



The Future of the Academic Library

Executive summary of “32 Libraries: Opportunities and Challenges” by Andrew Harrison and Graeme Finlay

Introduction

The academic library is at a critical point in its evolution. Without books, what is a library?

When informal study spaces are appearing in every department across the campus, what is the library's role in providing space for study?

When knowledge is available digitally and accessed through the internet or AI, what is the role of the library in the distribution and access of knowledge?

In a post-COVID world what role can the library play in the campus culture and delivering the strategic vision of the University?

Are radically different models of the future library now possible, if not likely, in the future?

These questions, and more, led to our study of the future of the academic library - 32 Libraries, Opportunities and Challenges, written by Andrew Harrison and Graeme Finlay. To request the full report, click [here](#).

As campus master-planners and specialists in the design of tertiary education facilities, we are always looking to the future.

The buildings we envisage today must meet not only the needs of today, but also anticipate the needs of the future, in two, five, or 10 years time when they are open and operational.

It's through this lens that we have commissioned and published this research. We are grateful to Andrew Harrison and Graeme Finlay, the authors of the report, and the library teams who gave their valuable time to participate in the study.

It is our hope that it may provide meaningful guidance to those grappling with the challenge of campus planning and help answer some of questions about the future role of the academic library.

The following pages are a high-level summary of the findings of that report, written for university leadership and property teams interested in the academic library and the important role it can play in the future tertiary educational campus.

A copy of the full report can be requested [here](#).

As leader of our education team, I hope that you find this report useful. If you would like to discuss the report and how it might be relevant to your campus please do not hesitate to contact me.

Yours sincerely,



Rodney Sampson
Principal
Education Sector lead

Contact



Rodney Sampson
Principal
Education Sector Lead

T: +64 218 806 525
E: rodney.sampson@wam.studio

The Research

The study involved interviews with senior leaders of 32 university libraries in Canada, South Africa, Hawaii, United Kingdom, Hong Kong, Europe, Australia, and New Zealand.

We thank each participant for their time and the richness of their responses, without which this research would not have been possible.

We believe this work represents the most up-to-date and complete examination of the design challenges and opportunities that lie ahead for the academic library, and we're delighted to share the insights of the study with you.

A copy of the full report can be requested [here](#).



Participants of the study

New Zealand Lincoln University | Te Whare Wānaka o Aoraki
Massey University | Te Kunenga ki Pūrehuroa
University of Canterbury | Te Whare Wānanga o Waitaha
University of Otago | Ōtākou Whakaihu Waka
University of Waikato | Te Whare Wānanga o Waikato
University of Auckland | Waipapa Taumata Rau

Australia Curtin University
Deakin University
Flinders University
Griffith University
Monash University
RMIT University
Southern Cross University
University of Adelaide
University of Canberra
University of Melbourne
University of New South Wales
University of Notre Dame Australia
University of South Australia
University of the Sunshine Coast
University of Sydney
University of Tasmania
University of Technology Sydney
University of Wollongong

Other countries Chinese University of Hong Kong
Delft University of Technology, The Netherlands
Simon Fraser University, Canada
University of Bristol, United Kingdom
University of British Columbia, Canada
University of Cambridge, United Kingdom
University of Hawai'i, United States of America
University of Helsinki, Finland

Library as an enabler of university strategies

Our research highlighted that, although the library is widely recognised as an essential piece of infrastructure in every university, its potential to help a tertiary education institution achieve its strategic goals can often be underestimated.

