP in their research outputs. However, most were comfortable with the idea of their institution taking IP ownership.
- Indigenous research policy is underdeveloped in Australian universities. It is generally approached as an issue of ethics, with little provision for Indigenous Cultural and Intellectual Property (ICIP) and Indigenous data sovereignty.
- Data management policies lack precision. They do not distinguish well between different types of data and data at different stages in the research cycle, especially with respect to data best suited for open data sharing.

Research practices

- Researchers are struggling to produce more work with less time and resources, and early career researchers (ECRs) bear the brunt of workload pressures, frequently working throughout evenings, weekends and holidays.
- Researchers perceive a disconnect between formal research policies and promotion procedures, which prioritise ‘quality’ publications, and pervasive university rhetoric about impact and engagement.
- Researchers feel persistent pressure to publish in high-ranking journals, even at the expense of broader accessibility.
- Researchers may receive conflicting messages about research priorities from university-level management and discipline-level management, and they navigate these tensions with difficulty.

Publishing and open access

- Participants were critical of the commercial academic publishing industry, asserting that for-profit publishing models are misaligned with academic goals of sharing research far and wide.
- Academics feel exploited by publishers that rely on their free labour for tasks such as peer review for quality control.
- Academics feel disempowered in their interactions with publishers, especially with respect to copyright ownership and open access. Most academics sign whatever publishing agreement they are given – some because they are not confident in their understanding of the contract, some because they lack the time to unpack its complexity, and many because they feel that they do not have any power to negotiate contract terms.
- Some participants had a good understanding of open access, but many conflated open access with payment of article processing charges (APCs) to publishers.
- Researchers think that APCs charged by publishers are excessive, and they struggle to source funds to pay for APCs from diminishing research budgets. Some researchers resort to paying APCs from their personal funds. APCs can reach five figures for a single article.

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Introduction

The academic publishing ecosystem in Australia is complex. This ecosystem includes not only the production and dissemination of knowledge by universities, but the governance frameworks, policies and procedures that surround research and its dissemination, as well as the data and metrics used to evaluate research and its impact in the world.

Universities have policies on authorship, intellectual property (IP), commercialisation, data management, research management, impact and engagement, and open access, all of which affect who owns university research, how it is credited and disseminated, and how it may be used. These policies must interact with rules and conditions imposed from outside the university, including copyright law, and employment law and contracts. Research funders such as the Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC) have rules about funding management and, in some cases, mandate open access to research.

Publishers have standard form publishing agreements and licences that apply to copyright in research outputs, and which may make open access prohibitively expensive. Where research involves Indigenous communities, additional complex questions of communal input, control, and benefits arise, which are reflected in codes of practice and specific agreements.

These policies and rules are drafted by different people, with their own goals and agendas, and implemented within universities across departments and at different levels. Inevitably, policies diverge or conflict. For individuals working within the research ecosystem, navigating the complexities that arise from the many and sometimes divergent policies can be difficult. Researchers may be unaware of all the rules that apply to them and can struggle to reconcile the tensions between competing demands and expectations. Poor management of knowledge ownership and dissemination can thwart research objectives: outcomes may not be useable; projects may be delayed or stopped; articles may not be published, or unnecessarily restricted to limited audiences.

These problems can put a brake on scholarly advancement, engagement with lay audiences, and the real-world impact of Australian university research.

Our project sought to examine the tensions at the heart of research production, ownership and dissemination in the Australian tertiary sector: a copyright system predicated on limiting end user access, a research impact agenda that depends on broad societal engagement with research outcomes, and the complex policy arrangements that govern the higher education environment. This report documents findings from interviews with researchers, research managers and university librarians across Australia, in which we explored understandings, opinions and attitudes about research management, production and publication, including open access to research.

Methods

The project completed fifty (50) interviews with participants from ten (10) Australian higher education institutions and two (2) Australian funding bodies:

- University of Melbourne,
- University of Sydney;
- Curtin University;
- University of Newcastle;
- James Cook University;
- University of New South Wales;
- University of Technology Sydney;
- Queensland University of Technology;
- University of South Australia;
- Flinders University;
- The Australian Research Council (ARC); and
- The National Health and Medical Research Council (NHMRC).

Institutions were from cohorts including the Group of Eight (Go8), Innovative Research Universities (IRU), Regional Universities Network (RUN), Australian Technology Network (ATN) and non-aligned institutions (Figure 1).

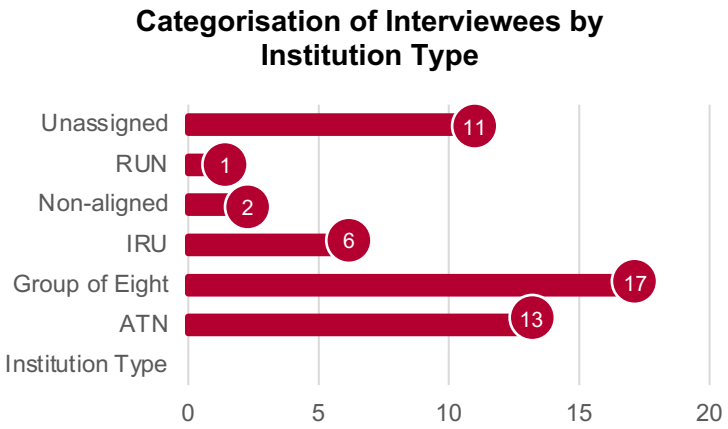


Figure 1. Categorisation of Interviewees by Institution Type

Participants were from various disciplines across science, technology, engineering, and math (STEM), humanities, arts, and social sciences (HASS), and communications, business law and education (CABLE) (**Figure 2**). Participants also held various positions within institutions, including Pro Vice Chancellors (PVCs), Deputy Vice Chancellors Research (DVCR), Deans, Associate Deans Research (ADRs), Heads of School, research centre Directors, researchers, and other positions within university management, administration and libraries. Many of our interviewees occupied multiple positions – for instance, many were active researchers while also holding management positions. In **Figure 3**, we have identified participants by their primary position, so that the 'Researcher' category identifies those who do not also occupy management or support roles – in general, early career researchers (ECRs).

