Australian National University

Universities thriving in a changing world: a submission in response to the Universities Accord Discussion Paper

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The University Accord Review is a chance to set the Australian University sector up, and to future proof it, for the next few decades. Accordingly, the outcomes should be informed by broader trends and likely directions of the world in which Australian universities exist and operate. This submission draws on my experience working with dozens of government agencies on foresighting and scenario projects as well as a specific research project on the future of the university sector. A short summary of the outcomes of that project has been appended to this submission. A longer version is available online at: https://nsc.crawford.anu.edu.au/publication/18199/australian-universities-thriving-changing-world

This submission briefly summarises a couple of important structural trends or drivers and articulates some priorities for Australian universities in response – with the relevant questions from the discussion paper noted in brackets. Future proofing a sector and any plans requires considering alternative future trajectories and challenging our current assumptions. Two such assumptions are flagged that are important to ensure robust outcomes.

Structural Trends and Implications

The future of Australia's higher education system will be fundamentally shaped by two broader drivers: the international environment and the ongoing effects of the profound revolution in knowledge and information we are still going through. Each of these is important and often under-appreciated . A new University Accord that disregards these broader changes will be ineffective and likely need revising with a few years.

The effects of these can be seen by contrasting today with the world many decades ago in which most Australian universities were founded. In that world, almost all of the leading global universities were in industrialised, Western countries. Within Australia, systematic research was scarce and access to cutting-edge information was very limited. Australian universities provided significant societal value through cutting-edge research and knowledge generation but also by facilitating far greater knowledge transmission into and access within Australia.

By comparison, the global university sector today is many times larger, with leading (and very well funded) universities across the globe, especially in China. Australia's university system has performed remarkably well on international comparisons given the size and funding available, but economic and geo-political trends mean that Australia as a whole and its university sector will almost certainly shrink in relative global weight.

At the same time, the internet and digital technologies have dramatically changed the dynamics of information production and flow. Whereas universities used to speed up knowledge transmission into Australia, today they play (at best) an auxiliary role. There are no technical barriers to anyone accessing

knowledge from anywhere in the globe – and the default today is to first look something up online and then talk to someone later if that doesn't provide answers.

When Australian universities were set up, we were grappling with information scarcity and delays. Universities helped reduce that scarcity. Today we have an information overabundance and people rarely need help finding information. What matters more is information quality and making sense of the vast amount of knowledge we can all access.

The higher education sector, through research, teaching and consulting, has the depth and expertise to help governments, businesses and the community make sense of the flood of knowledge available. However, in many cases this will require a mindset and incentives shift, as university cultures, regulation and funding structures have been historically based on success at producing new knowledge and transmitting it.

There is significant demand for experts who can make sense of information and the world, as it is increasingly necessary for the current global and national context we are living in. The world is more contested, more rapidly complex and our societal problems today are largely long-standing, wicked problems we haven't been able to already deal with. To meet Australia's future challenges, we need to be explicitly grapple with this complexity and contextualise information for our Australian situation – often with limited time to make important decisions. In this world, sense-making matters and universities are well placed to play an important role.

Priorities for the university sector

Given this, an Accord needs to be focused on valuing the importance of sense-making alongside traditional knowledge discovery, and ensuring universities that succeed in this space are rewarded. For research, this requires significant support for inter-disciplinary funding structures and incentives for responding to the complex problems that governments, businesses and communities bring to researchers today. Dealing with these complex problems requires live collaboration and partnerships, rather than the stable longer-term grants that have been prioritised in the university sector. People will look to someone to play the sense-making role and it will be captured by consultants, think tanks or independent researchers if universities are unable to deliver. (Q1, Q23, Q25)

Sense making also matters for teaching and education. Students today will often come to university already knowing a wealth of information about their chosen topics of study. If they are interested enough to study something at university, they are often interested enough to have watched online videos, listened to podcasts, read books or have done online research about the topic beforehand. None of this was easily available in previous generations. Students need less to be given information, but more need to be able to assess what they have heard critically and learn the skills of how to do relevant analysis, whether it be legal, economic, scientific or any other discipline.

While many university courses already do this well, shifting the focus of university education even more in this direction is important to ensure that university education remains valuable and desired. There are no guarantees that students will continue to require a university education given how much can be learnt independently, or on the job, online. Moreover, given the varied nature of careers and continual shifts in the job market (including shifts to come from AI adoption), we cannot be sure that any specific areas of knowledge will remain relevant. Thinking and analysis skills, on the other hand, will always be valued by employers. Shifting the focus towards sense making and analytic competency will help ensure graduates have skills valued by employers and these meet the changing needs of the economy and society (Q8 & Q9).

