

ASSETFUTURE

Empower Tomorrow

TERTIARY EDUCATION: INDUSTRY VIEWPOINT

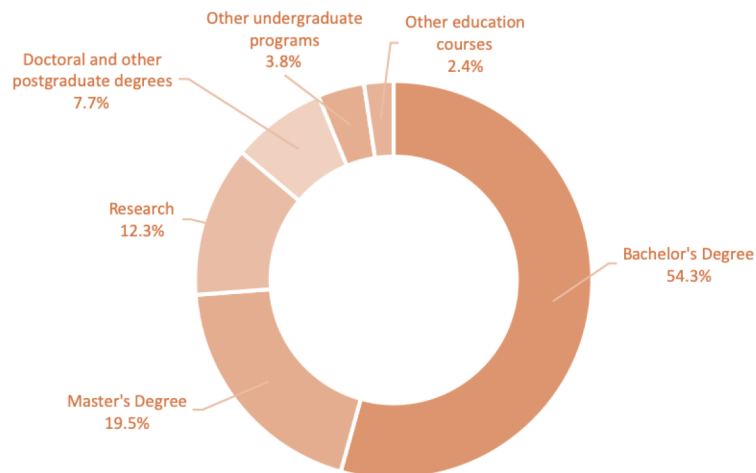
Overview of tertiary education in Australia

The Tertiary Education industry has undergone significant change over the last five years and will continue to adapt to the changing needs of the economy and society.

Currently the Tertiary Education market is catered for by 40 public universities across Australia and a further three specialised private universities. Online courses have become increasingly popular with many subjects and courses offered entirely online.

More than two thirds of university students are undertaking undergraduate studies, involving between **3-4 years full-time study**. The number of students enrolled in bachelor's degrees has increased since the Federal Government uncapped the number for bachelor courses in 2012. Completing a bachelor's degree is becoming increasingly common due to **competition in the workplace**.

Master's degrees are the next largest segment with Master's by coursework being the most popular postgraduate program. A rise in unemployment and increasing competition in the workplace has led to Master's degree becoming increasingly popular over the last five years.



Research grants also account for a significant portion of university activity, funded by public and private grants as well as donations. The majority of funding is set aside for medical research with other major areas including biotechnology and engineering.

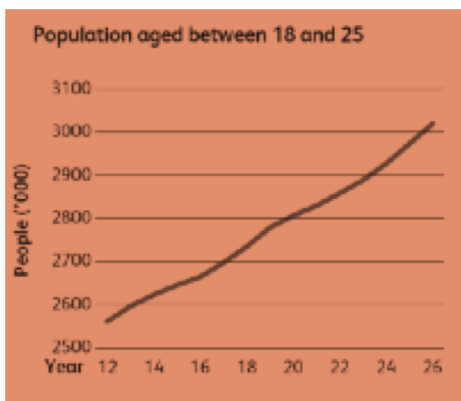
Revenue across all universities in 2018-19 was \$34.0b which equates to an annual growth between 2014–2019 of 3.7%. While there have been limitations to public funding, average profit in 2018-19 was **\$1.9b**. The outlook for the tertiary education industry is of strong growth, with revenue projected to grow at an annualised 4.6% over the five years through 2023-24, to **\$42.6 billion**.



Key drivers of growth

Population between 18-25 years

As the population of Australia grows, so too does the number of people aged between **18-25 years**. This growth in the key market for tertiary education is expected to drive demand for enrolments over the coming years, leading to opportunities for universities to expand their offerings.



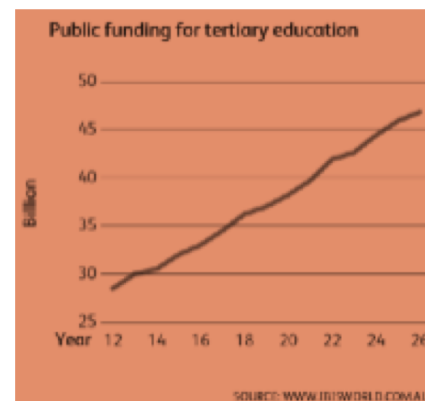
Source: IBISWorld Industry Report P8102 - University and Other Higher Education in Australia, June 2019

Secondary school retention rates

As the most common entry to an undergraduate course is completion of the Higher School Certificate (HSC), increases in HSC completion will lead to increased university enrolments. Secondary school retention **rates are expected to rise** over the coming years leading to further opportunity for universities to expand their offerings.