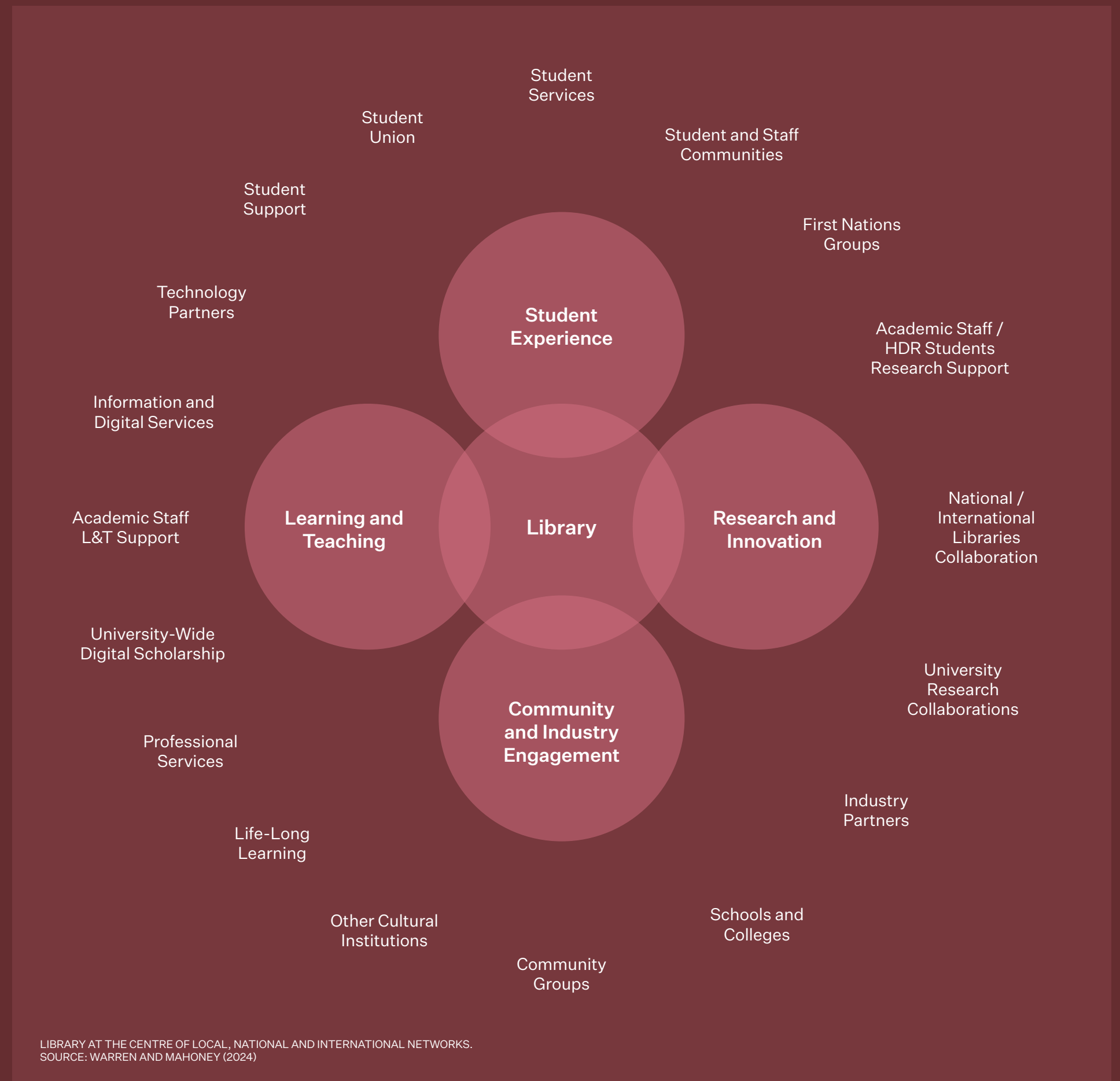
The activities that could take place in the future library have the potential to go far beyond the traditional understanding of what a library does.

The academic library is integral to the success of four critical aspects of the university mission:

- Learning and teaching
- Research and innovation
- Student experience
- Community and industry engagement

The future academic library engages with every student, every researcher, and every department and can greatly enrich the campus experience for all. It is a connector of knowledge and people - the hub of local, national, and international networks - connecting and working closely with other parts of the university, researchers within the faculties, the wider community, as well as international library and research communities.

With the right vision, the library has the potential to continue to play a pivotal role in achieving the institution's future ambitions.



“Almost all of the libraries in the study are engaged in the challenging process of reviewing and reducing their physical collections. A 50% reduction target was common - with the goal to free up space for additional study seats or other functions.”

Andrew Harrison
Consulting Principal, Warren and Mahoney

Library at the forefront of change

Libraries are at the frontline of many of the wider structural shifts impacting universities and tertiary education establishments.

As a result, a number of the libraries consulted during the study were in the process of reviewing their strategy, or were planning changes to their facilities to better support the organisational strategies of their university.

University leadership must decide the role of the library within the university's overall strategic plan. There are both challenges and opportunities to consider.

