Massey University's submission to the Productivity Commission's inquiry into "new models of tertiary education"

Introduction

Massey University welcomes the opportunity to submit this paper as part of the Productivity Commission's inquiry into "new models of tertiary education".

This submission does not provide detailed responses to all 78 questions. We have endeavoured to provide a high level response outlining the key current and future trends facing New Zealand and the university sector and how Massey is responding to these trends.

Significant change is required and Massey is continuing to explore how to meet these challenges while providing high quality teaching and research environment that meets the changing needs of students, employers, communities, New Zealand and the global market.

We invite the productivity commission team to request any additional information you require.

Our submission is divided into the following sections:

- Purpose and value of universities
- Research and teaching
- Addressing current and future trends
- Government settings.

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Executive Summary

Change has been a part of universities for some time and universities are being adaptive and innovative in response. However, we know that the level and pace of change is increasing rapidly and even more changes are required to meet the very real challenges ahead.

"When compared with previous industrial revolutions, the Fourth is evolving at an exponential rather than a linear pace. Moreover, it is disrupting almost every industry in every country. And the breadth and depth of these changes herald the transformation of entire systems of production, management, and governance.– World Economic Forum The Fourth Industrial Revolution

Universities, communities, businesses and the Government need to work together to meet these challenges and determine what kind of tertiary education system we want to encourage and sustain in New Zealand. New Zealand needs a clear strategy and vision for how tertiary education contributes and grows New Zealand domestically and internationally.

Over the next twenty years there will be a step change in areas such as labour market, rise of tertiary consumer demand, internationalisation, and new technologies and platforms. This will result in:

- Universities being more responsive to student demand – more creative in how we meet student's needs and their desire to control how and what they learn and who from.
- Continuous education with more students combining work and study and older students studying to learn new skills or upskill. Graduates will have multiple jobs and more than one career in their working life.
- Preparing students so they can anticipate and navigate a rapidly changing labour marker with a focus on employability that is about more than being ready for a specific existing job. It is about learning, knowledge and developing critical attributes such as critical thinking, resilience, leadership, flexibility to meet the changing labour market.
- More investment required to meet the development of new technologies with appropriate pedagogical application.
- Universities operating more internationally – providing education services domestically and internationally and expanding international research and business collaboration.

In New Zealand we also have a growing Māori population and growing Māori economy and the issue of equity is becoming more pressing. This requires an investment in the provision of more culturally responsive pedagogy and curricula. In addition to maintaining and expanding a critical mass of Te Reo speakers to support Māori aspirations and participation in all levels of higher education and in all disciplines. Additional resources to support the capability and capacity to bring about these changes will be required.

Pasifika, as with Māori, experience lower levels of participation, retention and completion and increasing numbers to tertiary education. The challenge is to provide a culturally responsive education experience.

The issue of teaching and research is being discussed here and internationally. It is not an issue of research vs teaching. It must be research **and** teaching. It is our position that an aligned and supportive teaching-research nexus within the university as well as with external stakeholders' agendas is fundamental.

We are now more 'globally mobile' than ever before and universities are part of the global community as educators, researchers and business partners. We are an important part of New Zealand's international brand and contribute strongly to trade revenue. The investment model should look at international NZ outcomes as well as domestic employment outcomes.

Finally, Government and universities need to work together to harness the expertise of universities and address the social and economic challenges ahead. This submission suggests a number of areas that require greater degree of collaboration between government and universities.

The issues paper rightly raises issues and asks questions. In attempting to answer the big questions of how do we meet the challenges ahead, we do not believe that any one sector; government, business or tertiary has the single solution. The response can only be crafted through further engagement and dialogue. We ask that you look at how you can support a real active dialogue to take us to the next step.

We look forward to continuing to engage with you on this important matter.

About Massey University

Massey University is a leading tertiary education institution in New Zealand with a focus on providing a breadth of educational and research opportunities to a wide range of communities, industry, partners and students seeking to enhance and develop their capability and capacity to contribute as effective 21st century citizens. Within the framework of a broad academic offer we have developed specialist programmes in agriculture and veterinary sciences, food technology, aviation, design and the creative arts, engineering, applied social sciences, humanities, business studies and health sciences.

Massey is consistently ranked in the top 3 percent of universities in the world and in the top 100 for signature areas such as agriculture, veterinary sciences, accounting and finance, nursing and design.

Massey University is New Zealand's national university, with major campuses in Palmerston North, Albany (Auckland), and Wellington, as well as a virtual distance education campus that supports higher learning anywhere in New Zealand and around the world.

In 2015, Massey had approximately 31,600 students, including 4,400 international students. Just over half of the students are over 25 years old and over 13,500 students choose to study via distance education with Massey. We remain in contact with around 130,000 of the over 300,000 Massey graduates. Our commitment to distance education provides access to those seeking university regardless of their circumstances, location, family or employment commitments.

Massey has a strong international reputation built through ongoing international partnerships and forged through its contribution to the advancement of international research and scholarship and demonstrated. For example, through membership on the International Academy Partnership Global Food and Nutrition Security Think Tank, which aims to reduce the number of chronically malnourished people and address the challenges posed by the planet's rapidly growing human population; and Massey's intellectual leadership in the groundbreaking success of the One Health Programme funded by the European Commission/World Bank focused on building human and institutional capability throughout the South Asia region to detect and effectively respond to emerging epidemic and pandemic disease threats.

Throughout its history, Massey University has embraced change both within the institution and in the wider world. We have established a reputation as a bold, innovative "can do" university that seeks to have positive impacts on the communities it serves. We are building on our traditional strengths as well as the new and diverse activities that advance New Zealand's contribution to the "big problems" of our time.

We believe that now, more than ever, Massey University has an important role to play. New Zealand and the global community face what might be described as "new times". The scale of economic, technological, scientific, environmental, social, cultural and political change in New Zealand and around the globe has driven many changes in Massey and the university sector.

As we enter the next phase of our history, we would describe ourselves as an innovative, self-reliant, outward-facing institution committed to defining our own future. Our distinctive programme of research and teaching, combined with our focus on engaging with the New Zealand community, makes us the nation's most relevant university. Our commitment to addressing the changing times in which we live makes us globally significant.

