

Submission on the Productivity Commission's Review of New Models of Tertiary Education

Submitter information

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1. This submission is made as Auckland University of Technology's response to the Productivity Commission's Issues Paper 'New models of tertiary education'.
2. The submission gives:
 - an introduction considering the purpose of the university sector in New Zealand;
 - examples of AUT delivery against the Issues Paper's themes of innovation, technology, and employability;
 - a view on aspects of the planning and funding framework that could be changed or should be preserved to enable innovations which would advance the university system's productivity in meeting its purpose;
 - a summary of recommendations for actions that would promote adaptation and change within the system.
3. The submission does not specifically address individual questions posed in the Issues Paper but takes an overarching view addressing the main themes.

Introduction

4. The Productivity Commission is considering:
 - how trends in technology, internationalisation, tuition costs, and demand for skills might drive changes in models of tertiary education;
 - how New Zealand's institutional and policy settings affect the adoption of new models of tertiary education;
 - what if any new models exist or might emerge.
5. The Issues Paper addresses themes such as innovation, technology and employability and there is an underpinning assumption that improvements in the productivity of tertiary education can be accessed by addressing the issues raised.
6. One problem confronting the Commission is the peculiar collection that comprises what New Zealand describes as its tertiary education sector. The Sector would be better described as *post-school education and training*, a term from the past that acknowledges that much of what is included does not build on a secondary education, but instead seeks to replace or recover it.

Addressing the New Zealand tertiary sector as if it were a coherent whole has led to confusion and sub-optimal administrative and funding arrangements.

7. Accordingly, this submission restricts its scope to the university sector and approaches the issue from the premise that the purpose of universities is the advanced education of students. Justification for assuming that purpose can be taken from the following:

- The Education Act 1989 defines universities as tertiary institutions which are primarily concerned with more advanced education. It goes on to refer to students, teaching and education, also mentioning research but, significantly, only in conjunction with aspects of the educational purpose.
- A customer analysis also highlights students. For New Zealand universities the vast majority of income is student-derived.
- Students individually pay thousands of dollars in fees and spend thousands of hours closely engaged with the university, usually over several years.
- The government also pays universities, but most of its funding is as a subsidy of student tuition costs. The government's money follows the student, and is referred to as the 'student achievement component' affirming an intention to purchase education on behalf of the student.
- Employer groups argue that universities should imbue graduates with the skills that employers require in their employees. While employers pay nothing to universities for education, students generally expect, in agreement with the employer view, that their education and qualifications should secure them better employment and career prospects.
- Analysis of the economic contribution of universities finds that by far the greater contribution comes from graduates rather than the outputs of other university activities.
- Other views of university purposes also attach to students and graduates, for example, a role in providing for social mobility, or the delivery of the professional and intellectual capability required for the functioning of a complex modern society, and the functioning of a democratic nation.

8. Another approach to understanding the nature of a university and its purposes is to consider the common characteristics of those universities that are widely acknowledged to be the best in the world; they are mainly:

- middle-sized to large in terms of their student enrolments
- comprehensive, delivering a wide range of disciplines up to PhD level
- research intensive
- governed autonomously
- focussed on the quality of their students and their graduates
- international in outlook
- rich and endowed