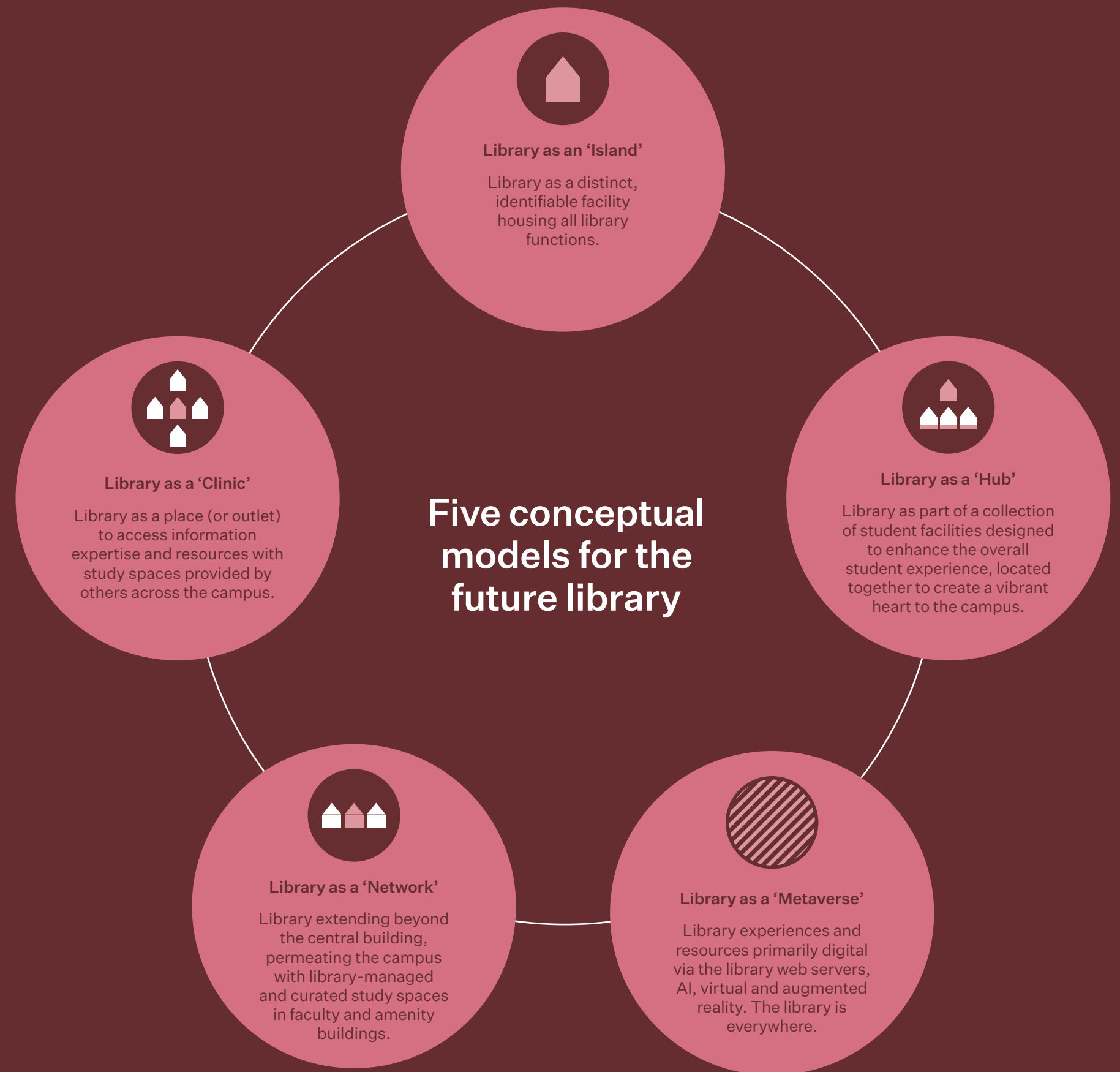
Institutional challenges	Solutions / trends observed
Decline in enrolments and increasing competition for students resulting in an increased focus on the student experience.	An enhanced library experience to maximise student engagement and success - the library as a student hub or a home away from home.
Decline in student retention rates resulting in an increased focus on student welfare and support for academic success.	Libraries that are actively involved in student welfare, providing a one-stop-shop for student services and learning support.
Shifting societal expectations, a changing student demographic and a widening focus on inclusion, equity and First Nations.	Libraries becoming more welcoming, demonstrably inclusive and increasing their focus on supporting equity for all learners.
Pedagogical change including blended learning, block courses, online lectures and changes to assessment methodology.	Libraries at the centre of a coordinated strategy for the provision and management of study spaces across the campus optimised to the needs of the students and changing pedagogy.
Declining use of the physical library collections.	'Right-sizing' physical collections and off-site storage, freeing up valuable floorspace for other uses. Celebration of the Special Collection as a USP for the university and potent symbols of value of scholarship.
New technological advances and the growth of digitally accessible knowledge.	Increasingly blended (digital and physical) library which publicises the work of the university to the world provides accesses to global knowledge and reaches well beyond the physical boundaries of the campus to support every learner and researcher.
A desire for improved research outcomes through increased interdisciplinary research and engagement with industry.	Libraries operating as a central innovation zone, with dedicated space to support interdisciplinary research, industry collaborations and business incubation.
The evolution and growth of AI and digital scholarship creating new opportunities and challenges.	Libraries which provide a central hub for the development of digital scholarship and protocols for the use of AI.
Environmental sustainability and climate change and the role of the library to not only reduce its impact but also influence change.	Libraries which are providing a forum for interdisciplinary sustainability discourse and acting as an influencer of change.
Tightening budgets and a corresponding drive for efficiency.	Libraries which are reducing building footprint by freeing up stack space, consolidating study spaces, engaging in collaborative workstyles and adopting strategies for multiple use of spaces.

Five conceptual models for the future library

Based on the learnings from our research, the library model and its relationship to the wider campus is changing. There are five emerging high-level models that can be used to describe this evolution. These development options are summarised in the following diagram.

The future academic library is likely to be a hybrid of several of these options - creating a significant campus presence that is an integral part of the student campus experience - well-connected to student social and wellbeing amenity spaces and containing specialist facilities such as digital scholarship centres and media production studios that will be available for use by all parts of the university.

On the following page we explore both the physical and digital assets that are components of all of these models, and we then provide a road-map to help define and develop the right model for your library of the future.