Purpose and Value of Universities

University Purpose

Although the environment is changing the purpose and value of Universities remains at its core the advancement of knowledge and its dissemination and maintenance by teaching and research. The characteristics of universities are further defined by the Education Act 1989 section 162 as:

- they are primarily concerned with more advanced learning, the principal aim being to develop intellectual independence
- their research and teaching are closely interdependent and most of their teaching is done by people who are active in advancing knowledge
- they are a repository of knowledge and expertise
- they meet international standards of research and teaching
- they accept a role as critic and conscience of society.

Universities have an important role to play in New Zealand and the global community. For example, Massey, with a campus in Palmerston North plays a vital role supporting and revitalising regional development in Manawatu in partnership with key stakeholders such as Palmerston North City and the Manawatu District Councils, local organisations and other research and educational providers such as Univer-City, Manawatu Connect, AgriFood Business and the Food HQ partnership. In Auckland, Massey University's Albany campus continues to facilitate the development of an "innovation corridor" in Auckland North, through our Grow North initiative, also in partnership with key stakeholders such as ATEED (Auckland Tourism Events and Economic Development). In Wellington, Massey University is making progress towards the creation of an innovative and creative knowledge hub through initiatives such as Think Differently and Grow Wellington, and engagement and collaboration with local government and other tertiary education providers. We connect with and support our wider regions through initiatives such as the new New Zealand Forum, the most recent being held in the Hawke's Bay and Taranaki to share findings of recent research on demographic changes for New Zealand regions and associated impacts. And national events such as Finance 2016, an annual event hosted by Massey University and the Auckland Chamber of Commerce where the Minister of Finance makes his first major economic address of the year.

Massey Goals

Change is a constant and in recent times, the scale of economic, technological, scientific, environmental, social, culture and political change in New Zealand and around the globe has driven many changes in Massey and the university sector.

To meet these challenges Massey has developed a strategy with the following seven "big goals".

Big Goal	Explanation
Research and enterprise *To* promote the highest standards of research and scholarship, be a world leader in our areas of specialization and support active engagement with, and participation, knowledge exchange to ensure that the intellectual capital we generate is used to best advantage	We are a research-led university committed to the application of knowledge.
Teaching and learning To ensure an exceptional and distinctive learning experience at	Our students can expect a teaching and learning environment that will enable them to be creative, innovative and connected

Massey for all students	contributors to society.
Connections To strengthen our connections with tangata whenua and local, national and international partners and stakeholders, creating mutual benefits	Close attention is given to building mutually beneficial relationships with the many partners and stakeholders who work with the University.
Internationalization To extend our reach so that we operate worldwide as New Zealand's' defining international university	Increasingly our focus is on building the University's capacity and capability to work around the globe.
Responsibility To enhance our reputation as New Zealand's defining international university	As a major intellectual resource, we have been identifying ways that we can help to address the major challenges faced by New Zealand and the global community.
Generating income To significantly increase our income and improve our financial position to allow for more investment to enable the University to achieve its goals	We are committed to diversifying our funding base to ensure that we can resource the work of the University.
Enabling excellence To provide the best working and academic environment for our staff and students.	We are providing support for staff and students to excel while investing in the information technology (IT) and physical environment they need.

Underlying these goals are two additional strategies:

- *WISDOM:Pasifika@Massey Strategy 2020* - key initiatives to accelerate Massey's academic and research agenda for Māori and for Pasifika in an attempt to respond to growing Māori and Pasifika scholarship and the need to respond to contemporary and future demands.
- *Kia Mārama* identifies He ara Mātauranga (forging academic pathways), He waka Mātauranga (building catalysts for learning and scholarships), and He puna Mātauranga (generating new knowledge relevant to Māori development) as priorities for investment.
- *Growing Pearls of Wisdom* - five strategic goals: Student Achievement; Research and Policy; Engagement; Organisational Capacity and Capability; and Pasifika Curriculum Development.

Massey Business Model

The Universities NZ model provides a broad outline of the business model for teaching in universities. What it does not show adequately are the research, enterprise, and social contribution dimensions (i.e. research is undertaken to advance our knowledge and understanding, to improve the outcomes for our communities, economies, ecologies, and societies, and to underpin our contribution as global citizens). Deployment of our research earns revenues for our institutions, businesses, communities, and the NZ economy.

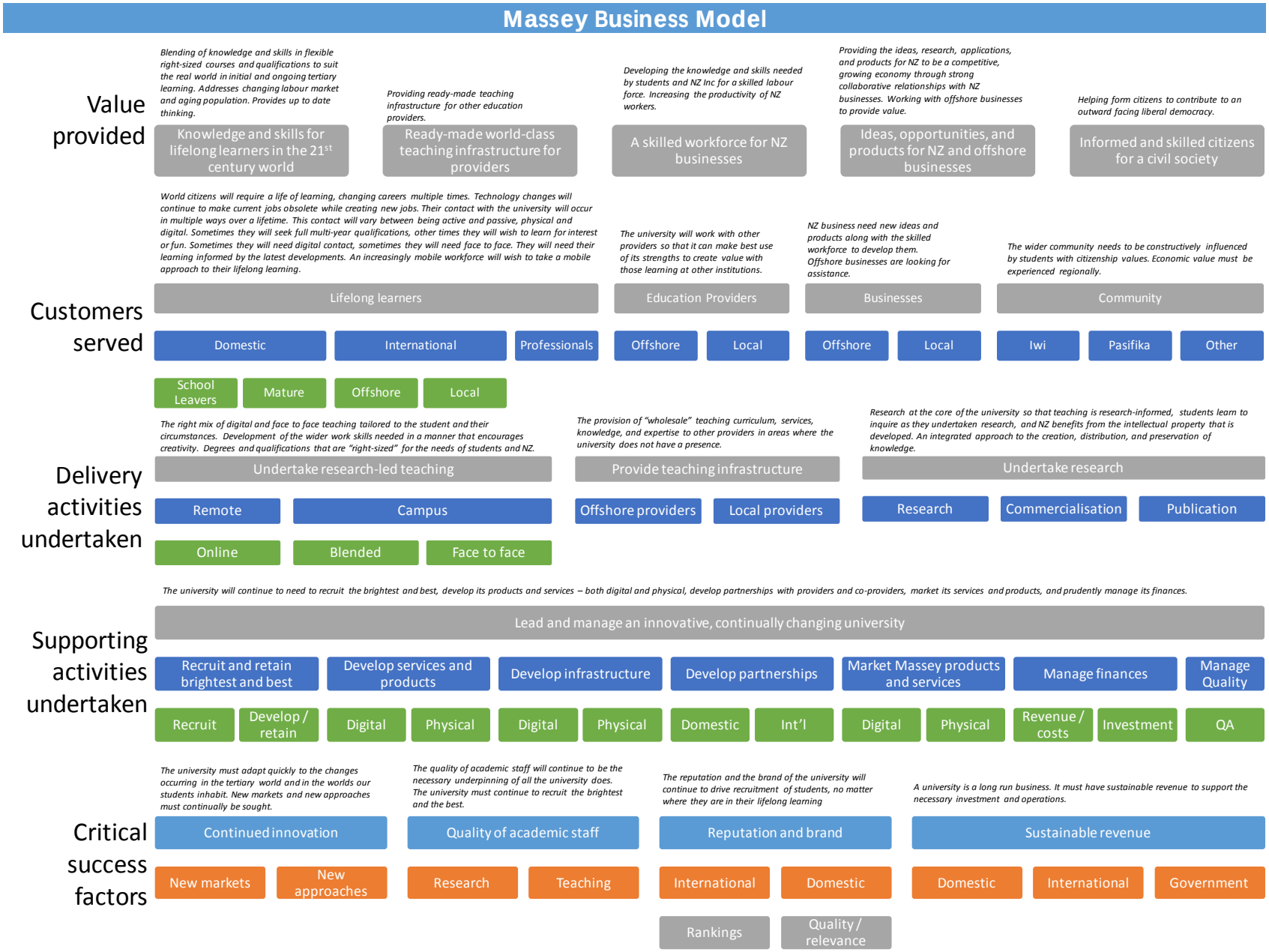
The model also does not capture factors such as student experience, and family and peer drivers that influence where students choose to study. Each institution has its unique identity and strengths and these influence the learning experiences of students and their exposure to a diversity of subject areas, multi-disciplinary studies and trans-disciplinary research.

