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Presentation: **Big risks in the tertiary sector**

Unimutual Conference 2018, 5-7 September, Darling Harbour, Sydney

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Agenda

- 1** What on earth are big risks?
- 2** Where should we look for big risks?
- 3** Simple scenarios based on trends
- 4** Technology scenarios and teaching
- 5** More complex scenarios for strategic thinking
- 6** Final thoughts

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What on earth are big risks?

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Big risks?

One CEO's view of big risks:

- High levels of risk (combination of consequences and likelihood), with the current controls
- High potential maximum consequences
- Low control effectiveness
- 'What keeps me awake at night?

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Some data (not necessarily information!)

Sample of 26 'big risk' surveys and articles

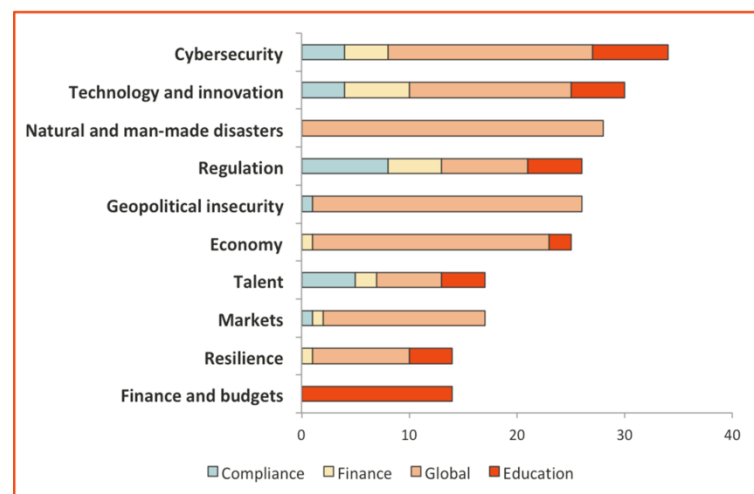
- 5 from higher education
- 368 risks in total
- Quick (and highly subjective) grouping into 27 general categories

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Overall patterns

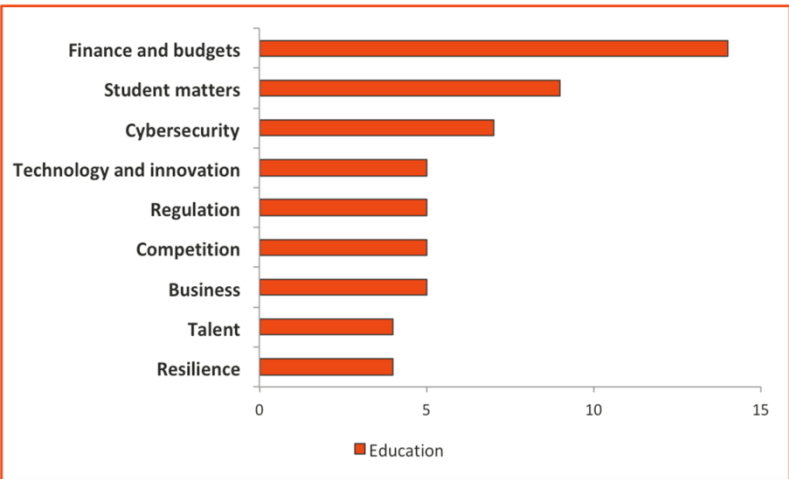
The top 10 groups cover two thirds of the risks



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Education sector (5 sets of data)

Funding is a key focus for higher education



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Education 'big risks'

Category	Topics
Finance	<ul style="list-style-type: none">Funding uncertainty, grants, government policy, costs, financial performance
Student matters	<ul style="list-style-type: none">Student experience and welfareRecruitment and retention; quality
Cyber security	<ul style="list-style-type: none">Information governance and security; privacy; social engineering attacks
Technology and innovation	<ul style="list-style-type: none">Digital integration and integrity; IT support for the institution; contribution to student experienceAdvanced technology, AI; IT leadership
Regulation	<ul style="list-style-type: none">Compliance; regulatory burdens; government policy
Competition	<ul style="list-style-type: none">Competition for students; international competition
Business	<ul style="list-style-type: none">Organisational performance; staff relations
Talent	<ul style="list-style-type: none">Staff development; competition for qualified faculty

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What can we learn from this?