Alternate Trajectories

Looking at existing trends and likely future trajectories, there are a couple of current assumptions that could easily turn out to be different in the future. A robust Accord and university system planning should ensure these do not produce systemic crises if they eventuate.

The first assumption is that university enrolments in Australia will continue to grow. Some international higher education systems (e.g. the US) are already seeing declining enrolments and there are a wide range of factors that could see the same happen in Australia. Aside from demographic challenges with falling birth rates in Australia, international student markets will remain volatile with geo-political factors looming larger, international universities now compete directly for Australian students (and academics) living in Australia through online offerings, some industries (like IT) already offer courses and accreditation outside university systems and this could plausibly spread, and students may not continue to see value for time and money spent at universities given there are far more options now available.

A second assumption is that Australian universities will be able to continue competing on international rankings as they have been successful at so far. Australia as a country, market and brand will decline in relative weight over the next few decades as the economies and sophistication of many countries, especially in our region, increase. Australia's universities will not be immune from this dynamic and an ongoing decline in global rankings is quite likely – not because the quality of Australian universities decrease but while global competition gets much stronger.

Appendix A: Short Research Summary Paper – Future Universities: Value for Changing Societies

Australian National University

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FUTURE **INSIGHTS** PAPER
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Future Universities: Value for Changing Societies

Ryan Young

Future Insights Papers are designed to help policymakers develop and test futures scenarios, conduct horizon scanning, and integrate futures analysis into their work. They are intended to present provocative conversation-starters and arguable propositions, not definitive trend lists or predictions. Every paper in the series is informed by consultation, and reviewed by experts.

Focus questions

- What trends and drivers will shape the operating context for Australian universities – particularly research-intensive universities – over the next decade?
- How can Australian universities ensure ongoing success and deliver increasing societal value?

Methodology

We used two analytic techniques:

- *Delphi method:* we surveyed a broad range of experts across university and policy communities to identify trends and drivers.
- *Scenario testing:* we used these trends and drivers to develop scenarios, and tested how these would impact universities with current university workers – from early career to senior management.

Access to information

Technology has driven huge human and societal change over the last few decades – and the implications of these changes are still emerging. Since universities are in the 'knowledge business', they will continue to experience the impacts of the information revolution in coming decades.

From scarcity of information to abundance

As an organisational form, universities date back many centuries. Nearly all of the most prestigious western universities were established before the mid-20th century. For Australia, systems of governance, funding and regulation – as well as cultural norms and practices – were largely set in place after the Second World War, with later reforms since the 1980s more focused on expanding the sector or adapting existing frameworks.

Yet the explosion of digital and internet technologies from the 1990s has transformed the broader societal context these 'knowledge businesses' operate in. Previously, information and knowledge were scarce and hard to access, particularly in Australia given its geographic isolation. Universities provided significant societal value by providing access to knowledge that was new or hard to access.

Today we live in a world of information and knowledge abundance. It is estimated that around 3 million academic papers are published every year,[1] on top of vastly more publications by think tanks, government agencies, media

organisations and private individuals. Each one of us can access all of these from our desk or the phone in our pocket.

The privileged position of universities as repositories of information providing unique access to knowledge has disappeared. With this, the societal role and value provided by universities is shifting. However, the norms, behaviours and mindsets within universities have not caught up in many places.

Yes, but: The 'information world' of the 2020s will be a triumph of quantity over quality. We are already experiencing a 'societal epistemological crisis' – we aren't sure how to figure out what is true, trustworthy and valuable in a world of fake news, motivated reasoning, and lots of loud voices. At least in some parts of society, universities and academics retain respect and authority to provide expertise in the flood of information. There is value in genuine expertise. To deliver, academics will need to articulate expertise in ways that resonate.

Long COVID

The COVID-19 pandemic will inevitably recede – along with many of the restrictions in place to control its spread. However, the impacts will be felt for at least the next decade. Global and national inequality will rise. Government funding and budgets will be tight. Many students may remain 6–12 months behind in their education after interruptions to schooling.

Australian universities have enjoyed a decade or more of fairly consistent growth and expansion – due to deregulation of domestic student places and international student demand. Domestic student demand will likely increase, as it normally does in response to difficult economic circumstances. However, this is unlikely to offset declining international students.