Finally, we do not believe that the presented business model lens can capture the intrinsic skills that students gain from studying at university. Each institution has its unique identity and strengths and students respond uniquely to each mode of teaching. Over the period of three to four years,

students are enriched with life and work skills that are more than the sum of the knowledge they have learnt. These life-long and transferable skills include resilience, critical thinking and organisational skills such as meeting deadlines, and priority setting for instance.

The following diagram presents an outline business model for Massey University that describes in summary value provided, customers and critical success factors. It highlights some key requirements for a university in the 21st century.

- The value provided through universities is more than simply economic. Universities are core to creating and maintaining a civil society through their role as critic and conscience as well as building informed and skilled citizens.
- Universities serve lifelong learners, both domestic and international. Local and international businesses are served. Regional communities are served. These learners must have an active voice in the provision of the services that they ultimately benefit from.
- Other education providers are increasingly becoming clients of universities in New Zealand as they provide infrastructure and resources that other providers can use, both locally and internationally.
- Close interactions with businesses is critical to meeting government's wider economic objectives and therefore must be an integral part of the university's value chain.
- For universities to serve other providers, a key delivery activity then becomes that of providing teaching infrastructure that can be used outside of the immediate institution.
- Research and teaching are integrally linked. This is not just a local New Zealand requirement but is a key characteristic of leading university sectors in the world. Teaching at undergraduate level by active researchers in the area of expertise also inspires students to take a deeper approach to their learning, as opposed to merely focusing on achieving immediate assessment targets. The quality of the teaching provided can be managed through professional development, active quality management and assurance.
- The critical success factors for a university must include continued innovation. This in turn supports the recruitment of the "brightest and the best", building the reputation of the university, and achieving sustainable revenues.


Massey Business Model
Value provided
Blending of knowledge and skills in flexible right-sized courses and qualifications to suit the real world in initial and ongoing tertiary learning. Addresses changing labour market and aging population. Provides up to date thinking.
Knowledge and skills for lifelong learners in the 21st century world
Providing ready-made teaching infrastructure for other education providers.
Ready-made world-class teaching infrastructure for providers
Developing the knowledge and skills needed by students and NZ Inc for a skilled labour force. Increasing the productivity of NZ workers.
A skilled workforce for NZ businesses
Providing the ideas, research, applications, and products for NZ to be a competitive, growing economy through strong collaborative relationships with NZ businesses. Working with offshore businesses to provide value.
Ideas, opportunities, and products for NZ and offshore businesses
Helping form citizens to contribute to an outward facing liberal democracy.
Informed and skilled citizens for a civil society
Customers served
World citizens will require a life of learning, changing careers multiple times. Technology changes will continue to make current jobs obsolete while creating new jobs. Their contact with the university will occur in multiple ways over a lifetime. This contact will vary between being active and passive, physical and digital. Sometimes they will seek full multi-year qualifications, other times they will wish to learn for interest or fun. Sometimes they will need digital contact, sometimes they will need face to face. They will need their learning informed by the latest developments. An increasingly mobile workforce will wish to take a mobile approach to their lifelong learning.
Lifelong learners
Domestic
International
Professionals
School Leavers
Mature
Offshore
Local
The university will work with other providers so that it can make best use of its strengths to create value with those learning at other institutions.
Education Providers
Offshore
Local
NZ business need new ideas and products along with the skilled workforce to develop them. Offshore businesses are looking for assistance.
Businesses
Offshore
Local
The wider community needs to be constructively influenced by students with citizenship values. Economic value must be experienced regionally.
Community
Iwi
Pasifika
Other
Delivery activities undertaken
The right mix of digital and face to face teaching tailored to the student and their circumstances. Development of the wider work skills needed in a manner that encourages creativity. Degrees and qualifications that are "right-sized" for the needs of students and NZ.
Undertake research-led teaching
Remote
Campus
Online
Blended
Face to face
The provision of "wholesale" teaching curriculum, services, knowledge, and expertise to other providers in areas where the university does not have a presence.
Provide teaching infrastructure
Offshore providers
Local providers
Research at the core of the university so that teaching is research-informed, students learn to inquire as they undertaken research, and NZ benefits from the intellectual property that is developed. An integrated approach to the creation, distribution, and preservation of knowledge.
Undertake research
Research
Commercialisation
Publication
Supporting activities undertaken
The university will continue to need to recruit the brightest and best, develop its products and services – both digital and physical, develop partnerships with providers and co-providers, market its services and products, and prudently manage its finances.
Lead and manage an innovative, continually changing university
Recruit and retain brightest and best
Recruit
Develop / retain
Develop services and products
Digital
Physical
Develop infrastructure
Digital
Physical
Develop partnerships
Domestic
Int'l
Market Massey products and services
Digital
Physical
Manage finances
Revenue / costs
Investment
Manage Quality
QA
Critical success factors
The university must adapt quickly to the changes occurring in the tertiary world and in the worlds our students inhabit. New markets and new approaches must continually be sought.
Continued innovation
New markets
New approaches
The quality of academic staff will continue to be the necessary underpinning of all the university does. The university must continue to recruit the brightest and the best.
Quality of academic staff
Research
Teaching
The reputation and the brand of the university will continue to drive recruitment of students, no matter where they are in their lifelong learning
Reputation and brand
International
Domestic
Rankings
Quality / relevance
A university is a long run business. It must have sustainable revenue to support the necessary investment and operations.
Sustainable revenue
Domestic
International
Government