There is some agreement about broad categories of 'big' risks

- But great variation in the detail
- And not many surprises

There is no easy consensus

- Risks range from 'nuisances' to existential threats
- There are many points of view

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The most interesting risks have long-term implications

We understand tactical, operational risks quite well

- They might be messy, but we know how to tackle them in most cases

Strategic risks tend to have longer-term implications and are more difficult to resolve

- The environment is often complex, with many interacting components
- We may not recognise a threat exists, or how serious it might be, until it is upon us

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Where should we look for the big risks?

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What might indicate a big risk?

Trends leading beyond our current experience

- Boiling frogs

Events, including rare catastrophes, that are outside our experience or that catch us by surprise

- Black Swans
- Perfect storms

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Characteristics of 'interesting' big risks

Significant uncertainty and many divergent opinions

Potentially large impacts, only partially knowable

Non-linear impacts over extended timeframes

Complex, 'messy' interaction effects

Unpredictable human responses

Situations outside the comfort zone for people and organisations, so existing processes and culture may no longer work

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Challenges (1)

We need to be careful to avoid long term thinking being confined to the frame of reference we currently use to understand the world

It's not too hard to watch out for the things you know you should be worried about

Being able to spot things you hadn't thought of until they start to emerge is a different challenge

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Challenges (2)

There are foreseeable long terms trends that we can start to consider immediately

- Increasing population, increasing proportion of the population expecting a higher standard of living, and better education for their children ...

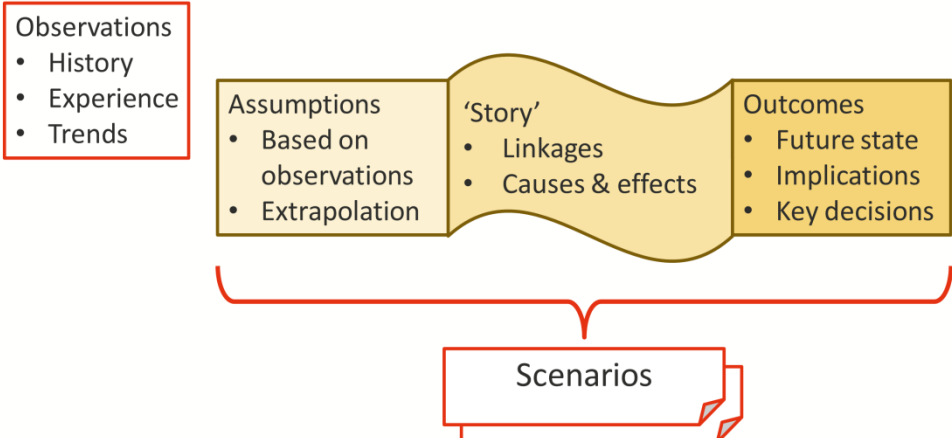
But simple extrapolation of trends is unlikely to be sufficient

- It would be prudent to accept that there will be things we care about that we haven't identified and so can't plan for yet
- We need a way of maintaining a lookout for the unexpected

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Scenario analysis can provide a useful way forward



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Scenarios need to be both credible and useful

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Characteristics of a *credible* scenario

The assumptions should be believable

- They should be forward-looking, and take into account anticipated trends and changes
- They may include changes with low likelihoods

The outcomes should be believable

- They should be linked logically to the assumptions
- There should be a good 'story' that explains the links
- The scenario should be internally consistent

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Characteristics of a *useful* scenario

It should be credible

It should be directly relevant to the organisation

It should have impacts that are important for the organisation

It should stimulate productive thinking about the future

- It should lead to a point where major change or a major decision is inevitable, and thus generate discussion about what changes, threats and opportunities might arise