Slow-down of travel

International and local travel has largely ground to a halt in 2020 and is unlikely to bounce back to 2019 levels any time soon. Many governments will regulate travel far more strictly on health grounds. Government and public confidence will take a long time to recover. The airline industry is in crisis, and flight availability and prices may never return to being as ubiquitous and cheap as 2019.

We have also learnt how much can be done virtually. It will be much tougher to justify travel on cost (and environmental) grounds if a passable virtual alternative is available. The pandemic has also exacerbated poor relations between a number of countries, particularly the US and China, which will make travel between certain countries more difficult and sometimes more dangerous.

For Australian universities, numbers of international students are likely to have been permanently reduced.

Yes, but: To date Australia has been more successful in controlling the spread of COVID-19 than many other countries. Combined with its reputation as clean, safe and beautiful, there is a clear possibility that it will become an even more attractive destination for international students than it was previously.

Digital delivery

Pandemic response measures have forced a crash course in online teaching and collaboration. This has changed expectations, improved skills and opened up opportunities that will persist.

Digital delivery opens up the classroom to the globe, both for the students who can take part and the experts who can contribute.

Online education offerings, at and outside universities, will be even more widely available and accepted. This will give universities opportunities to attract a broader, more diverse, group of students with many benefits but also potential challenges. Course convenors will be more willing to bring in international guest speakers, or even ongoing lecturers. This will improve the education experience in many cases, but also change the role and job prospects of local academics and researchers.

Yes, but: Digital delivery is still seen as inferior for many key educational objectives. It is widely accepted that the online experience can never duplicate an in-person experience. There will likely be a post-pandemic 'snap back' to in-person activities.

That said, digital delivery is rapidly becoming the norm and the longer there are restrictions on in-person teaching, the more entrenched this norm will become. In some universities, digital may become the default and teaching in-person the exception. This would radically reshape skills, facilities and the broader university experience – for staff and students.

For most universities, it seems unlikely that digital education will completely replace traditional forms. There remain significant benefits to in-person interactions for education and training. However, blended forms that use both online and in-person education are likely to increase. Even a partial shift to digital education will have profound implications for the use of physical spaces at universities and the facilities required.

2030 Scenario:
Skills, skills, skills, but where is the cash?

Few countries have escaped the fractured connectivity and debt overhangs triggered by the 2020 pandemic. Low (or negative) growth and high unemployment are the new normal. Governments are increasingly focused on the benefits of higher education, particularly as a counter to otherwise widening inequality. Despite their renewed interest in access to education, governments face constrained – and shrinking – budgets in all areas.

Many people are interested in education and upskilling, and domestic student intake has increased. However, with no clear prospects for better days, students are focused on value for money. They prioritise education that maximises short-term employability and earnings potential, and are unwilling to tolerate sub-standard teaching and services. Different models of credentials are also being trialled as many up- and re-skilling students don't see the value in another traditional degree.

The university sector finds itself in the difficult situation of being expected to deliver a significant social responsibility with less funding. Universities are forced to find efficiencies wherever they can. From the outside, university management structures are seen as a key source of inefficiency. There are increasingly bitter public debates about the role of the university and what academic freedom means. For some, academic freedom means governance autonomy for universities. Others prioritise the importance of following evidence and not presupposing answers to often externally-generated research questions. Cynics argue that academic freedom is an excuse for universities to not take their responsibilities seriously.

New academic and publication norms

The urgency of action in the face of COVID-19 has broadened and accelerated a shift in academic publishing norms. There are a number of well-known issues with traditional approaches built on peer review and large corporate academic publishing houses. These include publication biases, time-delays, cost of access and the sustainability of a system built on academics volunteering their time to edit and review publications.

Some disciplines, notably mathematics, physics and astronomy, have been shifting towards open publication with pre-print servers as the norm. This shifts the review process to being a public one, after the initial release of the publication. This trend has accelerated across more fields in 2020 – most notably health disciplines. Thousands of academic papers on all aspects of COVID-19 have been published as pre-prints. In many cases, peer review processes have been dramatically accelerated.

Whether or not this is a positive for the quality of publications, it has set precedents – for producers and consumers of research. It is unlikely that there will be a quick switch back to traditional, slower publication processes, and it is possible that the trend of open publishing, at least of pre-prints, will continue.

Yes, but: Norms like peer review are deeply entrenched, both culturally and through a range of regulations, rules and assessment processes (including individual promotion milestones and institutional quality assurance). In the absence of alternative measures of academic quality, traditional approaches will continue to shape researcher behaviours. As access to information accelerates in other domains, this may lead to even greater disconnects between public expectations and university behaviours.