Categorisation of Interviewees by Discipline

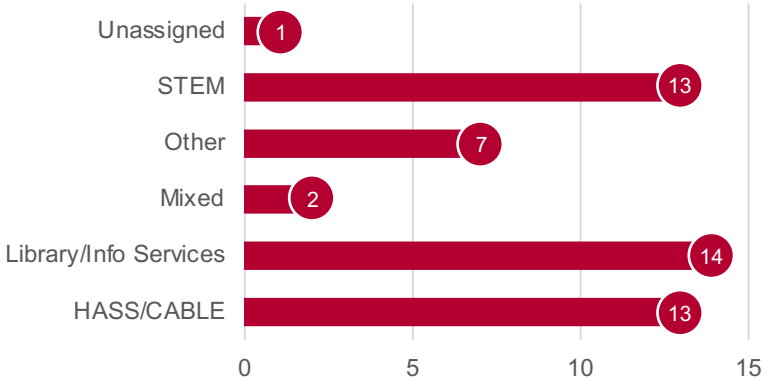


Figure 2. Categorisation of Interviewees by Discipline

Interviews ran for approximately 40 – 60 minutes and were conducted at various locations by members of the project team either in-person (Sydney, Melbourne, and Queensland) or online via Zoom. During the interview, participants were asked open-ended questions about their experiences within their institution or funding body with respect to research practices and policy, intellectual property arrangements, publishing and publishing advice, use of repositories, data and metrics.

Categorisation of Interviewees by Position Held

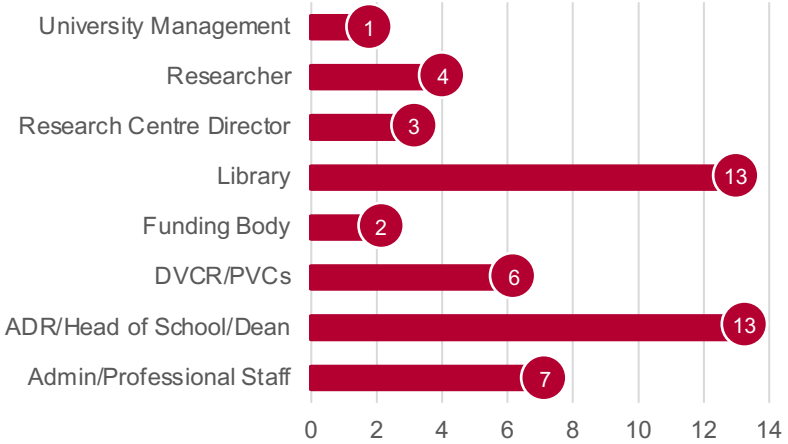
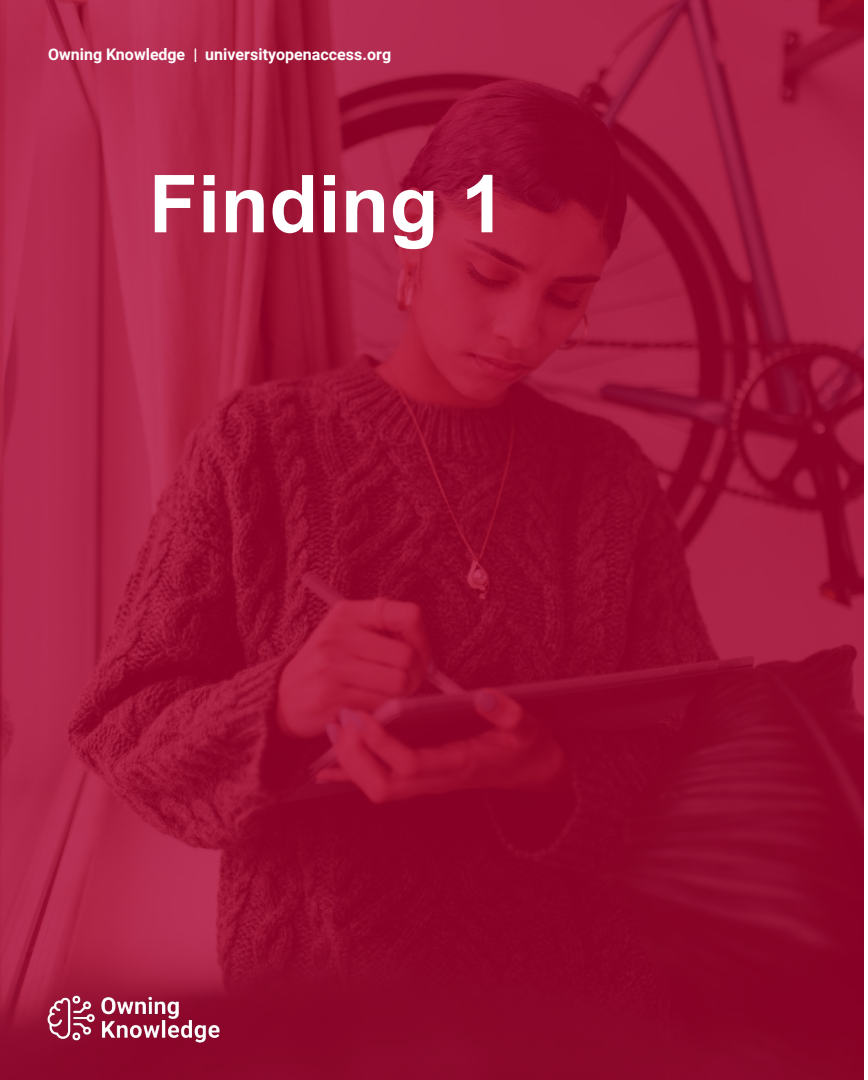


Figure 3. Categorisation of Interviewees by Position Held

Interviews were recorded and transcribed, and then coded for thematic analysis. To ensure rigor, initial coding was undertaken by two project team members working separately, who then compared results. We subsequently refined the coding scheme as a team, with input from subject matter experts.