Polytechnics, Wānanga, and Private Training Establishments

Polytechnics serve an important role, both regionally and nationally, in providing students with vocational and applied education pathways. The importance of education in traditional trade, service, or trained roles, is vital to ensuring that communities can meet their needs in a sustainable manner, underpinned by best practice.

Wānanga are a rightful exercise of mana motuhake by Māori. It is their right to adopt and provide Māori models of education that serve the educational needs of their communities in accordance with the Treaty of Waitangi. Wānanga serve an important role in the creation and transmission of mātauranga Māori.

The business model of private providers will depend on the nature of the organisation or individual providing the service. In many cases these will be driven by a profit motivation to secure a return on investment, in which case education may merely be the means by which profit is generated. Other providers may be community groups trying to assure societal improvements through education.

Grouping all tertiary education models together through "business models" has, to some extent, destabilised each type of provider's respected roles. For example, the blurring of academic and vocational pathways has undermined the role of the polytechnic in contributing to a sustainable society.

Productivity

Productivity is about doing more with less, about being smarter and innovative to improve outcomes for New Zealand and the overall wellbeing of New Zealanders.

As noted in the Issues Paper, the correlation between education and training, human capital development and economic growth is strong but the causal mechanisms are more difficult to establish (Wilson&Brisco, 2004).

It is highly unlikely that there is a one to one relationship between education and productivity. Neither can the perceived productivity challenges in New Zealand be laid solely or primarily at the door of tertiary institutions.

The Productivity Commission report "An International Perspective on the New Zealand Productivity Paradox" notes that:

- Half of New Zealand's productivity gap relative to OECD average can be explained by weaknesses in our international connections; and
- Most of the rest of the gap reflects underinvestment in "knowledge-based capital".

Below are some of the ways that universities contribute to productivity and to addressing the gaps noted above. These are further expanded on in this submission

- Universities provide advanced learning and research. Universities are the leading institutions to create and transfer new knowledge that will support New Zealand business to be more productive and support improvements to the well-being of New Zealanders.
    - Universities work with students and employers to enhance employability which is not just about being ready for a specific existing job. It is about learning, knowledge and developing critical attributes such as critical thinking, resilience, leadership, problem solving, flexibility and communications to meet the changing labour market now and in the future. (See Davos 2016: The future of education: lessons in uncertainty.)[1]

[1] https://www.youtube.com/watch?v=16N6pro-1So

    - Provide life-long learning that supports the retraining and upskilling of New Zealanders.
    - Provides assurance to students, employers and other stakeholders that qualifications meet quality standards nationally and internationally, enhancing mobility of the labour market and providing significant value to individual students.
- Universities have strong international connections
    - Meet international standards of teaching and research that enhances New Zealand's international reputation and builds international confidence and trust in products and services from New Zealand. Universities are part of a global higher education system and academics commonly collaborate.
    - Universities build strong business partnerships with international businesses, higher education providers, research partners and communities.
- Universities are part of the local, regional and national economy and society. Working with:
    - Iwi and Māori to improve participation levels and to support indigenous knowledge, skills and experience.
    - Pasifika to improve participation and to support Pasifika knowledge, skills and experience.
    - Local and regional government, businesses and communities to address local issues and enhance local economic and social development.
- Universities accept the role as critic and conscience of society.
    - Universities tackle the most difficult issues facing New Zealand today. Universities, as autonomous institutions are well placed to investigate, research, analyse and communicate about issues such as poverty, climate change, equity, public and population health, land use.
    - Universities are innovative and at the fore-front of understanding and preparing for Future Challenges.
- Undertaking new research and pushing the boundaries of knowledge.
    - Undertaking new ways of researching and creating new experimental creative spaces outside the normal parameters.
    - Communicating new information and insights gained through evidence-based research.
- Universities have a core role in ensuring New Zealand is a knowledge based economy able to compete globally.
    - Enhancing New Zealand's reputation internationally through research, teaching and business partnerships.
    - Contributing to New Zealand's international trade revenue.

Research and Teaching

Teaching-Research Nexus and Teaching Excellence

The teaching-research nexus is the defining feature of university level education, where an aligned and supportive teaching-research nexus within the university as well as with external stakeholders' agendas (industry, community, government, etc.) is fundamental.

Moreover, 'research driven teaching' ensures that students are exposed to cutting edge research and are well prepared, either for future graduate study or to make a positive contribution to the workforce. There is some evidence that employers appreciate and also value university graduates precisely because they have had this exposure to up-to-date research in their teaching and learning experiences.

When students are taught by staff who are research active they are exposed to staff who are not only passionate about their subject area but who are also pushing at the boundaries of current knowledge – not merely teaching within current knowledge.

The difference between Universities and vocational providers is that Universities are not training for best practice in jobs which already exist, but are instead instilling the basic foundations of knowledge creation to enable students to make a worthwhile contribution in highly changeable contexts, led by staff for whom a contribution to society is a fundamental requirement.

This emphasis may be inappropriate for vocational programmes which should have greater emphasis on pedagogies and characteristics that support the learning styles of the relevant student cohorts and potential employment contexts.

With a rightful focus on research outputs for academic staff, universities face ongoing challenges of resourcing the facilitation and recognition of teaching excellence, to ensure the student experience is enhanced. It is also necessary to ensure that research-active faculty stay abreast of current developments in pedagogy and teaching technology in addition to current research.