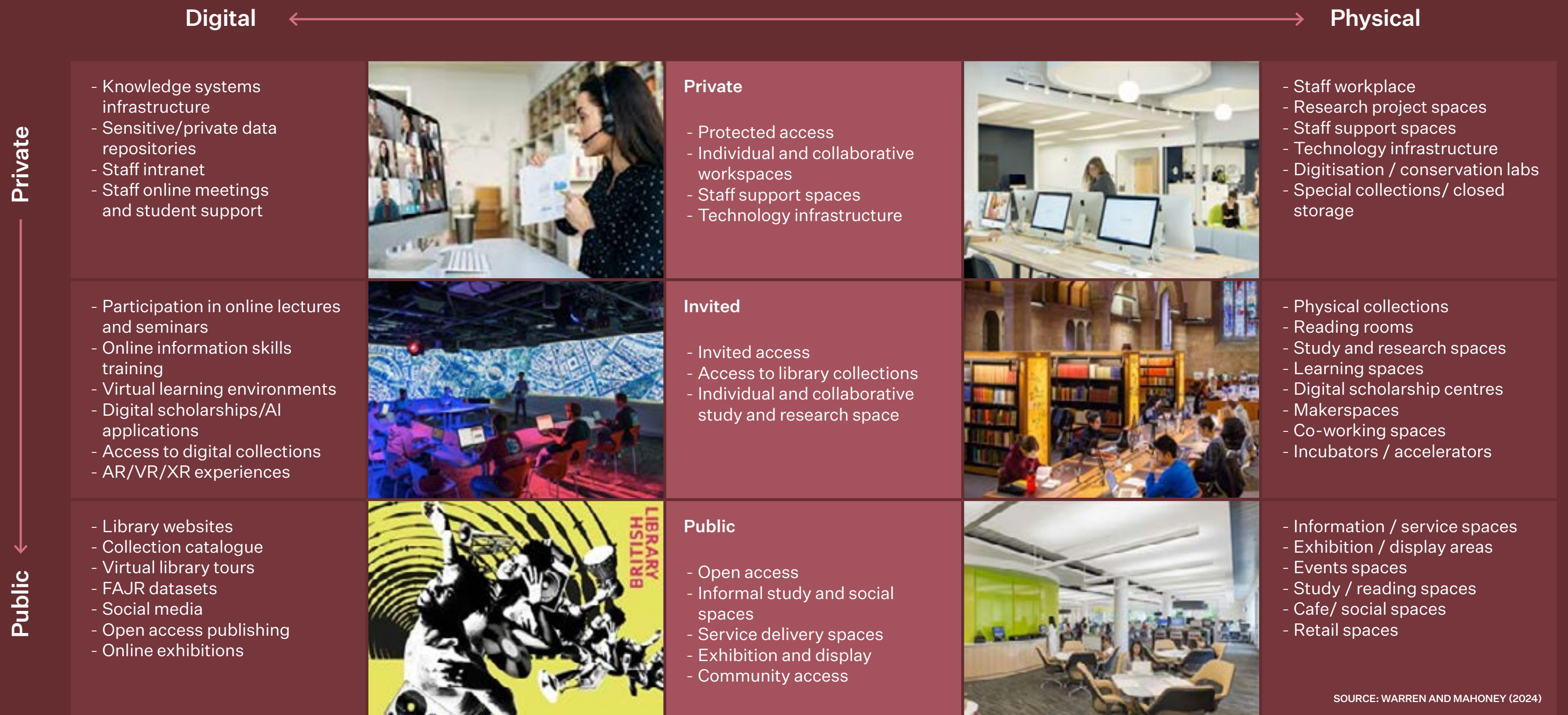


FIVE CONCEPTUAL MODELS FOR THE FUTURE LIBRARY
SOURCE: WARREN AND MAHONEY (2024)

Future academic library: complementary digital and physical experiences

The future library will offer complementary digital and physical experiences - supporting students and researchers both on and off the campus. The right library model of the future will include some or all the following constituent parts which can range in accessibility from public to private.

How these components are arranged, accessed, and managed will ultimately determine the form and function for your future-focused library.



SOURCE: WARREN AND MAHONEY (2024)

“Libraries offer a unique opportunity on campus to create a home away from home or hub for a student’s life on campus. The design opportunity is to create spaces that students love. The challenge is breaking down the cultural and socio-economic barriers and creating an environment which is inclusive and welcoming for all.”