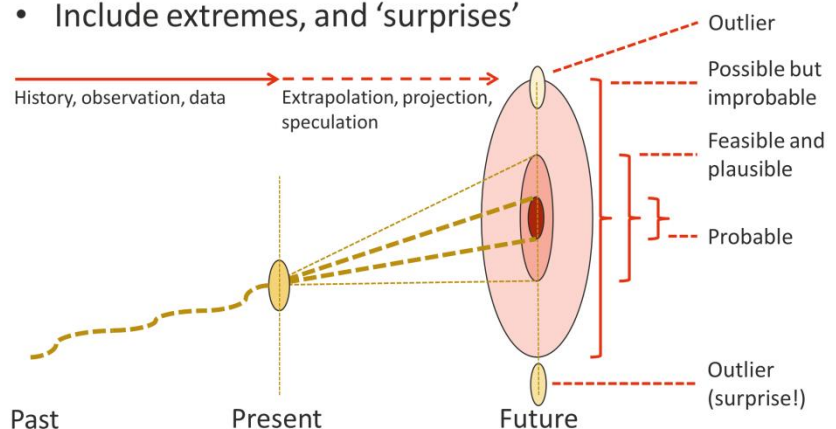
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Simple scenarios based on trends

Developing scenarios from trends

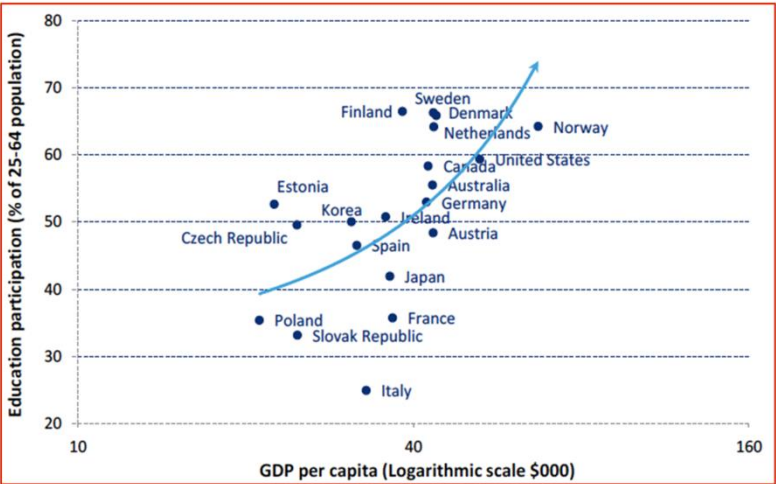
Start with assumptions and simple projections

- Project current trends
- Include extremes, and 'surprises'



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Trends in participation in education



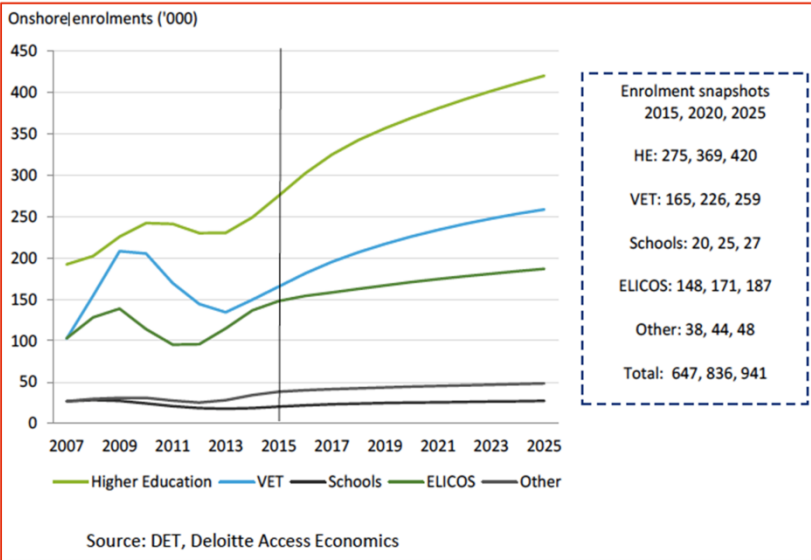
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1% increase in GDP/capita generates 1.1% growth in higher education participation
GDP growth in China and India 6-8% pa