There are typically three main elements of academic staff promotion: research, teaching and service. This 'trinity' of function characterizes the role of the modern academic. It is true that now, academic staff are expected to be strong across all three spheres. While research and teaching are spoken of in equivalent terms, in reality the classical role of the academic, as described above, typically sees them spending most of their time engaged in teaching and associated academic administration duties. Promotion applications tend towards ensuring that both teaching and research are recognized in principle, yet research is still prioritized: a research inactive staff member would be unlikely, under the 'traditional' system outline above, be promoted to senior academic rank.

In terms of the recruitment of academic staff, the focus on research and teaching is considered in holistic terms. New Zealand universities might get more hard-nosed about this, especially if collective employment agreements were to more aggressively embrace Teaching Focused and Research Intensive positions, as has been the case in Australia. Much clearer expectations would enable academic staff to play to their strengths, but also this would allow an institution to best utilize the talents of its workforce. Note that in Australia, Teaching Focused roles are still expected to be engaged with the scholarship of teaching and learning, so are engaged with pedagogical thinking, innovation in teaching practice and methodology and current scholarship; in other words, such positions are not simply 'teaching drones' where the roles are devoid of research, but they are more actively engaged in higher teaching workloads.

Good research also informs the nature of the pedagogical design in that it encourages students to engage, debate and co-create knowledge with their teachers. When students are taught by staff who are research active they are exposed to staff who are not only devoted to their subject area, but who are pushing the boundaries of current knowledge; in other words, they are not merely

teaching within current knowledge parameters, but are furthering and redefining what those boundaries might look like.

The research-teaching nexus is putatively one of the key defining points of difference between universities and providers of vocational education. Here it is critical to point out that while employability is important for universities as public institutions (just as it is for governments), they are not simply training sites for jobs; nor do universities guarantee graduates will secure employment in their chosen fields. Rather, universities enable and support students to develop the requisites skill sets, knowledge and competencies to apply to a career path or profession and to make a contribution to industry in particular, and society in general. In sum, it is the process of knowledge discovery that is the source of value creation for students; this comes from the infusion of research into teaching and the clear relationship between current scholarship and good quality teaching and learning.

Effective teaching is engaged teaching where students meet or exceed the learning outcomes and enjoy the experience. Teaching effectiveness can be assessed by the quality of student outcomes and the quality of the student experience. Students benefit from their teaching and learning experiences – and their learning journey – not only in terms of the skill sets and knowledge they acquire, but also their overall 'experience', which includes both the academic and the extra-curricular. This may be more apt for campus-based school leaver students entering university, though the 'holism' of the experience (academic and non-academic aspects) is important too for mature age learners and for those who study primarily online and via distance modes and methodologies.

Exemplary teachers are rewarded by way of university and/or national award nominations; though it would be fair to say that under current rubrics and criteria in New Zealand universities, it would be difficult for a 'teaching intensive' academic to secure promotion to, say, professorial level on the basis of teaching and service alone. This is as it should be, given the imperative around the research-teaching nexus (which defines the purpose and project of universities in this country); but there is also room for movement here in terms of institutions understanding the need to recognize the importance of teaching in promotion criteria.

Universities typically use this information to feed back into the continuous improvement loop and to act upon the key trends and feedback to teachers. This is where the integrity of the survey design tool is critical to ensure that broad and inclusive feedback, once solicited, is appropriately fed into the survey mechanism. This is normally done via a University Teaching and Learning committee (or equivalent body), which has direct reporting responsibilities through to the Academic Board. It is thus managed through the governance arm of the institution.

Providers need to be cognizant of and responsive to trends and feedback in student behaviour and response to (1) ensure that the learning experience is a positive and efficacious one for students in terms of meeting learning outcomes, (2) that papers/courses are delivering on the learning outcomes and that this is visible to the institution, and (3) this is a way to observe good teaching and detect where support and other interventions may be required in a teaching context.

Quality Assurance

The quality assurance model operated by Universities New Zealand is credible, robust, and appropriately underpins the autonomy of universities. The model is underpinned by collaboration across the university sector, with all universities contributing time and expertise to quality assure qualifications, progress internationalisation, benchmark and improve services, and engage with the secondary school sector and other tertiary providers to set and evaluate admission requirements.

Peer review is the primary quality assurance mechanism adopted within and between universities, whereby CUAP set criteria against which research active specialists are called upon to evaluate the

merits of proposed and offered qualifications for academic credibility, appropriate resourcing, and fitness for purpose. The processes are efficient, robust, and responsive.

The audits which are undertaken by AQA are in-depth, robust, and credible, and provide excellent feedback for institutions to enable them to reach the international standards expected from a university.

It would not be appropriate for universities which are autonomous institutions to be evaluated by a government agency such as NZQA, which does not have the requisite knowledge and credibility to evaluate the programmes offered by universities. The NZQA approach is very compliance-focused to assure equivalence over a diversity of providers and education streams. This is an unenviable task and is insufficiently nuanced to capture education offered in a research-rich context.

Recommendation

- CUAP continues to provide quality assurance to the university sub-sector in a speedy and agile manner to meet pace of future changes.

Addressing Current and Future Trends

Demographic change and the changing labour market

In the future students are likely to be older and already at Massey over half of our students are over 25 years. There will continue to be significant changes in how we work, what type of work we do and the knowledge and skills required. Learning will be life-long with more and more workers seeking ongoing professional development and learning or retraining. Alain Demaze at the World Economic Forum in Davos in January 2016 stated "Six pupils out of ten in elementary schools will perform jobs that do not exist today."[i] The changing nature of the labour market will require workers to refresh skills or retrain more often. There will also be an increase in demand for learning from the increasing number of older people in our population.

From one career to continuous education[2]

Current strategies continue to focus on younger students. The New Zealand population is reported as well-educated, with 39% of 25-64 year olds and 46% of 25-34 year olds having attained a university degree. Consequently there is, and will be, a growing number of tertiary qualified working professionals who will need to access ongoing learning and development (Continuous Education and Training). When combined with prolonged working lives and changing labour markets, the demand for lifelong education and training will increase. With the aging population, economies will also require older workers to remain in the workforce longer.

In this context, professional learning and development, retraining and enabling students to combine study with work and other commitments are a priority for the well-being of New Zealand and its communities. Education will need to be delivered to learners independent of their location, whether they choose to study full or part-time, on a campus, online or from a remote location.