Simon Topliss
Principal, Warren and Mahoney

Making the future library happen

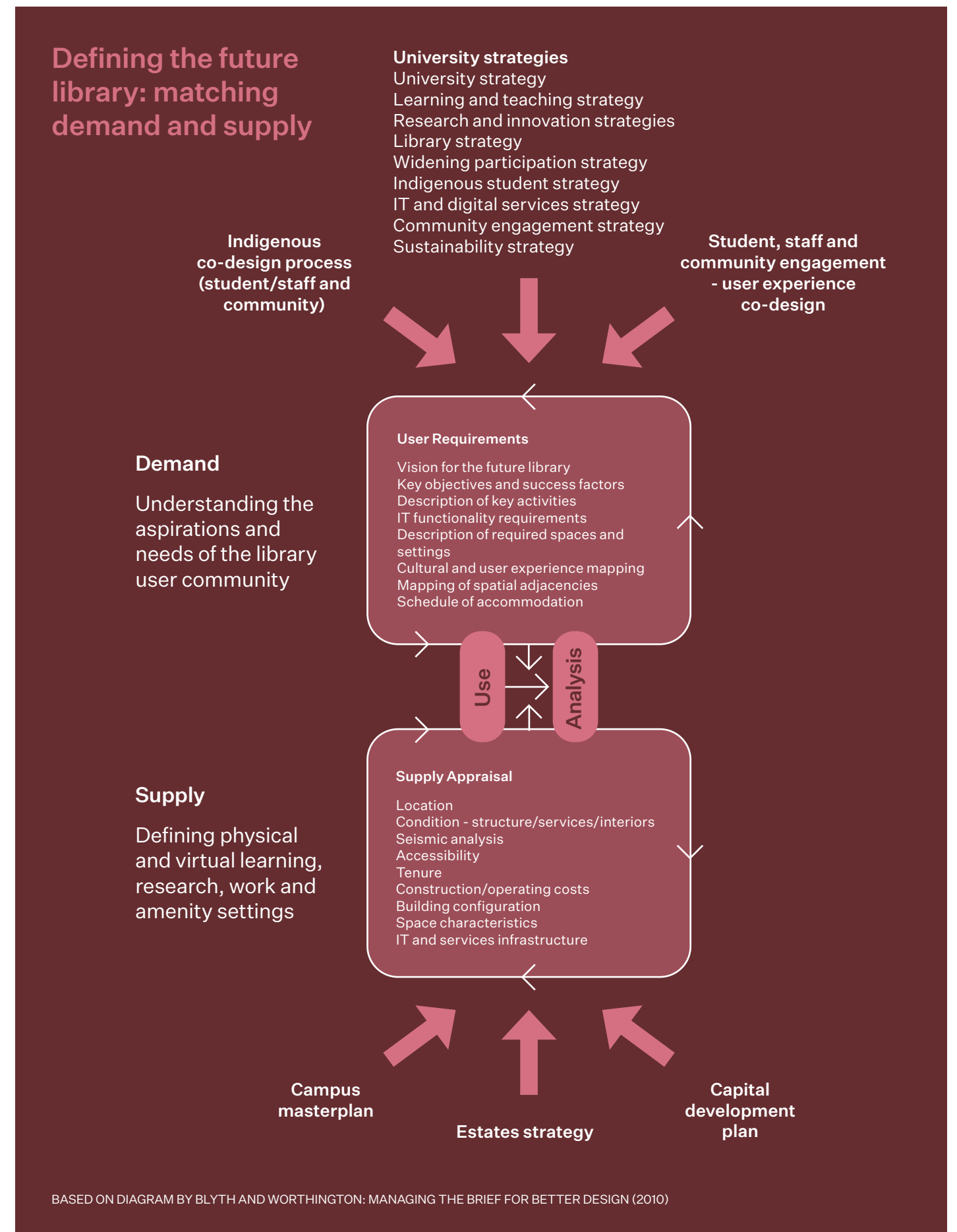
Our team works with leading university clients to develop masterplans, strategies and building briefs. As a result of our research, we recommend that tertiary institutions consider the following four steps:

- Agree the role of the library in relation to the university's mission and strategic goals.
- Develop the strategic vision and outline the brief for the future library within the context of the university's strategic plans and policies.
- Establish a campus-wide masterplan for study spaces (either within or in addition to the library strategy).
- Commit to a science-based carbon reduction target and strategy for the library operation (and development).

Developing the future library vision is an iterative process of matching demand and supply factors. Demand represents the aspirations and requirements of the university, faculty, researchers, students and support networks.

The understanding of 'demand' factors takes place within the context of a broad range of university strategies and policies that may determine the priorities and direction of the library project including the institution's widening participation, Indigenous students, learning and teaching, research and innovation and sustainability strategies.

Similarly, the analysis of the supply side – the existing library buildings and spaces or the site of a proposed new library – takes place within the context of the priorities and strategies contained in the university's campus masterplan, estates strategy and capital development plan documents.



A deeper dive: Observations and trends

On the following pages we detail eight key observations and trends in academic library design, synthesised from our study participants, which have informed our thinking. They provide a detailed overview of the core considerations facing university libraries right now and provocations to help consider what they may mean for your institution.



Delft University of Technology Book Wall
Photo credit: Stephanie Braconnier

01

Enhancing the library experience to maximise student success

Post-Covid, many universities are facing decline in enrolments and increasing competition for students and long-term demographic projections would indicate that this may be a trend that is set to continue in Western nations. Enhancing the student experience, and improving the appeal of the university, has become a key focus.

The library can be more than just a study destination. It can become a home-away-from-home, a place to make social connections - providing students with a sense of belonging, and shared endeavour.

Many libraries in the study are providing an increasing variety of amenities and services designed to increase engagement, increase the use of the library, and help build the campus community.

Opportunities and Trends

User experience

There is an increasing focus on the user experience and the nature of the staff/student engagement. As a result, libraries are redesigning their entries, becoming more welcoming, rules are being relaxed, student safety is an increasing focus and hours of access are being extended.

Home-away-from-home

With extended opening hours, good wifi, warm, comfortable study and relaxation spaces, libraries are becoming an important destination, meeting place and community hub for many students who might otherwise be isolated or who have poor living conditions.