9. Ignoring the last of these characteristics, New Zealand universities mostly express them, and from a comparative perspective it is clear that New Zealand's university system is performing well.
- All universities are world-ranked in the top 3%, seven of the eight are rated amongst the world's Top 200 universities for international outlook, and New Zealand would be one of few countries whose universities would meet these overall standards.
 - Six year degree completion rates for New Zealand students are on average higher than for other comparable countries, and graduate employment outcomes are very strong.
 - New Zealand couples its universities' educational success with the high quality of their research, much of which is world-leading.
10. The university sector's strong performance is in spite of considerable financial pressure. In OECD comparisons New Zealand's universities have amongst the lowest per student incomes, and have experienced a decline in real funding rates over the last decade. Over the same period, universities have been grappling with significantly increased operating costs, driven by growth in staff costs and investment in the infrastructure required to support the sort of changes outlined in the Commission's Issues Paper. The price points for the major domestic revenue sources are tightly controlled by government, with the international revenues the only significant source of income for which a market price can be raised.
11. The international market is highly competitive, and increasingly so, yet the New Zealand university sector ranks among the highest in the world for the percentage of its students that are international. International students bring much more than money. As well as giving crucial support for the costs of university operations and delivering substantial foreign earnings into the economy, the university sector's international education does much for New Zealand's future capability in a globalised economy, creating enduring connections with markets throughout the world, based on associations and friendships formed during university days in New Zealand.
12. If the purpose of the university sector can be taken to be the advanced education of students creating successful graduates, and this submission contends that it can be, then the most likely improvements in productivity against that purpose will come from keeping universities acutely sensitive to the market pressures of informed student demand. A free and open society cannot change faster or differently than the desires and aspirations of its youth. Universities have a role in shaping both of these, but in order to engage them at all, they must respond to where prospective students are now, and to where they wish to go. Rather than attempting this through a centralised system of direction with no real connection to students, individual universities need to be able to determine how to innovate and change with worthwhile effect by responding to the direct signals that they have from student demand and from following the success of their graduates. Central funding and regulatory arrangements should be such that the overall quality, viability and probity of universities is assured and enhanced leaving much else to the autonomy of each university, as is already implied by the provisions of the current legislation. This applies as much to the adoption of digital technologies, new teaching techniques, and learning innovations, as to anything else. Given the appropriate autonomy and an unimpeded and undistracted connection to their education markets universities will adopt what works best.

13. The rest of this submission addresses impacts and innovations for teaching and learning in the current and emerging markets, surveying examples of innovation at AUT, and then considers changes to the institutional and policy settings that will further assure that the New Zealand university sector adopts approaches that will work best.

New Models of University Education

14. The Issues Paper seems predicated on an assumption that the international landscape is alive with credible, technology-based, low-cost tertiary education alternatives and that barriers prevent these from existing in New Zealand. AUT would argue that the challenge is not to bring technology into the classroom – smart phones and students have done that. The challenge is how to capture the potential of technology in ways that really improve learning and lower costs for all.
15. It is not yet clear whether the internationally available low cost alternatives provide credible learning opportunities, let alone opportunities as good as or better than current university provision in New Zealand.
16. Online technologies are abundant, can be good at presenting content, and should become more effective, but a university learning experience is more than just accessing a knowledge resource. Along with providing students with the capability and confidence for learning, university helps students develop their potential, magnify their creativity, extend their networks, achieve their dreams. The campus model is best at teaching the skills learnt through human interaction, such as how to compromise, inspire, persuade, how to build a life of ethical and moral value, how to work creatively with people of different backgrounds; when, and how, to speak – and when, and how, to listen.
17. These are outcomes that, on their own, online and alternative models do not deliver. Although web-based courses can have better economies-of-scale than on-campus ones, they will not retain ambitious students unless they replicate the interaction available in good universities. MIT, for example, has led the way in providing open content (and now MOOCs) because of its confidence that its value proposition rests on the in-class, on-campus, learning experience and that this provides the transformative experience that young people and employers desire.
18. AUT will thrive in the future by producing a value that is obvious to all. It has a duty to explore – as it places the student experience of advanced learning at the heart of its value proposition – ways in which new models might make its in-person, on-campus education even better. As outlined below, a number of its recent innovations exploit technologies for the purpose of a superior learning experience.
19. However, innovation is context-specific. For universities, there are clear areas where innovation may have far greater downstream consequences, if the impacts are poorly understood or the risks are great. For example, offering something radically different to the standard three-year, on-campus degree experience requires students, academic staff, and employers to value it. This is why at AUT innovations are usually tested first as pilot initiatives

Recent innovations include:

Changes in what is taught	<p>New programmes</p> <p>In the last couple of years, AUT has introduced new programmes in areas like analytics, architectural and marine engineering, and</p>
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	health informatics. In all cases, industry was consulted about the programmes' development and graduate outcomes.
Changes in how it is taught	<p>Flipped classrooms AUT is piloting flipped classrooms, where students access lectures online and come to class to do assignments. The concept is driven by digital technology e.g. blogs, wikis, tablets, smart phones, and social media sites. AUT is assessing the impact on student engagement and learning outcomes before wider implementation.</p> <p>Explorer An AUT design-thinking workshop series involving staff, industry, secondary and tertiary students exploring alternatives to traditional education models, initiated by AUT's first Adjunct Executive Professor Derek Handley.</p>
Changes in who is doing the teaching	<p>Colab AUT's interdisciplinary laboratory has partnered with Spark Ventures so students can work alongside Spark staff to undertake applied research on rapid prototyping for the Internet of Things and how to make sense of Big Data.</p> <p>LaTTEs AUT's Learning and Teaching Technology Enablers are a team of students who advise and instruct teaching staff on the best use of new technologies.</p>
Changes in what is learned	<p>Creating job makers - Kickstart Weekend, AUT Venture Fund, and STEMpreneurs AUT offers programmes to support students at different stages of the entrepreneurial journey: Co.Starters – a nine-week programme that equips aspiring entrepreneurs with the tools needed to turn business ideas into action. Kickstart Weekend – a 54-hour event that brings together students, staff and alumni – who may be designers, developers, entrepreneurs, and domain experts – to collectively explore the entrepreneurial potential of business ideas. AUT Venture Fund – competitive seed-funding for student business start-ups. STEMpreneurs – a student club which facilitates mentoring and assistance to start-up businesses based on innovations in STEM subjects.</p> <p>Changing pedagogies – e.g. communication studies Changes to IT and the move to digitisation have fundamentally changed what is taught in journalism. In addition to traditional writing skills, digital skills have become a core skill and photographic, video, audio, and graphic skills are all increasingly needed by graduates. This has required significant capital investment in studios, a working newsroom, and multi-media edit suites.</p>
Changes in how it is learned	<p>AUT Edge Award This is a co-curricular programme designed to increase students' leadership and employability skills. The Award is granted when students complete a set number of hours across activities in three categories: volunteering, employability and leadership, and challenge. A formal self-reflection process allows students to apply their experiences when entering the workforce.</p>
Changes in who is learning	UniPrep

	<p>UniPrep is a six-week summer programme held at AUT's South Campus that introduces students to academic study and university life. Many UniPrep students consider a university education unattainable before the programme and a key outcome is a peer support network for students once they are enrolled in their academic programmes.</p>
Changes in where it is learned	<p>Work placements</p> <p>Workplace experience is an integral part of many AUT programmes. In 2015, 89% of bachelor's graduates completed a work placement while studying. Many students gain full-time employment with the same company they complete their placement with.</p> <p>interNZ</p> <p>AUT interNZ provides scholarship supported opportunities for top graduates to live and work in the US to help them develop their professional and work-ready skills and employability in a global context. The programme has grown since it began in 2013, with 21 graduates currently working in New York, Los Angeles and San Francisco. The scheme places interns in US based companies including Paramount Studios, Stanford University, Saatchi & Saatchi NY, Zolfo Cooper (corporate restructuring) and Red Antler (design), Apple, Facebook, Xero, FCB, and Westpac of the Americas.</p>
Changes in why	<p>The changing world</p> <p>It is dangerously limiting to gear university education to the perceived needs of today's employment market. AUT is constantly innovating what, how and where it teaches in order to prepare students for jobs that don't exist yet, that use technologies that have not been invented yet, in order to solve problems that we don't recognise yet. We must take care not to limit students' horizons by thinking only about the needs of today. They will be working with the needs of tomorrow.</p>