Preparing for employment

Technology is changing the demand for labour and the way we work. Technology is now impacting on the professions with a significant amount of work being automated over the next five to ten years. The way we work is also changing and technology is becoming embedded into the delivery of professional services – medical services via video into remote areas; iCloud accounting services. Digital literacy is a core competency for everyone.

[2] https://www.weforum.org/agenda/2015/01/what-will-the-future-of-education-look-like/

Preparing students so that they can anticipate and navigate a rapidly changing labour market is critical. Core skills and competencies such as critical thinking, resilience, and agility are more necessary as students graduating today are likely to have many jobs and more than one career throughout their working life. These skills are vital for change and transition.

Massey has an active employability framework to enhance the employability of Massey graduates in partnership with students and employers.

Partnership with Employers

Universities engage with a wide range of employers at a multitude of levels. Employers are engaged in the design of qualifications generally in a reference group capacity. These employers may also continue to provide input into the qualification management and review processes. Employers provide placement, practicum and internship opportunities for students, along with case study examples.

Employers are engaged with our Careers staff and participate in careers events and recruit from graduate and graduand ranks. Many of our students are in part-time and full-time employment during their studies and their employers often support their studies financially and/or by providing study leave. Students bring the skills and insights from their study directly into the workplace, providing immediate benefit for employers and the wider workplace. Employers also engage with student research – either in a supportive role, or by initiating research requests for students to work on.

In some courses such as nursing, universities work with employers who provide work based learning alongside the campus teaching. Internationally, students are expecting to have opportunities like internships to establish a work record prior to leaving university.

Recommendation

- The Government investigates the establishment of a forum to support universities and employers to work together to improve placement, internship and employment opportunities.

Changing Consumer Demand

Universities are already seeing a change in how students are approaching study and university life. As costs rise, students are demanding higher quality facilities and services. This drive to provide the best is exacerbated in the current competitive environment and costs continue to increase. Some universities are treating students as customers and seeking “feedback” on their experiences and offering more and more services.

As students have access through technology to a large amount of information and as they combine work and study they are more likely to demand greater flexibility in the courses they can take along with more fluid timelines. This will require a means to assess competency and to unbundle courses from qualifications. In the future students may want to build their own qualification with courses provided by more than one provider. There needs to be an understanding of short term requirements and expectations, with longer-term values and benefits.

The new “massification” of education is not infinitely sustainable, and consumer demand will inevitably turn away from low-value mass proposition to a high-design-value proposition. For institutions to remain internationally comparable and competitive they must be adequately supported to operate in the high value space – much in the way that food production in New Zealand is encouraged to turn from the export of raw product to the export of high value processed outputs.

Technology

Technology is now a feature of our teaching, learning and research environment. Digital literacy should be a core competency for staff and students.

The speed at which technology changes, requires universities to keep abreast of the associated changes in pedagogy. If universities seek to follow and deploy new technology, they must ensure their staff are skilled to appropriately engage with new technologies and associated teaching and learning and research practices, as well as security and integrity issues that may arise.

Recent research supports this approach: "Researchers at the Massachusetts Institute of Technology tasked with examining the future of online education have returned with a simple recommendation for colleges and universities: focus on people and process, not technology."[3]

Technology has allowed all of us to access huge amounts of information and where once this was held solely in places of learning it is now widely available to everyone with internet access. What is now required are the requisite critical thinking skills to sift through, prioritise, understand and appropriately apply the information available.

Technology will not fully displace the university campus and the face to face learning experience it provides. However, technologies are changing how education is delivered and who can access education. This change requires investment and is a challenge for universities who have significant capital invested in fixed assets and small profit margins to invest in new technology. New or richer international universities have a clear advantage in this area.

It's possible that rapidly changing technologies will supersede newly deployed technologies too quickly for national regulators and funding models to keep up allowing currently less developed countries to 'leapfrog' and provide better, more cost effective education

Recommendation

- The government recognises the need for and supports universities to significantly invest in development of high cost technologies by identifying opportunities and creating incentives for investment costs to be shared.

Internationalisation

There is a strong connection between international links and New Zealand's economic performance. Massey has developed strong international connections through:

- providing education in New Zealand for international students
- providing education opportunities on the ground internationally
- collaborating with other academics and universities from around the world
- working in partnership on projects with international businesses.

These initiatives are helping to build New Zealand's reputation internationally and will have a direct and indirect impact on New Zealand's economy.

As we move into a world of increasing connectivity the implication is global mobility will continue to grow for students, academic talent, and increasingly for university brands.

Education New Zealand has been an enormous support to the international education aspirations for the country. Education NZ evidences the benefits of collaboration rather than competition in the

[3] For full article, see: https://www.insidehighered.com/news/2016/04/20/mit-online-learning-report-notes-importance-teachers-instructional-designers?utm_source=Inside+Higher+Ed&utm_campaign=f4741c5510-DNU20160420&utm_medium=email&utm_term=0_1fcbc04421-f4741c5510-198563377.

sector. The collaboration achieved has been between institutions, between the sector and government departments, between the education and tourism sectors, and between countries.

Individual institutions can achieve peer-to-peer relationships at an individual level, but the promotion of New Zealand as an education destination and New Zealand education services offshore requires far greater investment and presence than a single institution can manage.

Attracting international students is an important aspect to the internationalisation strategies of universities. Universities are by nature international institutions, with the credibility of an institution and its research evaluated internationally by peers, citations, and international benchmarks. University staff are highly mobile and are recruited on an international basis, as evidenced by the large numbers of international staff based within NZ universities.

The variability of the NZ exchange rate can lead to a boom/bust model when attracting international students. Under-investment in universities by international standards – especially when other countries are investing heavily to either keep their students in their home country or are trying to enter the international market – also undermines the ability of New Zealand institutions to remain competitive on the international market.

Recommendation

- Government works with universities to develop strategies to enable the sector to better compete internationally for the benefit of New Zealand.

Innovation

As noted above, universities are being innovative to meet today's rapidly changing environment.

Most universities are continually innovating in terms of their academic offer with new programmes introduced each year and existing ones amended or deleted. New structures for programmes are continually being explored along with credit recognition for prior, extracurricular, and applied learning.