Public funding

Public funding is a significant source of university revenue. An increase in this funding generally boosts the Commonwealth supported places that universities can offer, as well as improving the quality of the resources and facilities they can provide. Government funding is expected to grow over the coming years as illustrated below, which will encourage **more enrolments** at universities.



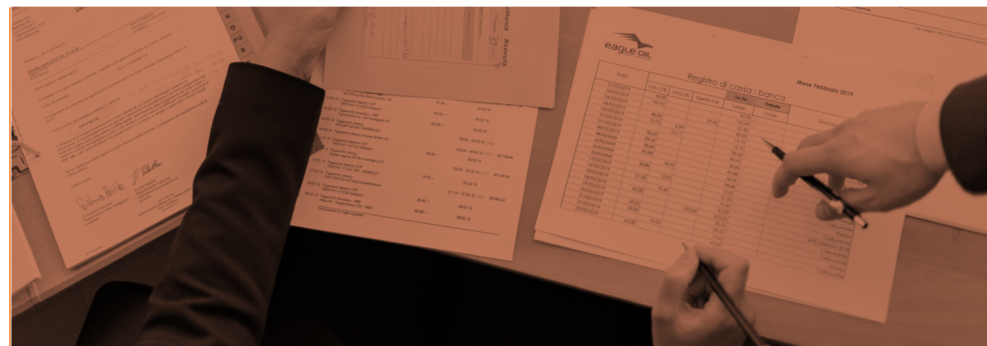
Australian dollar

The current weak Australian dollar is making it more attractive for international students to study in Australia compared to other countries. With the Australian dollar not widely expected to appreciate significantly in the near future, demand for international student enrolments in Australia will continue to be strong.



Indigenous representation

Indigenous enrolments have increased over the past five years. Interest is primarily within society and culture, health, and education courses.



Government policies

The Bradley Review prompted several other higher education reviews and subsequent reforms which have boosted industry demand and revenue since 2012. One such reform was the changes made in 2016 by the Federal Government to student visa requirements.

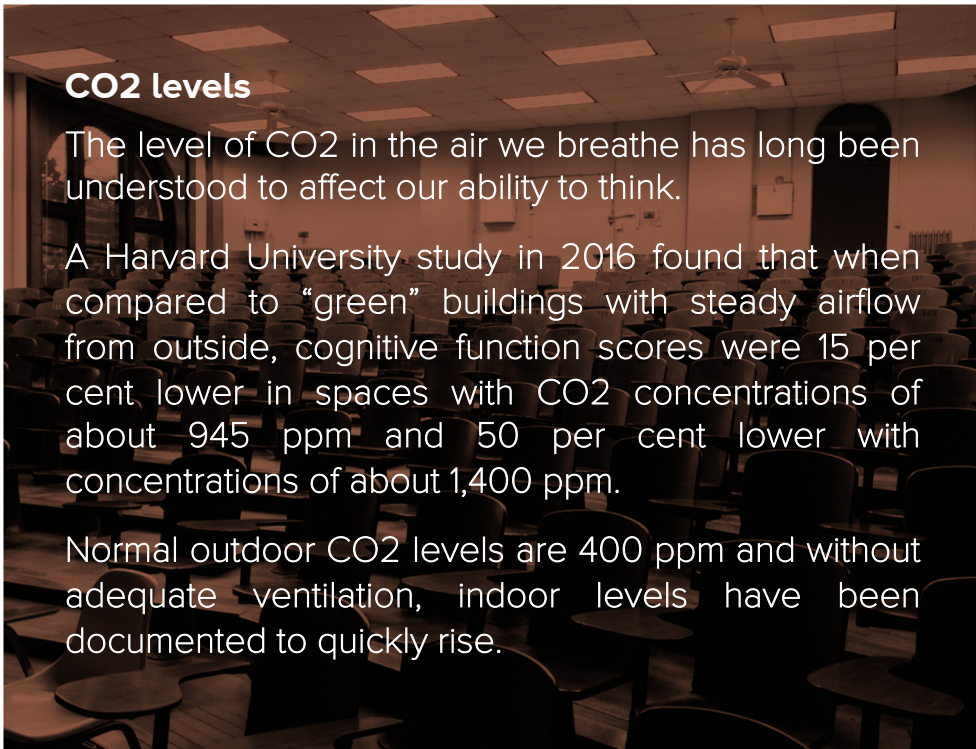
Under these changes, international students were treated as low immigration risk regardless of what country they were from, their proficiency in the English language and their financial status.