Finding 1

Research policies and practices are poorly aligned, and are confusing for researchers

Research at Australian universities is managed through institutional policies that include intellectual property policies, data management policies, authorship policies, research ethics policies, open access policies and commercialisation policies. The development and carriage of these policies is often taken up by different groups within a university, such as the Office of the Deputy Vice Chancellor (Research), the library, the legal office, and the commercialisation team. Despite university management's efforts at policy cohesion, it can be difficult for a researcher to know where to find guidance within their institution about research management, dissemination, and ownership, let alone across institutions when they are collaborating with researchers from other universities.

Mapping the university policy landscape

Early in our project, we undertook a mapping exercise of research policies within six Australian institutions to gain a better understanding of how well policies worked together internally and cross-institutionally.

We analysed policies relating to authorship including intellectual property (IP) and moral rights, attribution, and co-authorship, as well as policies relating to scholarly and research outputs including open access (OA) and research data.

As a result of this mapping exercise, we found that the policies vary significantly across the sector. For instance, some institutions assert copyright ownership over scholarly works including journal articles created by staff (e.g., QUT), while others vest copyright ownership of scholarly works with their creators (e.g., UniSA). Some universities explicitly deal with Indigenous cultural property or Traditional Knowledge within their IP policy (e.g., USyd), whereas others do not (e.g., UNSW). Some, like UTS, consider Indigenous knowledge and research both within the IP policy and in a standalone 'Indigenous policy'. Across the sector, there are various approaches to open access and to the strength of the mandates or expectations that staff deposit research outputs in their associated institution repository.[1]

These initial findings were used to inform our interviews and the questions we asked about policy within institutions.

[1] See further, Kathy Bowrey, Tom Cochrane, Marie Hadley, Jill McKeough, Kylie Pappalardo and Kimberlee Weatherall, 'Managing Ownership of Copyright in Research Publications to Increase the Public Benefits From Research' (2024) Federal Law Review https://doi.org/10.1177/0067205X231213676

We asked our interviewees to share their thoughts about research policy development and management at their university. We also asked whether our interviewees felt confident that they knew where to find relevant policy documents and that they understood the research expectations contained in those documents.

Several interviewees expressed to us that research policies felt out-of-touch with research practices. They felt that policy was drafted as a one-size-fits-all solution that did not meet the differing research needs of STEM disciplines and HASS disciplines. Policies were not “living, nimble documents” and often did not adequately consider or appreciate the broad range of connected issues within research. One interviewee analogised the policy landscape to a garden containing “lots of different little plants that haven't really been pruned and adapted to each other.”

> [T]he policy framework is very extensive. It's pretty clear that it's been growing as a... well, lots of different little plants that haven't really been pruned and adapted to each other.

When asked about policy leadership in the sector, interviewees tended to associate strongly with the general grouping of their university. Participants from Group of Eight (Go8) universities believed that their institution led research policy in the sector, whereas participants from the Australian Technology Network (ATN) or regional universities saw their institution as following the lead of other, research intensive universities.

The following sections outline three specific areas where policy caused issues for interviewees: intellectual property (IP); Indigenous research; and data management. Open access (OA) policy is also a major challenge, which we cover separately in Finding 3.

Intellectual property policy

Intellectual property policies and procedures were cited by interviewees as one of the most problematic policy areas within the higher education sector. An overwhelming majority of interviewees either were not familiar with their institution’s IP policy or were confused about the policy’s application. This was

particularly the case for interviewees outside of the legal discipline, many of whom insisted that their understanding of IP was limited or admitted that they avoided interrogating IP concerns because IP was “too hard”. Where interviewees did make inquiries within their institutions about IP matters, they were frequently referred to the IP policy but were not given additional support in understanding it. One researcher told us that they thought the university tended to “hide behind policies”. They said:

> …it's a self-serve kind of model, rather than talking about having those, you know, conversations about what is a really, really good practice to have as a researcher, they will just say, ‘here's the policy, look at it yourself’.

The prominence that universities give to their IP policies varies across the sector – some universities have specific IP policy documents, whereas others have sections within other policy documents addressing IP. A particular point of divergence between institutions related to rights retention. Some universities claim copyright ownership over research works created by staff in the course of their employment, while others claim ownership only in teaching materials and permit staff to hold copyright in their own research works.[2] Most of our interviewees were unaware of the position at their home university.

We explicitly asked researchers what they thought about a university claiming copyright ownership in research outputs. We expected resistance, but overwhelmingly interviewees were unconcerned with such an arrangement. Most considered that rights retention by a university, as their employer, was a fair outcome, so long as they were not prevented from doing what they wanted to do with their research. As one STEM academic noted, “[the university] pay[s] for my time. It doesn't seem outlandish to me that the copyright rests with them”.

> The university pays for my time. It doesn’t seem outlandish to me that the copyright rests with them.

[2] However, those institutions that permit staff to own copyright in their research generally take a non-exclusive, perpetual, irrevocable, royalty-free, worldwide licence to use the scholarly work for educational, teaching and research purposes within the university.

Another interviewee considered that rights retention might mean that universities would be more engaged with helping their staff to understand and manage IP rights, especially in journal publishing contracts. At the interviewee's institution, where copyright is owned by the researcher, the interviewee found it difficult to get clear guidance on how to negotiate with publishers in order to retain copyright. They said:

> Because the researchers and academic staff retain the IP and the copyright over the works due to our IP policy, the Copyright Office don't see it as something they offer counsel on. It's sort of outside of their scope in terms of making sense of a publishing agreement.

We should note, however, that this interviewee was one of the few we spoke to who actively sought advice on publishing agreements. Most simply agreed to the publisher's terms, no matter how restrictive those terms were. Researchers noted that when considering publishing contracts (if they do consider them at all), the priority was to publish in a good journal as opposed to negotiating or challenging aspects of publishing agreements. One academic commented that, "I think that the desire to get into a good journal often overcomes any imperatives or hurdles to protect your own work".