Source: OECD, Deloitte Access Economics

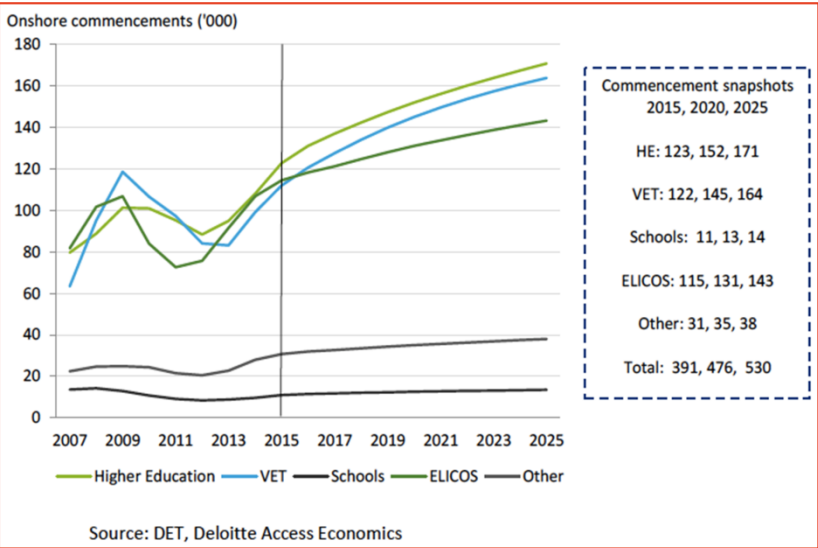
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International learners in Australia



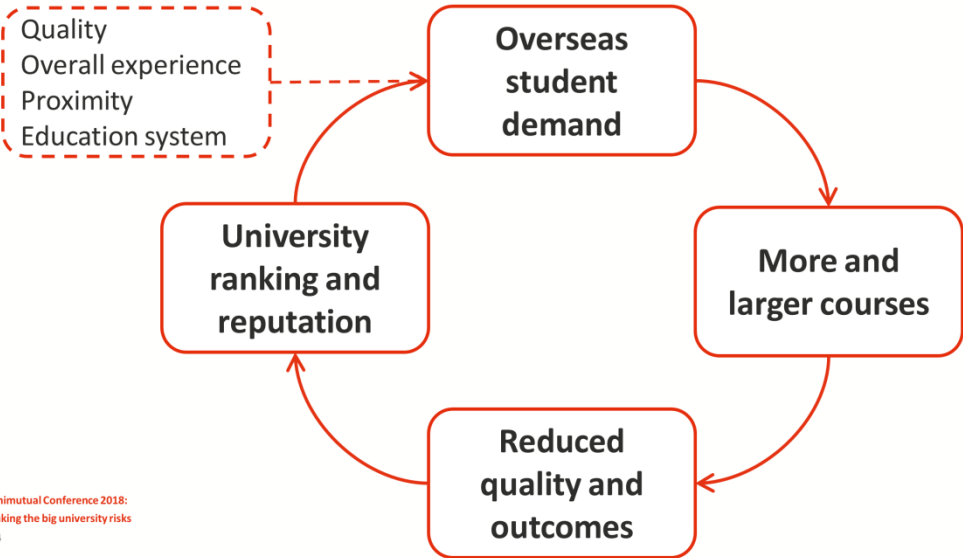
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International learners in Australia