20. All these innovations are responsive to what employers say they want from graduates and future employees.

- Graduates who are well-rounded in the fundamentals of their discipline, but who can think both convergently about the detail of the problem at hand but also divergently, being able to place the issue in the wider context of business or society;
- Graduates with personal skills, habits of mind and social capability (or 'C-skills' as they are referred to at AUT) – clear communication, creativity, curiosity, collaboration, critical reasoning and dealing with complexity;
- 'Employment ready' graduates i.e. graduates who have had exposure to business through an internship or other work experience and whose qualifications are well grounded in practice;
- Employees who can learn quickly, be agile and adaptable, and be knowledge-literate – knowing where and how to acquire new knowledge;
- Employees who are able to address the new demands confronting industry;
- Employees with an international outlook.

21. In summary, AUT recognises it has a duty to innovate and it does innovate through piloting and evaluating new initiatives. It does this in a manner that is responsive to what employers tell us they want. AUT sees itself – is seen – as a vanguard of innovation and believes the concerns raised in the Issues Paper are unfounded.
22. However, this is in spite of changes to the policy and funding settings that appear to have been designed to prioritise government control over spending and to generate a greater return on investment, thereby supporting the existing and proven at the expense of innovative educational delivery models. This has resulted in an increase in central prescription with a commensurate reduction in organisational autonomy. The result, perhaps unintended, has been increasing levels of conformity to what government stipulates it wants and this, in the end, will dampen the innovative spirit that currently exists in New Zealand's universities.

Institutional and Policy Settings

23. The following sections consider which institutional and policy settings might be changed to improve the likelihood of universities being successful in their educative purposes and innovations, and which of the present settings should NOT be changed.
24. First, **what NOT to change**. The following features of the current university sector in New Zealand need to be maintained.
 - Autonomous governance
 - Comprehensive curricula in each university up to PhD level in all disciplines
 - A competitive market
 - Student driven funding
 - Consistent funding arrangements across all universities
 - Bulk funding
 - Requirements for research
 - A public university system with price controls
 - Mandatory quality assurance and measures such as CUAP and the PBRF
 - The international PhD subsidy
25. Maintaining these arrangements will:
 - **Preserve a tight connection between individual universities and their market of consumers.** The necessary combination of autonomous governance, bulk funding, consistent student driven funding, and some competition between universities provides a powerful platform for the development of a student and graduate focussed sector. One criticism often voiced by commentators is that the competition between universities produces wasteful duplication. This observation is contrary to the prevailing thinking about markets in general and it is unlikely to accord with evidence. Amongst other things a competitive environment drives universities to play to their strengths and develop distinctions, as is borne out by the present range of universities in New Zealand, which could hardly be seen as carbon copies, even when delivering programmes in similar subject areas. Furthermore, it would be an odd argument that would see students, who make

such a large investment in both financial and opportunity terms, with diminished choice about where to make that investment.

- **Assure quality of provision.** Requiring all universities to participate in the same quality assurance arrangements, persisting with an expectation of research activity and PhD level study options, and keeping to a public system with reasonable barriers to entry based on capacity and capability, will ensure that the competitive system provides valuable education of an international standard and avoids profiteering, fly-by-night operations, and the appearance of quality without substance. It will also maintain and enhance the international standing of the New Zealand university system, crucial to maintaining international enrolments and academic partnerships.
- **Allow for innovation and institutional agility.** Bulk funding enables universities to deploy funds to changing priorities to support innovations and initiatives. The tighter the targeting of funding the more that initiative moves towards the central funding agency and away from the university and students, and the agility of the institutions is diminished.
- **Promote institutional energy and commitment.** An institution that has a defined identity and distinctive reputation, a cohesive internal community, and the ability to act, is more likely to be responsive, adaptive and creative. Autonomy, bulk funding and a competitive system are factors supporting the development of such institutions.
- **Maintain efficiency, sustainability and attractive power.** Comprehensive universities embracing a wide range of subject areas and levels of education up to PhD are generally larger, certainly so in New Zealand, and have:
 - enhanced sustainability resulting from having sufficient internal variety and capacity to withstand external shocks;
 - economies of scale;
 - the ability to provide their students a wider range of options, services and resources than institutions with a narrower curriculum or a truncated range of levels;
 - a higher profile posing a stronger magnet for good quality academics and international students.
- **Deliver more cross- and inter-discipline opportunities.** New thinking for the changing world may not arise within the old subject divisions. Autonomous comprehensive universities have much greater opportunity and a higher likelihood in the creation of academic programmes and research work that cross disciplinary boundaries.