We refer you to the submissions from Massey's College of Humanities and Social Sciences and the College of Creative Arts (CoCa) for detailed examples of the innovative approaches to learning they have successfully introduced. These include:

- Courses specifically designed for online delivery and accessed through a range of digital devices via a refreshed and relevant BA.
- Spring – a pre-incubation programme for CoCa graduates
- Te Whare Pukaka – a new activity based staff workspace
- Open Lab – a self-sustaining enterprise studio where experienced design professionals, graduates, academics, students, collaborate to solve real world organizational, business and public policy problems.

Innovation also requires a collaborative response. Through Massey's PŪHORO STEM Academy Programme, the university seeks to improve sector productivity through facilitating access for Māori learners to STEM industries. This innovation provides opportunities for Māori learners to identify and develop the necessary skills required within STEM industries and for STEM industries to shape and influence their future workforce needs. This innovation also builds stronger links between the STEM community, Māori learners and educators.

Tackling the 'wicked' issues

Government needs to rethink how it engages with universities and to see us as an active partner to work with in solving the difficult problems facing New Zealand – climate change, poverty, social

inequity. Universities are more than the sum of the research and students we produce and Government could get more from their investment in this storehouse of knowledge, scholarship and intellectual capability.

More investigation is required into opportunities for collaboration domestically and internationally to harness the intellectual power of New Zealand universities. Universities with a strong research and scholarship approach are at the forefront of identifying and researching changing trends and patterns emerging in our society.

An Innovation Forum of leading thinkers and researchers from business, community, government and tertiary institutions should be established to provide a place for this action dialogue to occur.

Universities work in a third space that is not government and not business and are well placed to generate new ideas and work outside the current parameters. We are comfortable working in the innovative space and the space of the unknown. It is here that we can work to solve those problems that are too difficult for anyone to fund specifically. The Government makes a significant investment in universities, however, it does not always utilise the intellectual resource this investment creates when working with significant social, environmental and economic challenges in the policy development process.

At Massey, College of Creative Arts we have a Design and Democracy project which is a research unit with a track-record of enhancing the role that design and design thinking has to play in 21st century citizenship. The team is built around a core group of researchers, advisors and mentors from the University. We work in partnership with industry, Government, and the social sector to harness the technology that has made it easier than ever to access information, connect, build networks and communicate ideas, in order to re-engage citizens with the political process. See design+democracy.

The Project has three initiatives underway. The first two are the demonstrably successful, award-winning online youth voter facilitation web tools, On the Fence and Ask Away. During the 2014 New Zealand General Elections, independent research showed our work to be the most successful in engaging young electors. We're proud of that. The third initiative investigated ways to facilitate and enrich the New Zealand Flag Consideration Process, through design thinking and processes.

On the Fence is a fun educational tool that helps young undecided and first-time voters engage directly with issues by matching their personal values with political candidates and parties. It is an award-winning tool that builds political confidence, participation and transforms disengaged users into informed, active voters.

Ask Away enables New Zealand youth to set the political agenda. Users ask questions, promote or endorse other users' questions, and receive answers from political candidates or parties. Voting for questions provides an un-intimidating, one-click way of participating in the political conversation, and also shows the commitment by candidates if they contribute answers.

Flagpost was conceived as a web tool to give the public a place to have their say on design submissions during the flag consideration process. The platform explored ways to facilitate informed decisions, dialogue, and open collaboration at a national scale. Grounded in semiotic theory, the project looked to connect design process and solutions to people's own values of national identity, and have those insights impact on the official outcome.

Recommendation

- An Innovation Forum of leading thinkers and researchers from business, community, government and tertiary institutions should be established to provide a place for action dialogue to occur and to address the 'wicked' issues of today and tomorrow.

Lifting Māori Participation

Lifting Māori participation requires improvement in access, participation and achievement. It requires action on multiple fronts and at multiple levels to ensure that Māori, once enrolled, are supported, are culturally affirmed and are successful.

Massey University demonstrates both strategic and operational commitment to lifting Māori participation. The strategy document *Shaping the Nation: Taking the Best to the World: The Road to 2025 has a number of goals that explicitly reference Māori. Goals such as Research and Enterprise aim to "facilitate indigenous knowledge development and leadership…" and to "ensure that Massey is recognised as one of the key centres for Māori research excellence and enterprise.." The Teaching and Learning goal aims to "grow and affirm support to Māori students and staff as one component of our commitment to Te Tiriti o Waitangi". In the Connections goal Massey commits to "continue to support the success of Māori and ensure ongoing relationships with whānau hapū iwi and Māori groups".*

In response to the goal to drive higher levels of achievement for Māori TEC commissioned in 2012 a review of literature *Doing better for Māori in tertiary settings* (Chauval and Rean). The review identified multiple issues that relate to transition from secondary to tertiary and include issues with the first semester experience.

PŪHORO, the Massey Māori Academy of Science initiative recognises and attempts to address not just the pipeline issues but also offers ongoing cohort support through the tertiary experience. Of note is that the measures required to address these issues are expensive, longer term, more widely collaborative and not always directly economically translatable. PŪHORO has secured additional external stakeholder funding, both public and private sector, demonstrating the impact of this innovative, wider collaborative effort.

Given the growing Māori population and the growing Māori economy, expectations of equity will become more pressing. The provision of more culturally responsive pedagogy and curricula are imperative. In addition to maintaining and expanding a critical mass of Te Reo speakers Māori aspire to participate in all levels of higher education and in all disciplines. Additional resources to support the capability and capacity to bring about these changes will be required. Non-Māori will become increasing biculturally challenged.

The Chauval and Rean (2012) report identified opportunities where TEOs can support Māori students to achieve more equitable outcomes. These are summarised as follows:

- Culturally responsive orientation and induction, early wānanga and camps, provision of cultural spaces and peer mentoring support with established learning communities where whakawhānaungatanga can take place.
- Preparatory programmes, proactive contact, Māori staff as role models, appropriate introduction to support people and services.
- Transitionary support at secondary level with culturally relevant engagement with learners and their whānau, encouragement to engage and the provision of diverse pathway options.

While equity in participation in higher education is of significant economic importance, other drivers are as important. Giving effect to the Treaty of Waitangi principles of partnership, participation and protection for example, is as significant. In order for Māori language and culture to thrive, a legislated imperative, increased investment in Māori tertiary capability and capacity is not only necessary but also beneficial for all of Aotearoa/New Zealand. Our national identity, inextricably Māori and Pākēhā, is an intangible asset that underpins considerable international economic activity.