Even though most researchers told us that they were happy for their employer to own copyright in their research, some expressed concern about whether this would impede them from publishing in their journal of choice. The concern was that journal publishers frequently present standard publishing agreements that require the researcher to assign or license their copyright. Sometimes, these agreements are delivered through an automated system, where the researcher must tick or click to agree at the time of uploading their article for consideration. There is usually little or no room for the researcher to negotiate contract terms. One interviewee noted:

> A lot of journals, anyway, make you tick a box at the time of submission saying, you know, I am the author and I own the copyright in the paper. Now, if the university says it owns the copyright in the paper, then you can't tick that box, which actually makes the mission more complicated again, unless the publishers also shift to allow for different kinds of boxes.

At those institutions where copyright in research and scholarly works is owned by the university, our interviews established that researchers have not been prevented from entering standard publishing agreement in practice. Universities that take copyright ownership in research works may assign the right to publish that work back to the employee or, in reality, have not asserted their ownership rights against publishers, even to push back against embargoes for inclusion of the work in an open access repository.[3] Nevertheless, interviewees expressed confusion about how their institutional IP arrangements are likely to interact with publishing contracts.

Some of the strongest statements about grappling with IP policy came from staff who are tasked with supporting researchers with their publication efforts, including research managers, research directors and research librarians. One interviewee noted their surprise that academics are often unfamiliar with relevant research policy:

> I do a fair bit of training in various ways and interacting with researchers… I am sometimes a bit shocked [about] people not even knowing what the authorship criteria are… And yeah, sometimes I'm a bit surprised that even the senior people don't seem to quite be across everything they should be, but I understand everyone's incredibly busy and there's a billion things to do and read.

Another interviewee highlighted their own discomfort with intellectual property, despite being the person that researchers approach for help:

> This whole space of publications, and who owns the IP and how to work through the contracts, and, you know, all that stuff? That has been, of all of the work I do, that would be the area that gives me the most anxiety because I know the least about it. And I feel the least equipped to help in that space.

The lack of confidence around intellectual property, for all staff, can result in ongoing confusions and tensions around institutional research expectations, publications, and open access, which we discuss in detail in Findings 2 and 3.

[3] See further, Kathy Bowrey, Tom Cochrane, Marie Hadley, Jill McKeough, Kylie Pappalardo and Kimberlee Weatherall, 'Managing Ownership of Copyright in Research Publications to Increase the Public Benefits From Research' (2024) Federal Law Review https://doi.org/10.1177/0067205X231213676

Indigenous research and policy

The way universities manage Indigenous research and IP varied across the sector. Some universities did not have policy specific to the management of Indigenous research. Others did have specific policy, but we found little evidence that these policies were being actively implemented – certainly, our interviewees were not familiar with Indigenous research policy at their institutions.

The Indigenous research space is heavily influenced by the *AIATSIS Code of Ethics for Aboriginal and Torres Strait Islander Research*.[4] The NHMRC policy document, *Keeping Research on Track II*,[5] is also used as a guiding document by institutions. It is noteworthy that when we asked interviewees about policy relating to Indigenous research at their university, many responded by discussing one or both of these documents.

In general, Indigenous research was framed as an issue of ethics. Institutional approaches overwhelmingly positioned Indigenous people as the subjects of research, rather than the creators of research. Our interviewees from upper-level university management (e.g., Deputy and Pro Vice Chancellors) failed to identify some of the more complex issues that arise when Aboriginal and Torres Strait Islanders are involved in research (whether as researchers or subjects), including Indigenous cultural and intellectual property (ICIP) and data sovereignty. When asked about research with Indigenous people and communities, researchers spoke extensively about protocols for engagement and communication, but few discussed the ongoing co-management of research outputs. Our interview data indicates that many institutions are only beginning to investigate questions around Indigenous data sovereignty, ICIP protocols and the empowerment of Indigenous researchers.

Among our interviewees, there was a general concern that university policies around Indigenous research tend to be aspirational statements that are difficult to operationalise. Overall, our findings with respect to Indigenous research policy indicate that there is more work required in this space to adequately address the way that Indigenous research is managed, disseminated and valued within the higher education research space.

[4] See https://aiatsis.gov.au/sites/default/files/2020-10/aiatsis-code-ethics.pdf.
[5] https://www.nhmrc.gov.au/about-us/resources/keeping-research-track-ii.

Policies relating to data management

In the university sector, data management policies usually relate to the collection, storage, and sharing of research data sets, and may extend to open data and open research infrastructure. Challenges posed by data-sharing within and between institutions have made the management of data an area of particular interest for universities. There may also be policies on data about research and research impact (as opposed to data that forms the basis for research), such as publication metrics and alternative metrics. For the purposes of our report, impact metrics (including alternative metrics) are discussed in Finding 2 b. below.

While many universities have institution-level data management policies, data management practices differ significantly between disciplines. Several STEM fields, such as conservation ecology and some subfields of genetics research, were relatively advanced in their practices around data management and sharing, but in general conversations around open data were in their infancy within institutions. Many interviewees indicated that they found data management policies confusing and unhelpful, largely because the policies did not define ‘data’ with sufficient specificity. Policies often did not distinguish between working datasets and final outputs, despite the storage and management needs being different for data-in-progress and final datasets. One interviewee lamented that data management policies are, on the whole, “very immature”:

> …universities haven't gone down the route of developing a clear position or collection statement around what they consider to be a dataset. So do you always assume it's working data, not necessarily data associated with the finished product...?

When asked about open data and data sharing, interviewees were divided in their opinions. Some were very supportive of data sharing, but many expressed reservations. As one interviewee explained, “people are… nervous about exposing their [research] process – a little bit of data – along the way.” This reflected a common sentiment that sharing works-in-progress and working

data might expose researchers to criticisms that would not arise with sharing the finished research output. Open data is often linked to discussions on OA publishing (see Finding 3 below); however, as highlighted by our interviewees, open data is potentially more sensitive than OA publishing. Several interviewees raised concerns about how others might misinterpret shared data, as well as anxieties around systems that could re-identify de-identified data. One interviewee noted that it was sometimes unclear how data-sharing practices that allowed data to be combined in new ways would interact with research ethics processes. They said:

> particularly in data that is obtained from people, and what ethics have been put in place to obtain that data, then of course, when you start to combine datasets, the ethics of the original ethics approvals may no longer work.