26. *What TO consider changing:*

Changes that would allow more rapid curriculum and delivery innovation, for example:

- Allowing a small percentage of SAC funding at each university to be attached to programmes and courses that are not yet approved through the external systems, in order to support faster implementation of new course initiatives and some experimentation. Universities would be on their own recognisance, with their own internal quality assurance arrangements backed up with the provisions of the Fair Trading Act and the Consumer Guarantees Act for the assurance of students. Such an arrangement would shorten the period required to introduce some new programmes and pedagogical approaches considerably.

- Devising some way to limit the extent of the requirements of professional registration authorities over degree contents to allow more flexibility for the university to introduce changes and options.
- Allowing SAC funding to be fully available to support students on any form of compressed programme.

Changes that would encourage universities to be more sensitive to student experience and preferences and to graduate success, such as:

- Requiring all universities to conduct and publish the results of regular student experience surveys, which comprise common nationally agreed items;
- Adding some graduate measures to the comparative EPIs already monitored and reported by the TEC. For example, the proportion of the graduates that are in graduate-level employment 6 to 12 months after graduating, with the requirement that the universities conduct the survey of their graduates and obtain a meaningful response rate.

Changes that would allow inter-university educational collaboration to deliver both efficiency and innovative options, such as:

- Allowing SAC funding to be allocated to composite schools or entities that are established under the joint control of two or more universities.

Changes that increase focus on the qualification completion rates of disadvantaged groups with currently poor outcomes thereby increasing the overall productivity of the system, for instance:

- Increasing the equity funding for Maori and Pacific EFTS but restricting it to those who progress, i.e. providing no equity funding for Maori and Pacific students in sub degree programmes or the first year of a degree, but much increased funding for Maori and Pacific students who have progressed beyond these levels.
- Expanding Maori and Pacific equity funding to include all students from families of low socio-economic status.

Changes that connect research and teaching:

The PBRF was established to support degree and postgraduate teaching with higher quality research. However, its unintended consequence has been to significantly uncouple teaching and research, with more researching academics sequestered in activities or departments that have no contact with students or the university's educative function. It has done this by hugely raising the incentive for research achievement for individual academics and their universities, who can garner reputation or funds or both, thereby shifting their attention away from teaching. While the rules require all teachers of degree students to be included in the PBRF census they also allow the inclusion of research-only staff in the tallies and totals. These research-only academics may be working full time in hospitals with clinical rather than teaching duties, or in entities like Uniservices engaged in commercialisation projects, or in specially funded institutes and centres established solely for research purposes. Universities have also scurried to establish teaching-only positions, which are officially exempt from PBRF assessment and therefore can't diminish the university's average academic quality score, and can free up good researchers from any teaching at all so that they can achieve A status and the much higher PBRF recognition and money that goes with it. In addition, the system has skewed the distribution of funds, which are meant to support good teaching with good research, causing it

to become heavily and increasingly weighted to the two already richest universities and away from most of New Zealand's university students. One disturbing outcome of these trends is that while the number of academics in the university sector might be reasonably steady, with a marginally increasing student to staff ratio, the teaching load is left to fewer and fewer academics who have less time and energy to explore innovative teaching techniques and technologies. The following changes are suggested as options for slightly adjusting the PBRF system moderate these unproductive tendencies.