Blended delivery

As a result of the increase in the use of digital material, online support and online teaching, the user experience, in most libraries, is now becoming an integrated blend of both the physical and digital where one cannot be conceived without the other.

Increased amenity

Responding to student needs, many libraries are providing an increasing variety of amenities, activities and services designed to increase engagement and use of the library.

Collocation

Libraries are increasingly being collocated with other student-focused facilities to reduce duplication of services and create a vibrant campus heart where students can meet, socialise and study, enhancing the student experience.



Provocation

What part could the library play in enhancing the student experience on your campus?



Southern Cross University Library Study space (also on front cover)
Photo credit: Southern Cross University



02

Creating an inclusive and welcoming library experience

COLOURING-IN AS 'MINDFUL MAY' ACTIVITY. MONASH UNIVERSITY LIBRARY. ©MONASH UNIVERSITY LIBRARY

The social and cultural demographics of the student population are changing. Libraries are at the heart of every university, linked to every department and every student. As such, they are representative of the ethics and culture of the institution.

Similarly, the relation between inclusion and academic achievement are becoming better understood and involve not just equal access to education and the tools for study, but also to an educational environment that offers a sense of belonging and inclusion to all members of the student cohort.

The library provides students, irrespective of their social, financial or living circumstances, access to the study spaces, technology and services to support their study, social and welfare needs.

Opportunities and trends



YAITYA NGUTUPIRA, UNIVERSITY OF ADELAIDE'S BARR SMITH LIBRARY. SOURCE: ANDREW HARRISON



First Nations and decolonisation

Many libraries are now working with Indigenous communities to re-imagine the library layouts, plan cultural spaces and integrate Indigenous artworks to better support Indigenous students. There is also an increased focus on First Nations and decolonisation with respect to the collection, its management, and the use of cultural material by students, researchers and the wider community.

Welfare

Libraries are becoming actively involved in curating and running staffed events and programs to support welfare of students who use the library. Many libraries have collocated student services and other student welfare and support functions to provide a one-stop-shop for all student support needs.

Learning support

Libraries play an increasingly important role in providing online learning and research support for students and learning resources support for teaching staff. With an increased focus on online classes there is less demand for dedicated teaching space within the library.

Accessibility

There is an increasing focus on the provision of study spaces and supportive technology to allow equal learning opportunity for all students irrespective of their physical, cultural, financial or other circumstances. This is resulting in the creation of new types of study spaces such as cultural study spaces, assistive technologies and sensory spaces for neurodiverse students, and study spaces for parents with young children.

Equity

There is growing interest not only in ensuring that all students have suitable space to study, but also in the creation of non-traditional collections to support learning and allow all students the same access to resources - a "Library of Things" including loan computers, computer peripherals, camera equipment, camping and even sports equipment.

Provocation

What responsibility should the library have, with respect to social issues of inclusion, welfare and equity?

03

Supporting learning and teaching innovation

Pedagogical, technological and social change continues to drive the evolution of study spaces and layouts will require regular review to ensure that the needs of the students are being met. Traditionally, the library has had a central role in the provision of study spaces - however in response to the adoption of blended learning, universities have raced to provide study spaces across the campus.

Few, if any, of the universities who participated in the study have a coordinated masterplan of informal study and student spaces across the university to help manage quality, avoid duplication, and ensure that the right mix is provided in the right location across the campus. Libraries have an untapped expertise in the design and management of study spaces - a knowledge which could be used to inform and/or manage other study spaces across the campus.



GRIFFITH UNIVERSITY G11 LIBRARY LEARNING COMMONS STUDY SETTINGS
©ANGUS MARTIN

Opportunities and trends

Study spaces

Changing student demographics is creating a demand for a wider landscape of different types of study spaces including spaces for neurodiverse learners, child-friendly study spaces, outdoor study spaces and spaces for cultural or special interest groups.

Health and wellness

There is a growing demand for study settings which are better connected to nature, resulting in outdoor study settings, biophilic design and greater focus on daylight and external views. There is also a growing desire for greater user control over study settings through the use of moveable furniture, dimmable lights, blinds and openable windows.

Pedagogical changes

The continued evolution in pedagogy post-Covid is changing the balance of study spaces needed, increasing the demand for silent study, bookable study space and other specialists spaces such as recording studios and digital centres.

Utilisation

Reduction in formal exams and the adoption of block courses is changing the weekly, monthly or yearly utilisation patterns of library spaces, creating opportunities to review space usage.

Prototyping

Many libraries are trialling and prototyping spaces and settings in response to technological and pedagogical changes and the evolving needs of students.



Provocation

Is there a coordinated strategy guiding the provision and management of study spaces across the campus?



RMIT study settings
Photo credit: Tess Kelly

“Participants spoke of the need for a coordinated masterplan of informal study and student spaces across the university to help manage quality, avoid duplication, and ensure that the right mix is provided in the right location across the campus.”