Finally – and somewhat peripherally – some interviewees expressed apprehension about data generated and collected about universities themselves, including data about researchers and their research metrics, and data about teaching and student populations. These interviewees were concerned about the potential selling of university data to publishers and other commercial entities, and the unknown uses of this data. As one person told us, “it's yet another example of academic information being hoovered up into commercial organisations, which we'll then have no control over”.

Finding 2

Researchers feel persistent pressure to publish, and feel exploited by publishers

In this part, we look at the role of publishing in universities – what university managers value about academic publishing and why, and how researchers feel about the pressure to publish and their interactions with publishers. Traditional publishing conventions have evolved so that researchers must now consider the extent to which their publications are discoverable, accessible and impactful, including open access (OA) publishing options; preprints, post prints and repositories; author rights retention; and research impact metrics. Overall, we found that many academics were unsure about how to navigate these publishing options. This uncertainty was exacerbated by sometimes mixed messages from their universities about what types of research outputs and activities are encouraged and rewarded.

What is valued at research institutions

Higher education institutions have long been considered places of prestige. They provide opportunities for furthering education and undertaking ground-breaking research, and academics often provide commentary on issues of global importance. However, in the Australian tertiary sector there has been a tension for some time between the dual roles of a university as a public institution and a commercial enterprise. This tension has manifested in a sort of murkiness in internal policies, university promotion frameworks, and reward and recognition schemes that are designed to signal to academics where they should spend their time and productive efforts.

For a long time, the dominant indicators of research success have been publications in top scholarly journals or conference proceedings and securing prestigious research grants from funding bodies like the Australian Research Council (ARC) or the National Health and Medical Research Council (NHMRC). The reach of an academic's research is judged by journal impact factors and citation counts. These measures remain important indicators of research success today. But they are only part of the picture. A burgeoning impact and engagement agenda has pushed universities – and researchers – to demonstrate the value of their research beyond the academy: to government, industry, and the broader public. Universities have responded by encouraging their employees to undertake applied research as well as core research, to collaborate closely with industry, and to engage in a variety of research translation activities including public talks, media appearances, social media posts, short form written pieces, and policy submissions. These activities now form part of the research workload in addition to continuing expectations to produce traditional research publications and secure external research funding.

For early career researchers (ECRs) in particular, it can be challenging and stressful to navigate the abundance of research expectations in a workload and time allocation that has not expanded in line with new research related tasks. Our data indicates that ECRs bear the brunt of workload pressures to produce more with less, and often respond to these pressures by

working outside of business hours in their personal time on evenings, weekends and holidays. One Dean of Faculty told us:

> We've got ECRs pumping out, you know, a large number of good quality papers. And when you actually sit down with them, they're doing that because they work 20 out of 24 hours, seven days a week. It's unsustainable, but they can't compete with everybody else… that really worries me, this kind of driver, which is about research not being funded properly, which is forcing our academics to do more and more work out of hours, and particularly our younger academics.

We asked the researchers we interviewed about how they understood and managed the research priorities at their institution and their thoughts on the impact and engagement agenda. Many of our interviewees raised the issue of a disconnect between formal policies and promotion requirements, which specify benchmarks for publications and grant funding, and pervasive university rhetoric around the importance of impact and engagement. As one interviewee put it: "[it's like] trying to serve multiple masters."

A related concern was that the metrics for measuring and recording impact and engagement are both overly relied-on and substantively under-developed. Publication metrics, such as citation counts, impact factors and H-indexes, are well established and widely used, though not necessarily widely embraced by researchers. One professor noted, "…metrics are a poor proxy for quality. Publishing within impressive places is another poor proxy for quality. But you know, they're used because we're used to it." Additionally, some interviewees observed that research metrics are tailored to STEM fields and, in many instances, are poorly suited to disciplines within HASS. Yet as problematic as publication metrics are, they are at least understood by both researchers and university management. This is not the case with impact and engagement metrics, which can vary widely and are used inconsistently within and across universities. Some universities have adopted 'altmetrics' to "attempt to capture research impact through non-traditional means",[6] generally

[6] Australian Academic & Research Libraries 121, 121; Jason Priem, Heather A Piwowar and Bradley M Hemminger, 'Altmetrics in the Wild: Using Social Media to Explore Scholarly Impact' (No arXiv:1203.4745, arXiv, 20 March 2012) http://arxiv.org/abs/1203.4745 ('Altmetrics in the Wild'); Jason Priem et al, 'Altmetrics: A Manifesto' (26 October 2010) http://altmetrics.org/manifesto/ ('Altmetrics').

through measures of attention such as media coverage, use in policy documents, and interest generated on social media and blogging sites. Some universities recognise non-traditional research outputs (NTROs),[7] though several of our interviewees complained that NTROs were not taken seriously at their institution. In general, however, there were very mixed opinions about the importance and relevance of impact and engagement metrics, both from our interviewees and in their perceptions about what is valued at their universities. As one interviewee noted, “There's still a huge disconnect between what the [funders], the university, and then individual disciplines see as being impact or see as being engagement related”.

Publishing pressures and choices

The academics we interviewed reported a persistent pressure to publish from their institutions. The overwhelming message from management is to publish in high-ranking journals, even at the expense of broader accessibility that might further an impact and engagement agenda. One academic and Dean of Research told us, “the primary concern [is] to get published in a good forum, whether it is open access or not”. In fact, several interviewees told us that they would be reluctant to potentially jeopardise their chances of publishing in a prestigious journal by making earlier versions of their paper (a preprint) openly available.

Others reported tensions between the advice received at an institutional level and at a school or discipline level about where they should publish. For example, some interviewees told us about boutique journals that are highly regarded and read in their specific research subfield or by industry partners, but which do not rank highly in overall journal metrics. In these cases, academics must make difficult decisions between publication venues that might boost their reputation among a targeted group of their peers and the top-ranked journals that university policies and incentives push them towards.