Real-time connectivity

2020 – as the year of Zoom and #wfh – has shown what is possible with digital connectivity and illuminated existing trends. Live, real-time collaboration on research has been increasingly the norm in global academia over the last decades. It is even more so now that so many are working from home.

Today, it is just as easy to work with someone on the other side of the globe as it is to work with a colleague in your own area of your own university. This undermines the rationale of a university as a physical meeting place for the brightest minds. Why do universities invest so much in physical spaces when so much productive collaboration is now global and increasingly virtual?

The virtualisation of academia also poses risks. We tend to associate with people we agree with. On social media, for example, we often congregate with like-minded people, reinforcing our beliefs and creating 'filter bubbles'. Real-time, global research collaboration allows academics to work with similar thinkers, and can reduce debates with colleagues with different views and approaches. This could solidify 'academic filter bubbles'.

2030 Scenario:
Global academia in our (digital) backyard

The 2020 pandemic started a permanent shift in global economic and people movement patterns. Global travel is still running below 40% of 2019 levels with greater health and quarantine barriers between many countries. Collaboration platforms have boomed, aided by dramatic improvements in virtual reality technology. Working and studying from anywhere online (at least anywhere with high-quality internet access) is the norm.

This always-connected, operate-from-anywhere world has created a single global higher-education market. Like the traditional media sector before it, the university sector has been dramatically disrupted. The biggest university global brands (some established, some new) have captured an outsized share of the global market. When faced with the choice between studying – from home – at Harvard, LSE, the National University of Singapore, or a Group of Eight university, most domestic and international students choose the university with better global recognition.

Students are also looking to work globally. Arguments for the distinctive value of local and Australian universities have failed to gain much resonance with the public, businesses and governments. The general direction of government policy is to support our brightest students to get degrees from the best universities in the world rather than in maintaining our existing universities.

Live competition for expertise

One important consequence of living in a world with an abundance of information and real-time connectivity is that knowledge claims are discussed, debated and fact-checked live. Academic papers are, sometimes, dissected and critiqued over social media in hours or days. Students can and will fact check a lecturer in the middle of a class.

Academic norms based on slow, considered analysis, which come with processes like peer review, seem increasingly archaic. Careful, caveated academic language fails to gain traction in live societal debates. And an academic title can gain you entry into a debate but it no longer guarantees respect for your views or expertise.

This new, more frenetic and contestable style of debate is changing the dominant styles of communication and tools of persuasion across society. Academics who thrive in this new environment may become hyper-successful at the expense of everyone else.

Further, if social media norms come to pervade academic culture, there's a risk that the aim of academic debates may become simply to 'win'. The traditional university conception of knowledge generation depends on constructive debates that better illuminate what we know and don't know. This traditional culture will likely be increasingly undermined.

Yes, but: In reaction to the speed and noise of online debates, there are many movements within society to disconnect, declutter and engage in 'slow thinking'. These attempts to carve out space for different approaches and different way of thinking reflect traditional academic ways of working.

Global academia

In the last half a century, the university sector has grown from a relatively small set of institutions, dominated by a small number of Western countries, to a multi-trillion dollar, truly global sector. It is estimated that around 250 million students worldwide are enrolled in higher-education in 2020.[2] This is a massive and highly competitive global market for students and research prestige. With around 3 million academic papers published every year, any one academic or university is an increasingly smaller voice in a bigger marketplace.

Big fish, big pond

There are significant prospects that, like in other globalised marketplaces, a small number of players gain an outsize share of the market. The global marketplaces for technology and media are increasingly dominated by a small number of companies – as any product advantages quickly attract a new global customers.

In the academic sector, this could mean that individual universities with global brands take market share from everyone else. Or that star researchers or teams attract very large amounts of research funding, compared to other academics – or even universities. Or that particular national sectors dominate in attracting research and students at the expense of other, comparable countries.

Yes, but: Universities with global reach rely on their brand as a marker of quality and exclusivity. Large expansions in market share may generate huge profits

but will also detract from the brand. Significant expansion, particularly in student markets, is likely to have a natural limit. Nevertheless, global university brands actively competing for the most talented Australian students could significantly disrupt recruitment efforts by some Australian universities.

Balancing global and local concerns

A globalised academia is likely to be focused on global issues and problems. But many of the topics and issues facing people and societies are local and more contextual. Universities are increasingly likely to be caught between local demands for a local focus (including at a national level) and global demands to compete within a global system. International university rankings reward publications and research of global significance and rarely recognise high quality work of local importance. To gain international credibility, universities therefore need to focus on global issues, but this is often at the expense of the issues that matter to their local or national communities.