Andrew Harrison
Consulting Principal, Warren and Mahoney



04

Managing the collections and celebrating the importance of Special Collections

Few academics and fewer students now use the physical collections and, as a result, typically 90-95% of current acquisition budgets are spent on digital resources. While the process of right-sizing has proved challenging culturally in some libraries, all the non legal-deposit libraries in the study are engaged in actively reviewing and reducing their physical collections (a 50% reduction target was common) to create more space for additional study seats or other facilities.

As the physical collections reduce, there is an increasing focus on the Special Collections which are seen as a unique point of difference for libraries - resulting in the re-evaluation of their value, accessibility and use to support learning, teaching and research.

Opportunities and trends

Right-sizing

Almost all of the libraries in the study are engaged in the challenging process of reviewing and reducing their physical collections, freeing up space for additional study seats or other functions.

Character

Libraries are thinking laterally about the use of their remaining physical collections. Some are using books as decoration, space dividers or to create atmosphere. Others are creating subject matter neighbourhoods to make the physical collection more accessible and support cultural or special interest groups.

Offsite storage

There is a growing need for offsite storage for the archiving of the physical collection which may provide opportunities for collaboration between institutions to share costs and reduce duplication in relation to the long-term preservation of stored material.

Special Collections

As the physical collection reduces, the focus on Special Collections is increasing with a desire to improve storage conditions, create better access to the Collections to showcase the material and to use the Special Collections to support object-based learning.

Digitisation

Several of the libraries in the study were undertaking extensive digitisation programmes to create high-resolution digital scans of the physical material in their Special Collections allowing them to be accessible anywhere in the world.

Provocation

What is the future role of the physical and Special Collections and how can they best support the mission of the university in the future?

Delft University of Technology Book Wall
Photo credit: Stephanie Braconnier

05

Championing technology and digital scholarship

Technology and data are reshaping our world and opening new opportunities for study, problem-solving and knowledge exchange. Although universally recognised as a significant opportunity for every university, there is little consensus about the role of the library in the advancement of new technologies and digital scholarship.

The library is central to the curation and management of research data - but does it also have a role to coordinate and stimulate advancements in the digital scholarship?

Similarly, while the library provides equal access to knowledge and support for study, should it also have an equally important role in providing students and researchers access to advanced technologies?



Opportunities and trends

Digital shopfront

Libraries continue to support researchers and have a crucial role in managing and curating the university's research data through advising on copyright, publication and the online presentation of research outcomes.

Technology for study

Across most of the libraries in the study, student demand for standard computer stations is being replaced by a demand for desks large enough for multiple devices with plug-and-play screens and high-performance computers with access to specialist software.

Experimentation

Libraries have an opportunity to be a central location for access to experimental equipment and technology which may include digitisation studios, Makerspaces to support rapid prototyping and digital media production facilities which support audio and visual production as well as data visualisation.

Living lab

The library has the potential to be a living lab, exploring and showcasing, through digital displays, how students and researchers can better access and use digital material. The library can provide a test-bed for the development and delivery of hybrid or blended pedagogies and the use of AR/VR/XR and AI to support learning and research.

Digital hub

While most libraries are engaging in 'below-the-waterline' digital scholarship activities, such as research support, data repository management, meta-data development, digitisation, and the management of the library's digital collections, there is increasing interest in the creation of Digital Scholarship Centres within the library to stimulate and coordinate the development of innovation in digital scholarship and AI.



Provocation

Where is the centre for digital scholarship on campus? Could the Library become a place to produce digital content as much as it is a place to consume it.





Taught Postgraduate Study Space. The Quarter. University of Sydney.
Photo credit: University of Sydney

06

Enhancing university research and innovation

The library has an increasingly important role in ensuring the visibility and accessibility of the research outputs of the university. It has become the keeper, curator and publisher of research and has a pivotal place in the research landscape. It works with every researcher, and in this way often functions as a connector, or directory, able to facilitate interdisciplinary (or external) research connections.

It is ideally placed to provide central, open access space for showcasing research, networking or collaborating. Libraries can also be an incubator, supporting the development of student, staff, and community start-up businesses, hosting innovation and entrepreneurship-focused events and engaging with local businesses and community.

Opportunities and trends

Provision of events and presentation space

Libraries that create spaces to allow the university, industry and investors to showcase new research, present new ideas and display new products.

Supporting innovation and entrepreneurship

Several of the libraries in the study expressed interest in the provision of dedicated business incubator and accelerator spaces within the library to encourage interdisciplinary research, entrepreneurial activity, and collaboration with industry.

Project space

There are opportunities for libraries to host research centres, bringing researchers from different disciplines together to work alongside library staff, using their research and digital scholarship expertise and the library's digital resources and data sets.

HDR space

A number of libraries have recently completed, or are planning, HDR hubs or research commons where graduate researchers can work, socialise with peers across disciplines, and access a range of specialised curated services such as publishing and research support.

Academic work and research space

As academic workspaces across campuses are increasingly transitioned from cellular offices to open plan and activity-based workspaces, a number of libraries are seeing academics beginning to use the quiet study spaces. This offers an opportunity to develop study settings that could encourage greater connection between academics of different disciplines and between faculty and students.