The result has been an increase in the number of international students over the past few years. Combined with higher student fees charged to international students, this has significantly increased revenue within the tertiary education industry.

In 2017 the Federal Government capped funding for bachelor courses in 2018 and 2019 to levels set for 2017. This has constrained university revenue over the last couple of years but has not resulted in any decrease in overall revenue from previous years.

Environmental factors in the learning environment

Much research has gone into the effect of the classroom environment on learning outcomes. These studies range from the layout of the room to facilitate creative and collaborative workspaces, to the environmental conditions affecting students' capacity to learn.



CO2 levels

The level of CO2 in the air we breathe has long been understood to affect our ability to think.

A Harvard University study in 2016 found that when compared to “green” buildings with steady airflow from outside, cognitive function scores were 15 per cent lower in spaces with CO2 concentrations of about 945 ppm and 50 per cent lower with concentrations of about 1,400 ppm.

Normal outdoor CO2 levels are 400 ppm and without adequate ventilation, indoor levels have been documented to quickly rise.

Noise levels

High ambient noise levels in classrooms have also shown to be detrimental to learning outcomes in students. **Noise levels can affect learning outcomes in two ways:** noise can make it difficult for students to hear the message as well as causing lower levels of motivation and higher annoyance.

Temperature

Studies show that high classroom temperatures, as well as low classroom temperatures, can affect a student's ability to learn and function. It is believed that when temperatures are too hot or too cold, **the brain is constantly reminding the body to do something about that condition.** Because of the constant interruption, it is hard for the student to stay focused. Inadequate heating and cooling systems, or poorly operated systems can have a detrimental effect on learning outcomes.

Humidity

Further studies have linked high levels of humidity, usually accompanied by hot weather, to lowered levels of concentration in the classroom. Hot days with high humidity generally cause people to feel like they are lacking energy or feeling drowsy.

Mandatory asset management requirements

State Governments are increasingly introducing mandatory asset management requirements. The aim is to provide confidence that physical assets such as tertiary education buildings, machinery and equipment are being managed in a **financially responsible** manner therefore minimising the overall cost burden on the Government.

An early example of this was the introduction of the **Asset Management Accountability Framework** in Victoria. The framework outlines a series of requirements that Government organisations have to attest to meeting in their annual reports. The requirements are essentially related to good asset management practice with service delivery at the core of the process as illustrated below.

One of the primary aims sought by the Government is that organisations:

“efficiently provide the services required by Victorians by ensuring that assets are appropriately planned, built, acquired, used, maintained and exited from or disposed of”.

A more recent example is the **Infrastructure NSW Asset Management Policy**. Similar to the Asset Management Accountability Framework, it prescribes a series of mandatory requirements to which compliance must also be attested on an annual basis.

Some key requirements of these Government-led initiatives include:

1. The development of an appropriate asset register that contains accurate and comprehensive information on the planned and current asset portfolio.
2. The development of Asset Management Plans comprehensively documenting all lifecycle activities required to support services and the financial implication of these activities.
3. The implementation of procedures to manage asset information so it is comprehensive, accurate, up-to-date, and relevant to the effective management of the assets.

While these State Government initiatives are intended to apply to Government entities, **the principles equally apply to private enterprises wishing to maximise the value of investment** in physical assets providing a service. Appropriately implemented, solutions to comply with these requirements will relieve the cost pressures that tertiary institutions face and enable further investment in areas that strengthen their market position.