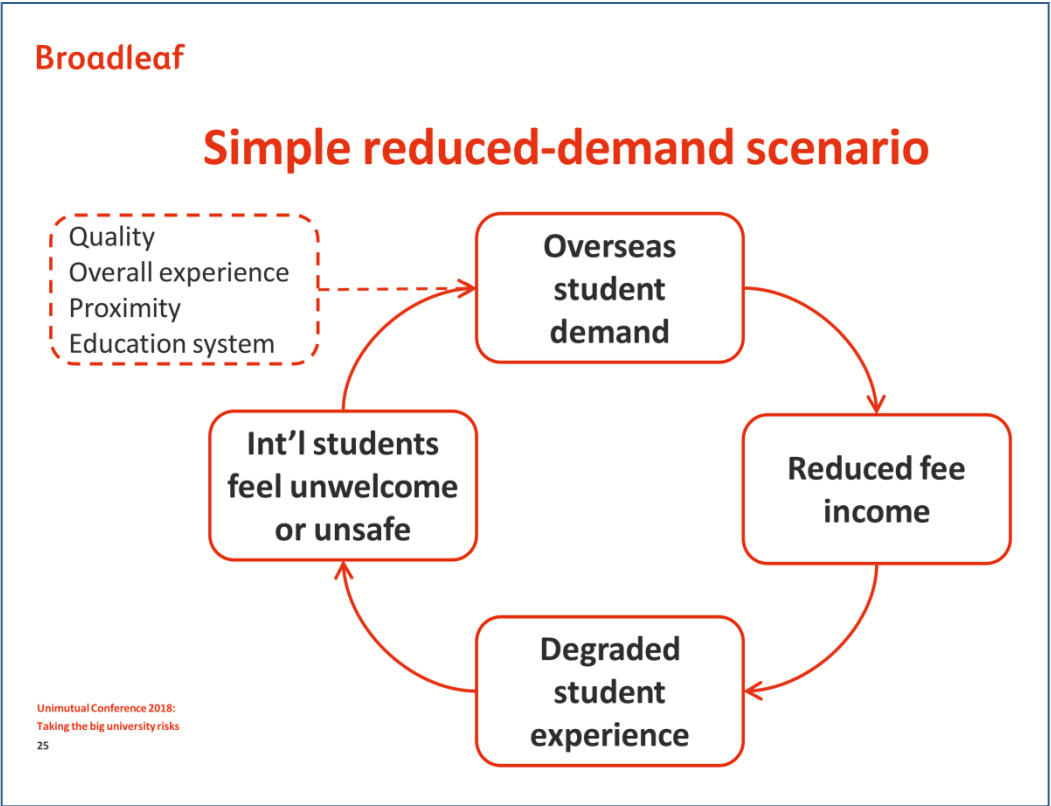


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Simple high-demand scenario



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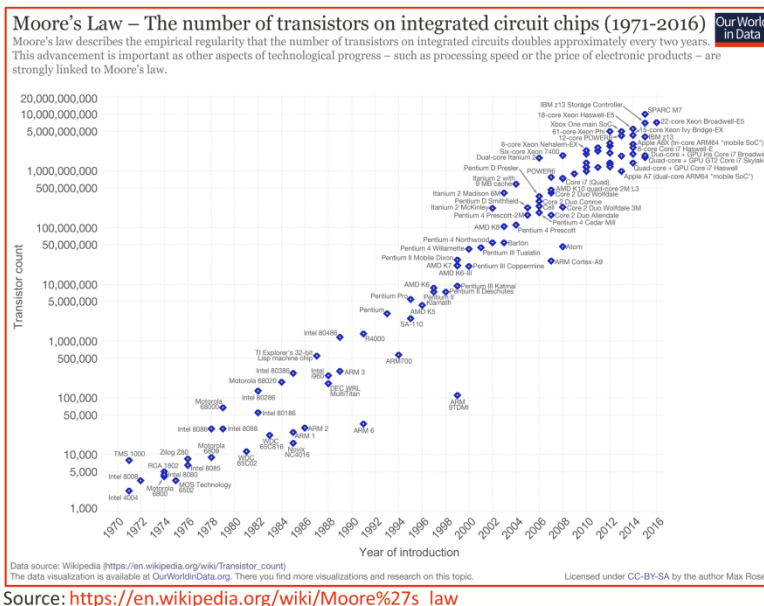


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Technology scenarios and teaching

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Hardware capability is increasing rapidly

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27Source: https://en.wikipedia.org/wiki/Moore%27s_law

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Systems have evolved new capabilities

Hand-written lists and calculations

Mechanised calculations (e.g. slide rule)

Technical calculations (e.g. calculator, computer)

Expert systems (e.g. rule-following systems)

Autonomous systems (e.g. self-driving cars)

Artificial intelligence (e.g. machine learning)

??