Yes, but: There are powerful countervailing trends – namely the resurgence, in economic and security policy, of national interest and sovereignty considerations. As governments focus more on security and populist concerns about sovereign capability, this will influence university regulation and funding decisions. We have already seen Australian Research Council funding programs focused explicitly on Australian, and government, research topics. Government's increased focus on critical technology, export restrictions, and foreign interference concerns in universities is unlikely to abate. This will exacerbate the tensions university face between competing national and global priorities.

2030 Scenario:
Global research-driven 'tech race'

While the rapid production of an effective COVID-19 vaccine in 2021 revived confidence to travel and the global economy, overt US-China tensions have become a permanent feature of the global order. This new 'Cold War' – as the media insist on calling it – is less of a direct confrontation and more of a global struggle for influence and market share.

One part of the new Cold War that echoes its 20th century namesake, is the re-emergence of a massively funded, global technology race. China and the US are establishing distinct tech ecosystems within their respective spheres of political influence. High-end research institutions and tech companies are massive winners from this – with strings attached.

In addition to many security and geopolitical restrictions, government funding is run with a Silicon Valley mindset – where 'failing' projects are allowed to fail fast and funding is often cut and re-prioritised rapidly. A core, and explicit, part of this strategy is to attract the brightest and highest skilled workers to different ecosystems and projects, with salaries to match.

Those Australian universities that are able to navigate the political restrictions and deliver world-leading research quickly are massively rewarded. But they are struggling to recruit to deliver on everything they could do.

Australian research funding and university governance has also not been updated. In response, some universities have spun out functions (including whole faculties) as private entities to build the flexibility needed to take advantage of the money and opportunities. A couple are thinking about trying to deregister as universities.

Principles for success

The origins of universities, as social institutions and organisational structures, predate a wide range of social, global and political changes. There is often great value in institutions that endure. However, their relationships with society will shift as the societal context changes. There is a widespread feeling that universities, particularly research universities in Australia, do not understand the changes that will be increasingly important over the next 10 years.

Sense-making, rather than knowledge generation

The critical challenge today across all sectors is not finding or generating knowledge, but making sense of the vast amount of knowledge that we can all access. The amount of funding available for fundamental knowledge generation or universities as independent producers of knowledge will continue to shrink – both as a result of the shrinking international student pool and funding priorities from government and the private sector.

Expectations on higher education are shifting in the same direction. *People and organisations will increasingly want help to understand, think about and assess the information they can access on their phone or computer.*

A compelling future student experience will focus less on teaching people lots of specialised information. Instead it will focus more on helping people learn to think clearly about complex information and will equip them with the necessary skills, gained through experience, to make sense of the world.

Partnerships, rather than independently-driven research

Universities, and academics, have typically thought of themselves as independent producers of knowledge, insight or expertise who function best when they are given autonomy to do their own work. While there are many strengths to this mindset, it may no longer be viable – at least for the majority of researchers – due to societal expectations and funding opportunities. This challenges traditional conceptualisations of the meaning of 'academic freedom'.

Universities and academics can offer the most value to society and be more productive by operating as part of collaborative networks and teams that span multiple universities and sectors. Businesses, governments and citizens are far more interested in co-design and partnerships today – and funding arrangements will increasingly reflect this. A major driver of this trend is the interconnectedness and complexity of today's 'cutting-edge' issues, and the speed at which they evolve. Covid-19 is a good example: an effective societal response requires the integration of expertise from (at a minimum) epidemiology/health, economics, societal behaviour and psychology, law enforcement, and media.

Yes, but: Partnerships to tackle important problems depend on the partners having genuine expertise to contribute. Universities have persisted for centuries as there is an enduring value they bring to society. Deep expertise and frontier research will always have benefits – of themselves, but also in terms of what they can contribute to partnerships. The challenge for universities will be shifting the balance between different types of work, not completely substituting one for another.

Notes

1. The US National Science Foundation identified 2.6 million peer-reviewed science and engineering journal articles and conference papers in 2018. This did not include all disciplines. *See Publications Output: U.S. Trends and International Comparisons*, Dec 2019. https://ncses.nsf.gov/pubs/nsb20206/
2. A. Calderon, "Massification of higher education revisited", RMIT University, June 2018. https://www.academia.edu/36975860/Massification_of_higher_education_revisited

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