How AssetFuture can help

AssetFuture is a cloud-based asset intelligence tool that provides a highly data driven means of forecasting operating and capital funding required to maintain health facilities and equipment to a pre-determined condition and risk level. The **data analytics** can not only determine the baseline funding required over the life of the assets, it can also assist with **balancing condition and risk** in an environment where funding is constrained.

This is especially important to universities with insufficient capital funding to suit their needs by minimising the cost of maintaining facilities. This helps reduce the cost pressures placed on the tertiary education sector, maximising the ability for each institution to continue to provide high value adding services to students, thereby **improving the Australian economy**.

Asset Register

At the core of the **AssetFuture** platform is a comprehensive asset register containing:

- a unique identifier for each asset in the portfolio
- a location identifier within the asset hierarchy as well as a geographical reference
- the current condition of each asset
- the criticality of each asset to achievement of the organisation's objectives
- levels of service required for each asset based on its criticality
- activities required to maintain the asset over its lifecycle including to the determined level of service
- the future financial, risk and condition implication of each of these activities



Name	Short Name	Area	Qty	Cost	ID	Status
Administration - Medical Imaging Work Room	MedImagWorkRm	16	1000	100	20191000	Active
Construction - Medical Imaging Lobby	MedImagLobby	16	1000	100	20191001	Active
Medical - Medical Imaging Film Store	MedImagFilmStor	16	1000	100	20191002	Active
Medical - Medical Imaging Dark Room	MedImagDarkRm	16	1000	100	20191003	Active
Medical - Medical Imaging	MedImag	20	1000	100	20191004	Active
Medical - Medical Imaging Change Room	MedImagChangRm	17	1000	100	20191005	Active
Construction - Medical Imaging Waiting	MedImagWait	16	1000	100	20191006	Active
Medical - Special Treatment	SpecTrt	21	1000	100	20191007	Active
Storage - Health Store	HealthStor	16	1000	100	20191008	Active
Medical - Health Gym	HealthGym	20	1000	100	20191009	Active
Medical - Health Cabinet 1	HealthCab1	8	1000	100	20191010	Active
Medical - Health Cabinet 2	HealthCab2	8	1000	100	20191011	Active
Construction - Health Wall	HealthWall	8	1000	100	20191012	Active
Administration - Health Office	HealthOff	16	1000	100	20191013	Active
Construction - Entry Reception	EntryRec	20	1000	100	20191014	Active
Administration - Admin General Office	AdminGenOff	16	1000	100	20191015	Active
Administration - Admin Genl Office	AdminGenOff	16	1000	100	20191016	Active
Administration - Admin GEN Office	AdminGenOff	16	1000	100	20191017	Active
Administration - Admin HR Office	AdminHROff	16	1000	100	20191018	Active
Administration - Admin General Office	AdminGenOff	16	1000	100	20191019	Active

Asset Management Plan

The platform is used as a primary input source to the Asset Management Plan required by Government asset management frameworks.

These Asset Management Plans optimise asset related outcomes based on stakeholder expectations and a given funding level by prioritising investment where it is most needed.

This **maximises patient outcomes** as well as satisfaction levels with services provided.



Asset Information Management

AssetFuture also works with organisations to maximise the benefits associated with using the platform.

This can include carrying out an Asset Information Management Maturity Assessment in order to identify process improvements to the way asset information is managed across the business.

AssetFuture can then work with the organisation to develop an Asset Information Strategy which is essentially a road map of prioritised activities to carry out improvements identified during the assessment.

The Internet of Things

The Internet of Things (IoT) is another area where **AssetFuture** is working with organisations to maximise service outcomes. This involves working with the organisation to determine the most appropriate use of IoT devices to gather data that provides insights to inform asset design and operation practices.

For example, the challenges caused by environmental factors previously mentioned can be better managed through:

1. Monitoring built environment temperatures and humidity to ensure they are within a suitable range for students to get the most out of face-to-face class time.
2. Monitoring CO2 levels to identify study spaces with low levels that have detrimental effects on students' ability to learn.
3. Monitoring ambient noise levels to identify the need for changes to specific study areas to increase student concentration levels.

Cost efficiency gains will only increase as the number of facilities grows with the aging population and growing expectation on services provided which require an asset to deliver.



For more information visit: assetfuture.com