Technical rules

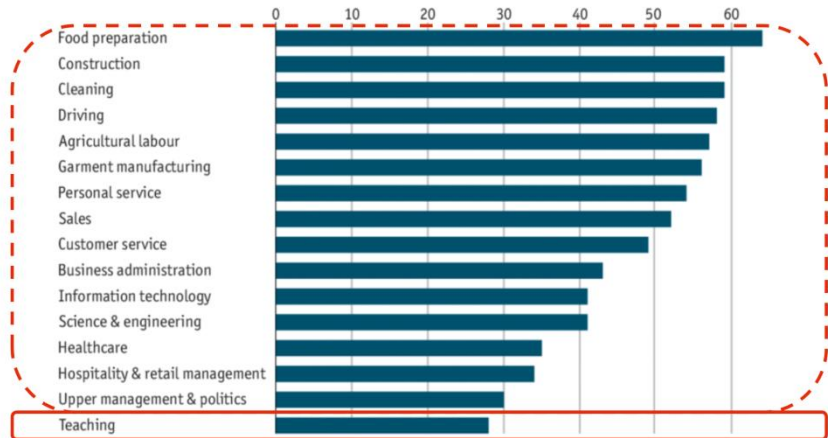
Ethical rules

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University jobs may be at risk of automation

Automated for the people

Automation risk by job type, %



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Source: The Economist, 24 April 2018, based on Nedelkoska and Quintini (2018)

Implications for teachers' skills

Different teaching focus, requiring new capabilities for teachers

- We'll need to teach people how to think
- E.g. many students use calculators, so there is no need for mental arithmetic, leading to a lack of quantitative insight
- How can you teach insight?
- Teaching how to build machine learning capabilities
- Teaching for new jobs that don't exist now (and that may not be envisioned yet)

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Many teachers will be unfamiliar with the new teaching paradigms that will be needed

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Implications for how we teach

Many teaching jobs will change

- Educational support, administration and marking will become more automated
- There will be less need to teach repetitive, high frequency tasks (e.g. image processing and associated diagnoses for X-rays, retinal images)

Some jobs will always remain

- Jobs that teach practical skills (e.g. 'you can't teach a bricklayer online')

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But students may have to learn new ways of learning

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More complex scenarios for strategic thinking

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Disruptive forces driving change (EY)

1	Changing world of work	Technology disruption in the workplace
2	Blurring industry boundaries	Non-traditional rivals offer educational services
3	Evolving digital behaviour	Learners become consumers of educational services
4	Increasing international competition	Competition for rankings, students and academics
5	Rise of continuous learning	Education as a continuous process

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Source: EY (2018), Can the universities of today lead learning for tomorrow?
www.ey.com/au/futureuniversity

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Scenario drivers (EY)

1	Government role	Activist or hands-off Government or industry funding Capped or uncapped fees
2	Demand conditions	Learner demographics Learner objectives
3	Technology conditions	Technology integration Technology as a service Prominence of AI
4	Sector structure and rivalry	Degree of protection, external rivals Integration with industry Connection of research and learning

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Source: EY (2018), Can the universities of today lead learning for tomorrow?
www.ey.com/au/futureuniversity

Four scenarios for 2030 (EY)

... four divergent yet plausible views of Australia's higher education landscape in 2030



Champion university Universities as strategic national assets; traditional degree programs; streamlined operations



Commercial university Financially independent universities; work-integrated learning; close collaboration with industry



Disruptor university Deregulated sector; continuous learners; on-demand micro-certificates; technology disruption; new markets and services; increased competition



Virtual university Integrated universities and vocational institutes; training and employability focus; flexible, online, unbundled courses; shared digital platforms

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Source: EY (2018), Can the universities of today lead learning for tomorrow? www.ey.com/au/futureuniversity

Things to think about

For each scenario:

- Do we have a suitable business model for creating, delivering and capturing value?
- Could we cope with future disruption, given our current capabilities?
- What do we need to do now to make us more resilient?
- Is there a credible and sustainable transformation pathway from where we are now?
- Should we conduct some experiments to prepare ourselves for different futures?
- Are there opportunities we can exploit?

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Final thoughts

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Final thoughts

Simple risk management processes are unlikely to be sufficient for 'big risks'

- You need to look where the black swans nest
- Where we are now may not be a good starting point

Use scenarios to identify possible futures

- Conduct risk assessments from these new starting points

Evaluate treatment options from the perspectives of

- Resilience, to deal with threats and major disruptions
- Strategic positioning, to capture opportunities

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