Another source of tension relates to collaborations and interdisciplinary research. Academics are frequently encouraged

[7] NTROs are outputs which “do not take the form of traditional research books, book chapters, journal articles or conference publications”: State of Australian University Research 2018-19 ERA National Report https://dataportal.arc.gov.au/era/nationalreport/2018/.

to collaborate with researchers outside of their discipline and across institutions, but report that this labour is not properly recognised in performance reviews and promotion schemes because metrics are weighted towards discipline-specific journals and field of research (FOR) codes or allocate higher rewards to sole-authored or first authored publications. A preoccupation with author order in university policies and procedures has cultural impacts too – it impacts Indigenous research more acutely, where multi-author outputs are more common in order to acknowledge contributions "a little broader than the traditional" authorship guidelines.

The pressure to publish is particularly omnipresent for ECRs, who can feel as though they face more challenges in progressing their research portfolios. ECRs are usually advised by colleagues and managers to establish their research track record by publishing as often as possible and in top quality journals. However, it can be more difficult for newer and less experienced academics to have their writing accepted into top ranked journals. There is a "pressure to achieve quality, and the ability to do so in a very competitive environment is extremely tense for academics who are trying to start out."[8] At the same time, ECRs are often juggling heavy teaching loads – sometimes in large, core units that are outside their research specialisation – and frequently take on extra service activities, such as sitting on committees or working groups. Further, in a fast-moving research environment, ECRs may have acquired new skills through their higher degree research training that turn out to be in high demand with their more established colleagues. For example, one ECR told us about discovering that his methodological skills were highly sought after in his new faculty:

> [T]hat's really what typified the early part of my career. It was like me putting to the side my own scholarship and my own kind of research interests to, you know, be a gun for hire, I guess you could say.

Publishers and publishing agreements

We asked researchers for their opinions on the publishing system, in light of the central role that journal publications play in research dissemination. Overall, our interviewees were critical of the

[8] Quote from interviewee, an Associate Dean of Research.

commercial publishing industry, asserting that for-profit publishing models were misaligned with academic goals of sharing research far and wide.

> I have opinions about the entire financial business model of academic publishing, which is that it is the worst, most cynical system imaginable.

Interviewees were critical of what they saw as a system centred on exploiting the free labour of academics; several of our interviewees expressed frustration and concern that unremunerated tasks like peer review and editing spilled into their personal time outside of business hours. We were told, “These journals… one could read it as exploiting the labour of academics. I, like many others, are constantly reviewing papers, and this eats up our time.” These are tasks that are generally not counted in university workload metrics but are expected to be performed as part of being a ‘good academic citizen’. One interviewee claimed that the peer review system made them feel like an Uber driver or a gig worker – i.e., that publishers often sent out bulk requests to review until someone “picked up the job”, with little effort to ensure that these requests were relevant or personalised for particular academics. Other interviewees felt that the modern publishing system required them to pay multiple times over for the same output – once in subscription or OA fees, and again in their labour. One academic told us that the current model involves universities “pay[ing] millions and millions of dollars every year to publishing houses that do very, very little other than scooping up licence fees”.

> Universities pay millions and millions of dollars every year to publishing houses that do very, very little other than scooping up licence fees

Most of the academics we interviewed did not read their publishing agreements before signing; if they did read their contracts, they seldom understood them with confidence. No one tried to negotiate their terms. The uncertainty felt by academics in terms of understanding IP, specifically copyright conventions of ownership and

authorship, coupled with the drive to meet institutional research benchmarks often meant that academics did not feel empowered to negotiate with publishers to secure better publishing contracts. As a rule, academics were “just dead keen to get [their work] published” that they signed whatever was put in front of them.[9] One interviewee explained:

> Negotiate with the publisher? No, not really. You know, there's a pro forma you sign when your article gets accepted. You're really excited. Yay. I've got a publication. You just sign whatever they ask you to sign it, then you just get it back to the publisher.

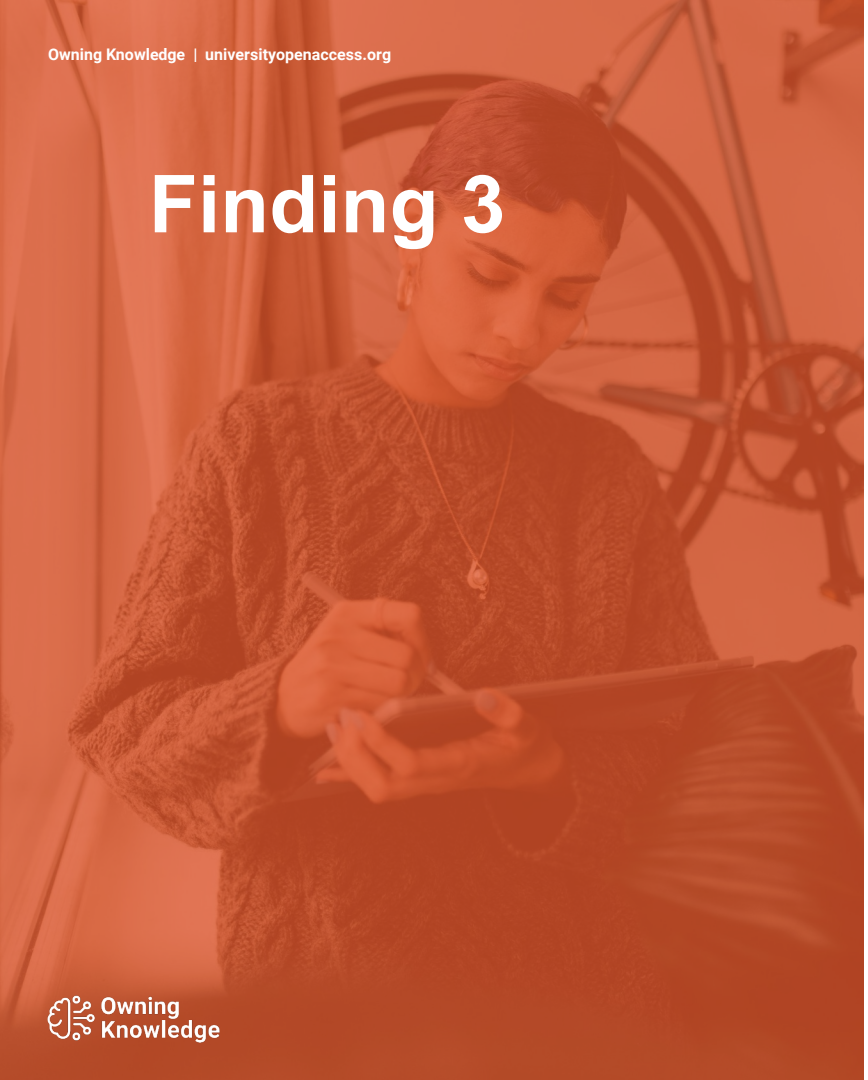
The overall view from our interviews was that publishers hold all the cards and academics have very little bargaining power. Even if an academic does elect to push back or ask for different terms, they have no recourse if a publisher refuses except to withdraw their paper, which would then necessitate another lengthy submission and peer review process elsewhere (and probably much the same contractual terms). As one interviewee said, “The power relationship is pretty clear, at least for most cases. What can you do? If they say no, well, sign it as it is, or don't sign it at all”. Another stated that publishing contracts are:

> … a necessary evil, there's not much to negotiate or debate about them, you can't really haggle over individual points. It's ... it's completely take it or leave it ... all the power is with them.

Some interviewees believed that these challenges were felt more acutely within Australia, as when compared to other western jurisdictions, “we are not a big part of the scholarly publishing market”.

Many of our interviewees did keep copies of their publishing agreements, but this was largely a default result of electronic copies being somewhere in their email inbox, from when the agreements were sent to authors by publishers. Very few of our interviewees kept copies of their agreements intentionally or stored them in any organised fashion.

[9] Quote from interviewee, a Pro Vice Chancellor.



Finding 3

Researchers tend to equate open access with article processing charges (APCs), and think APCs are excessive

Our project set out to investigate how research is managed in Australian higher education institutions, both in its production and in its dissemination. A key consideration in research dissemination is whether outputs are made open access (OA). For research funded by the ARC or the NHMRC, open access is an explicit condition of funding from those agencies. Studies indicate that research made open access is more likely to be read and cited, making OA a logical choice for academics seeking to boost their scholarly reputation. But for reasons outlined below, sometimes OA can be a confusing, contentious, or difficult option for researchers. We asked interviewees what they knew and understood about open access, how they felt

about it, whether OA was a goal they pursued in their own research dissemination, how OA was managed at their institution, and what they saw as the barriers to open access to research outputs.

[10] Our focus was not so much the questions of research commercialisation studied by others and emphasised by governments, but the publication and dissemination of the products of research as well as the management of relationships of authorship, co-authorship and collaboration.
[11] NHMRC Open Access Policy (updated November 2023), https://www.nhmrc.gov.au/about-us/resources/nhmrc-open-access-policy; ARC Open Access Policy, https://www.arc.gov.au/about-arc/program-policies/open-access-policy.
[12] There is a large literature on the impact of OA and citations in particular: for a recent summary see Zhiqi Wang, Wolfgang Glänzel and Yue Chen, 'How self-archiving influences the citation impact of a paper: a bibliometric analysis of arXiv papers and nonarXiv papers in the field of information science and library science', Proceedings of the 23rd International Conference on Science and Technology Indicators (STI2018), https://scholarlypublications.universiteitleiden.nl/access/item%3A2729127/download

What is open access?

Early in our project, we undertook a mapping exercise of research policies within six Australian institutions to gain a better understanding of how well policies worked together internally and cross-institutionally.

What are the conditions for open access?

Open access requires the copyright owner of a written work to consent to broad sharing without restrictions. Publishers frequently require authors to transfer copyright ownership to them before they agree to publish a work, or else they include terms in the publishing agreement that prevent the author from freely sharing their work. Open access can undermine publishers' business models, which have traditionally been based on charging people fees to access and read works.

Models of open access

There are two main models of open access. The “green model” involves researchers placing copies of their work in an online open-access repository. Often the version prior to editing and laying-out is made available because the publisher denies permission to make the “version of record” accessible to non-subscribers, even in a university institutional repository.

Institutional repositories are those which are managed and hosted by universities. They are often used by researchers to meet OA funding requirements (such as those set by the ARC), to ensure that their publicly funded research is made openly available to the public. Some researchers choose to use external discipline-based repositories which are not hosted by universities, these include, ArXiv, BioRxiv and PubMed.

The “gold model” of open access involves publishers making an article available to readers immediately and for free. It usually requires authors or their institutions to pay an up-front article processing charge (APC) to publishers, instead of publishers charging subscription fees to readers. Thus, the costs and profits of publishing are moved from the output side (subscriptions) to the input side (APCs). It should be noted that this model can be supported in other ways such as organisational subsidies, but in most academic disciplines the APC input has become the norm.

[13] See Kathy Bowrey et al, ‘Making Australian Research Free for Everyone to Read Sounds Ideal. But the Chief Scientist’s Open-Access Plan Isn’t Risk-Free’, The Conversation (15 November 2021) http://theconversation.com/making-australian-research-free-for-everyone-to-read-sounds-ideal-but-the-chief-scientists-open-access-plan-isnt-risk-free-171389.

Understandings of open access in the university sector

We found that our interviewees had a fair understanding of what open access is and how OA can further the reach and impact of research. There were varying degrees of understanding, however, when it came to how OA can be implemented in practice and the different models of OA. Many interviewees conflated open access with the gold model or, at least, when we asked about open access, they turned immediately to discussing OA journals and APCs (more on APCs below). One interviewee within the library argued that this might be due to intentional communication strategies by publishers – that misunderstandings about OA are something that many publishers purposefully encourage.