- **Amending the PBRF census rules** to allow only teaching academics to be included, and excluding those whose role is solely research, in order to increase the incentive for both the university and the individual academic for advancing the desirable academic practice of activity in BOTH teaching AND research.
- **Changing the PBRF funding weightings** for A, B and C rated academic evidence portfolios to reduce the value of A from 5 times a C to 3 times a C with a commensurate reduction in B, which will reduce the accumulation of funding in few universities without removing the recognition of the quality of research activity.

27. Adopting these changes would combine to:

- drive a greater focus on the student experience and graduate success
- support creative and innovative approaches to teaching and learning by removing funding impediments
- increase attention given to the participation and success of those with high social deprivation indicators thereby increasing the productivity of the system,
- maintain incentives for research quality to support the excellence of advanced education

28. Critically, these changes would reinforce the primary purpose of the university to provide advanced education for students, and enhance university flexibility to pursue this.

29. The bundling of teaching and research is important for several reasons:

- It supports the collective international reputation of the New Zealand university system as a global provider of high quality education. Without research, New Zealand's universities would not appear in the international rankings, a clear driver of international student numbers in the New Zealand market.
- Research underpins a university's legislated role as "critic and conscience" of society.
- There is a growing consensus that an understanding of research and the development of the skills of "doing research" are becoming more central to what all students should acquire at universities. These skills include amongst others, critical thinking, curious enquiry, creative problem solving, dealing with complexity.
- It supports inspiring learning environments for students. A senior academic at Harvard has observed, that scholarship without teaching is sterile and teaching without scholarship is superficial.

30. That said, it is critical that each university determines its own course in terms of research intensity. As a new university – New Zealand's *only* new university, unlike Australia, Canada or the UK where there are communities of new universities – AUT is particularly hampered by the current concentration of research monies while it strives towards developing the full strength of

its research capability, to support the second-largest number of students at degree and postgraduate level.

Recommendations for Action

31. While there is much to be preserved in current arrangements for the university sector (refer paragraphs 24 and 25), the following summarised changes (refer paragraphs 6 and 26) to current institutional and policy settings are recommended.

A. Changes to system nomenclature and bundling

- Rename the tertiary education system the 'post-school education and training system.
- Unbundle the different sectors of this system and provide policy and planning unique to each.

B. Changes that would allow more rapid curriculum and delivery innovation

- Allow a small percentage of SAC funding at each university to be attached to programmes and courses that are not yet approved through the external systems.
- Limit the extent of the requirements of professional registration authorities over degree contents.
- Allow SAC funding to be fully available to support students on any form of compressed programme.

C. Changes that would encourage universities to be more sensitive to student experience and preferences and to graduate success

- Require all universities to annually conduct and publish the results of student experience surveys which are comprised of common nationally agreed items.
- Add some graduate measures to the comparative EPIs already monitored and reported by the TEC.

D. Changes that would allow inter-university educational collaboration

- Allow SAC funding to be allocated to composite schools or entities that are established under the joint control of universities.

E. Changes that increase focus on the qualification completion rates of disadvantaged groups

- Increasing the equity funding for Maori and Pacific EFTS but restricting it to those who progress, i.e. providing no equity funding for Maori and Pacific students in sub degree programmes or the first year of a degree, but much increased funding for Maori and Pacific students who have progressed beyond these levels.
- Expanding Maori and Pacific equity funding to include all students from families of low socio-economic status.

F. Changes that connect research and teaching

- Adjust the PBRF census to allow only teaching academics to be included.
- Adjust the PBRF funding weightings for A, B and C etc. rated academic evidence portfolios to reduce the value of A from 5 times a C to 3 times a C with a commensurate reduction in B.

32. Adopting these changes would combine to

- drive a greater focus on the student experience and graduate success,
- support creative and innovative approaches to teaching and learning by removing funding impediments,
- increase attention given to the participation and success of those with high social deprivation indicators,
- maintain incentives for research quality to support the excellence of advanced education,
- enhance the opportunities expand international activity and recognition.