Provocation

What role could the play in library supporting the growth of interdisciplinary research, industry engagement and the pathways of research to market?

07

Engaging with the community

Libraries in the study varied greatly in their level of engagement with the wider community. The level of community engagement is influenced by the location and accessibility of the library on the campus, the proximity of public transport and availability of car parking.

For some libraries in the study it was not considered their core role, others had insufficient space, while others still were proactive in their engagement with local schools, businesses and the wider community, running a variety of public exhibitions and events as well as outreach activities.

Opportunities and trends

Welcome

Many libraries are opening up the entry level and providing a range of public spaces such as cafés, art galleries and bookshops to make the library more inviting to the public.

Exhibition and events

Libraries are showcasing their unique collections and the research activities of the university through exhibitions, events and public programmes. In some cases, this is extending to spaces for music, recitals and performance art.

Outreach

Many libraries are involved in outreach programs allowing high school students, students from other tertiary institutions and people from the wider community to borrow books, access electronic resources and use the library study spaces.

Business partnerships

Some libraries are partnering with local businesses and industry to encourage use of the library by the local workers and lifelong learning.

Industry collections

Resistance to the “right sizing” of library collections from industry bodies such as the Law Society, architecture and arts groups opens up the opportunities to review the purpose, accessibility and funding mechanisms of these collections.



Provocation

To what extent does the university want to engage with the wider community and how might the library support that goal?



CW Lane Reading Space, The Chinese University of Hong Kong
Photo credit: Tongyn Zhu Terrje

“We observed a growing use of off-site storage, offering opportunities for increased collaboration between institutions to share costs and reduce duplication in relation to the long-term preservation of stored material.”

Rodney Sampson
Principal, Warren and Mahoney



Delft University of Technology Library:
Glass roof and central steel cone bringing daylight into the central library space
Photo credit: Greg Holmes Photography

08

Intensifying focus on sustainability, climate change and the future of the planet

Most of the library management teams consulted considered sustainability to be largely outside their control and under the management of the university's property services team. As a result, most libraries focus on the United Nations Sustainability Goals (SDGs) and saw their primary impact being through their ability to enhance social equity and equity of access to information.

They also have an ability to influence students and support research and innovation in sustainability through interdisciplinary forums and collaboration with industry to showcase innovation in exhibitions and events programmes. Few, if any, university libraries in the study appeared to have science-based carbon reduction targets for their building and operations.

Opportunities and trends

Education and influence

Several of the libraries are hosting interdisciplinary forums in exhibitions and events programmes in collaboration with industry to showcase innovation and sustainability issues.

Sustainable management

Most libraries had well-established sustainability management processes in place including waste recycling and environmental purchasing policies.

Data

A number of libraries were planning to reduce their digital carbon footprint through better management of data storage, the use of carbon zero offsite data storage providers and downstream efforts to influence suppliers of digital materials.

Space efficiency

Effective use of space is a focus of most libraries, with many investing in better ways to utilise space and at the same time improving functionality through the reduction in the physical collections, improved efficiency of offsite storage, rethinking of poorly used settings/spaces and the adoption of more collaborative, agile workplace strategies that may take up less space.

Renovations and new buildings

Many existing libraries are housed in aging buildings with aging services. Where new buildings or major renovations are planned, most universities had well established strategies to improve energy efficiency and sustainability outcomes. These were often verified through independent green building certifications.



Provocation

What is the library's role in achieving the university's environmental, social, and governance (ESG) and carbon reduction goals?

For more information about the Future Libraries study '32 Libraries Opportunities and Challenges', and Warren and Mahoney's library projects please contact:



Simon Topliss
Principal
Education Sector Lead - Australia

T: +61 404 306 602
E: simon.topliss@wam.studio



Rodney Sampson
Principal
Education Sector Lead

T: +64 212 806 525
E: rodney.sampson@wam.studio



Andrew Harrison
Consulting Principal
Libraries Specialist

T: +64 273 017 337
E: andrew.harrison@wam.studio

About Warren and Mahoney

Warren and Mahoney is one of the ten largest architecture practices in Australasia. 65 years of experience has taught us that nothing great is made alone. Design isn't a process, it's a partnership, and the best way to work is to work together. Together, everything is possible. Working at the intersection of culture, sustainability, and technology, Warren and Mahoney's design teams and sector specialists deliver innovative solutions for our clients and communities across the Pacific Rim.

In 2024, for the third year in a row, Warren and Mahoney was awarded a prestigious WAFX Award at the World Architecture Festival. WAFX awards projects that best use design and architecture to tackle major world issues, including health, climate change, technology, ethics and values. This recognition follows Warren and Mahoney being named in Fast Company's 2023 Top 10 Most Innovative Architectural Practices worldwide.

Our belief that the architecture should be future-focused - responsive to the needs of today and the challenges of tomorrow. Our specialist education team has designed and delivered some of Australasia's most influential, sustainable, and award-winning educational spaces spanning typologies and pedagogies. We seek out projects that matter, with bold, future-focused clients committed to driving positive change.

Registered Architects and Designers
www.wam.studio
Toitū carbonzero CERT TM certified architects

 **WARREN AND MAHONEY®**