Many interviewees were unsure about whether open access was something their institution encouraged or expected, though most were clear that their universities wanted them to publish in “quality journals”. Some of this confusion may stem from the policy environment – as noted in Finding 1, there can be inconsistencies in how universities manage and implement open access and related policies such as IP policies. Many interviewees were guided by disciplinary norms rather than institutional directives. Some disciplines are more proactive than others in making versions of their research openly available. In some STEM fields, such as Physics and Biology, for example, the use of preprints is an established way to make early versions of research openly available through both institutional and external repositories. Within our interviews, academics expressed a range of opinions regarding the value of institutional repositories. In particular, interviewees from universities with more established repositories expressed more support with respect to the use and value of OA repositories. The technological ease of deposit made a significant difference to our interviewees’ opinions – the most common complaint about repositories was the perceived burden of interacting with poorly designed repository infrastructure. Some academics also expressed confusion about which version of their

work to deposit. Nevertheless, several interviewees noted that institutional repositories are useful to comply with funding requirements that their outputs be made openly available, and some considered that OA repositories helped to enhance their research profile.

Article Processing Charges

Academics had a lot to say about the article processing charges (APCs) that publishers charge to make journal articles open access. As well as resentment about paying fees at all, a strong theme to emerge in our data was a sense of frustration about where to source funds to pay for APCs and which departments within a university should be responsible for managing APC budgets. APC funds were secured by academics from multiple sources, sometimes in a piecemeal fashion. These sources included School budgets (with approval from the Head of School), Faculty budgets (with approval from Associate Deans of Research), library budgets, and university-level research departments (with approval from Deputy Vice Chancellors for Research). Trying to source and cobble together APC funds adds to the ‘busywork’ that researchers must perform outside of formal workloads. The data indicated very little coordination between departments on APC expenditure, meaning that university managers and administrators often had a limited understanding of how much was being spent on publisher fees across the university each year. As one interviewee noted, “I do have a lot of concerns. What I really don't like is the fact that it is so hard to work out how much has been spent. I'd feel much more comfortable if I knew what that spend was”. We found that there was no consensus across institutions regarding the way that APCs are funded, and most institutions do not have policy to guide the management of APCs.

Where APC budgets were managed centrally, they were usually subject to relatively strict eligibility requirements which tended to favour top journals from STEM fields, such as Nature and Science. Some of our interviewees from HASS disciplines expressed that they felt disadvantaged as a result. A disciplinary difference here is the strong focus on books as research outputs in HASS fields, and the extraordinarily high fees to make books OA (typically around USD

$15,000). Additionally, there was a general expectation from institutions that budgets for external grants, such as those from the ARC and NHMRC, should include a line item for APCs. Yet several of our interviewees expressed the opinion that funding bodies are more likely to trim OA costs from grant budgets than other costs. One interviewee told us:

> [E]ven though the ARC doesn't tell you what they're cutting, you could almost see what they were cutting. And that open access or that article processing charge would be the something that would be gone.

A major concern raised by both academics and management were accounts of researchers paying for APCs from personal funds. We were told several times about academics "actually funding [APCs] from their own pocket, you know… there wasn't a widespread pool of money within the university for people to draw on". This concern was especially acute with respect to ECRs and HDRs, who were likely to feel greater pressure to publish in well-known journals and who were likely to struggle to access funds to pay for APCs.

In general, our interviewees were highly critical of the amounts that publishers charge for APCs, with some noting that APCs were "a scam", "ridiculous" or "excessive" and caused researchers "a lot of headaches", and "a lot of stress". Researchers felt that the amounts charged did not reflect the costs incurred by publishers, but rather that "publishers charge what the market will bear". One interviewee stated that the APC system was "completely driven by what, to be frank, the publishers think they can get away with".

> I think the journals have done brilliantly of having us all over a barrel of producing for free with having to buy back our own material.

There was a sentiment that publishers had universities "over a barrel" because university rankings depend, in part, on 'quality' publications, but the cost of publishing in high-ranking OA journals seems to rise each year. At the upper end, some journals have been known to charge close to $10,000 per article. One interviewee told us that:

> … there was a significant trend in recent years that the amount that our researchers were paying, whether it was supported by the school or paying out of their own grants, that amount was going up very drastically, you know, to the to the order of, I think, a million or possibly several million within the Faculty of Science per year. So, yeah, a substantial charge that just didn't exist a few years ago.

Academics wanted more affordable article processing charges, but they also wanted to understand how the figures quoted by publishers were reached. As one interviewee said, “[S]etting aside what we feel about costs, my constant wish is for transparency, whatever the pricing is”.

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Academics found the lack of transparency especially galling because they felt as though they performed at least some of the publishing labour (such as peer review) for publishers for free, and then were expected to pay publishers’ high fees to make their own research accessible to colleagues. Several of our interviewees consider the publishing business model to be “exploitative” and “unjust”.

Conclusion

This report has provided an overview of the findings from our empirical work interviewing researchers, research managers and administrators, and librarians across Australia about university research policies and practices, copyright, publishing and open access. This work is part of a broader project funded through the Australian Research Council Discovery Project scheme (DP200110578) to explore potential improvements to the management of research in the Australian tertiary sector. A full list of our publications and links to our resources can be found at universityopenaccess.org.

Our fieldwork revealed that research policies within Australian universities – which include intellectual property policies, authorship policies, open access policies and data management policies – are not always internally consistent or consistent with established research practices. This leaves researchers confused about the scope and application of research policy in their professional activities and interactions with collaborators and publishers. Notably, many of our participants could not confidently say who owned the IP rights in their research outputs. It is not hard to understand why

researchers lack familiarity with IP and other internal policies, given the time and workload pressures that most academics operate under and the conflicting messages they may receive from different departments in their university about where their research priorities should lie. Our fieldwork also demonstrated that many researchers feel frustrated with commercial systems of academic publishing that draw on free academic labour and which often charge steep fees for open access to journal articles. As the creators of research outputs, academics play a pivotal role in the publishing ecosystem. Our interview data indicated that despite this key role in content creation, academics often feel as though they have limited power to make choices about how and where their research is disseminated. We believe that there are strong opportunities for university management to empower their employees and to ensure that Australian research is shared more effectively with the public that funds its production. We outline our strategies for university rights retention and better research management at universityopenaccess.org.