Māori interests are shifting to building sound economic platforms through a range of national and international platforms and many iwi have a particular interest in STEM industries. Significant

opportunities for further economic development are available for Māori participants across STEM industries for example, through maximising the potential of Māori owned land. The Māori Economic Development Strategy (He Kai Kei Aku Ringa – Ministry of Business, Innovation and Employment) identified education and skill development as key priorities areas as a result of bring more Māori land into the productive sector. Potential outcomes from an increased focus on Māori agribusiness and a heightened focus on a Māori STEM workforce included employment opportunities, as well as the potential to introduce education and skill development programmes. The PŪHORO STEM Academy Programme provides an innovative kaupapa Māori focused opportunity to increase and support greater Māori participation. The programme:

- Works closely with Māori students and their whanau.
- Facilitates exposure to career opportunities with the support of the Māori STEM community. This includes STEM programme graduates who discuss their career pathways and current Māori tertiary students who are able to share experiences with STEM programmes and tertiary life.
- Facilitated access to the university campus. Students participate in the programme from Year 11 through to Year 13. This means that students engage in campus life and gain insight into university expectations and structures over a three year period thereby addressing key barriers to Māori student engagement in tertiary programmes including, first in family to attend university, whānau attitudes towards tertiary, low decile vs high decile schools, curriculum alignment between school and tertiary, pathway confusion between institutions, understanding of the value of tertiary education, and student attitudes towards tertiary learning.
- Builds stronger relationships between schools and the university. This provides clarity around curriculum development and offerings within schools that appropriately pathway students into tertiary study. These relationships also ensure that key information is available to students and schools that enable an improved transition between the secondary and tertiary sectors.

The Tertiary Education Commission identified key enablers and opportunities for tertiary institutions. Among these opportunities are:

- Tertiary institutions establishing culturally relevant and appropriate engagement with Māori students and whānau, and engagement by peers and role models that shows Māori students they can aspire to tertiary study and will be welcomed and supported in tertiary environments.
- Tertiary institutions establishing strong relationships with schools to develop initiatives focused on encouraging students to aspire to tertiary study, to ensure key information is available to students, and to enable tertiary institution engagement with learners and whānau.

Recommendations

- Further work is required to more fully investigate coherent transition for Māori from secondary to tertiary education
- An increased level of central government investment is required to support university Māori student recruitment, retention and completion
- Māori relevant curricula development in all disciplines should be supported and encouraged

Lifting Pasifika Participation

Pasifika, as with Māori, experience lower levels of participation, retention and completion. Increasing numbers of Pasifika students aspire to tertiary education. The challenge is to provide a culturally responsive education experience. The Ako Aotearoa (2014) *SUCCESS FOR PASIFIKA IN TERTIARY EDUCATION* report has defined three *Pillars for Pasifika Learners Success* as: People; Place; and Practices and Pedagogies.

The Ako report reviewed literature on Pasifika achievement and identified multiple success factors, summarised as follows:

- Respectful and nurturing relationships
- Academic pastoral support and mentoring
- Provision of a Pasifika environment
- Recognition of and active acknowledgement of cultural identity
- Pasifika context/content in curriculum

The *SUCCESS FOR PASIFIKA IN TERTIARY EDUCATION* report suggests, in order for these success factors to be instituted changes to *People* need to take place, that is teachers need to be culturally aware, they need to be welcoming, to have high expectations, and need to encourage strong relationship with their students and need to support strong student relationships. Changes to *Place* are required*;* students need a design of space that reflects Pasifika culture with art, artefacts and symbols, and one of hospitality where food and drink can be shared, resembling more of a family-like environment. Finally the report suggests *Practices and Pedagogies* be developed where academic and pastoral support/mentoring be undertaken, where curriculum content that takes account of culture and use of Pasifika language be collaboratively developed and where strong connections with communities and families are formed.

The report concludes that a "wide body of research has shown that by the time Pasifika learners arrive at tertiary institutions many have had less than optimal education experiences." (p 15)

Massey recognises the Pasifika desire to normalise success and has crafted the Growing Pearls of Wisdom strategy to identify key drivers of Pasifika success at Massey. In keeping with the findings in the Ako report Massey also recognises that Pasifika success extends beyond strategic and policy intent. Pasifika success is a complex and resource intense combination of staff, students, and communities' effort and participation.

Recommendations

- Further work is required to more fully investigate coherent transition for Pasifika from secondary to tertiary education
- An increased level of central government investment is required to maintain and encourage university initiatives to support changes to: People; Place; and Practices and Pedagogies.

Government Policy Settings

The Tertiary System

The Commission could usefully look at how government agencies are currently working to deliver on the government's vision for tertiary education.

There needs to be a clearly articulated vision and objectives for the tertiary sector that brings together the wider environment of education, labour market, social development, and sustainability.

This should include an agreed understanding by all parties the role they and others play in achieving objectives.

There is difficulty in aligning the long term strategic function that institutions fulfil with the shorter term priority areas for the government. Similarly, there is little scope for trade-off within individual organisations where they have a long term purpose to fulfil, and cannot appropriately have these goals displaced by short term reactive responses to priority areas for the sector as a whole – which may or may not relate to the individual institution's fundamental purpose or contribution.

Changeable and narrowly focused priority areas engender short-term, reactive, responses in institutions. These undermine their fundamental purpose and their long term contribution to the education agenda. It is far more appropriate for each institution to be clear in its identity and purpose and the contribution it makes to the overall education agenda so it can adopt long term, sustainable, and collaborative, approaches which will achieve these goals.

Currently there are many agencies working on tertiary education policy, monitoring and delivery, each with their own particular focus. These include Ministry of Education, MBIE, TEC, Careers NZ, Education NZ, and NZQA. From the University perspective these agencies are not always aligned and it can be difficult to understand where and how decisions are made across these organisations.

Recommendation

- Review how agencies can work better together to ensure a consistent and cohesive strategy is available to the tertiary sector.

Tertiary Education Framework

There are challenges with administering different educational streams within the one framework. Maintaining equivalence does make sense across different streams, with the framework using descriptors that encapsulate applied skills in vocational programmes in the same manner as critical thinking skills in a university programme. By trying to use one framework to cover both streams neither is recognised adequately.

Two key areas where this equivalence is particularly challenging for a university are between:

- Programmes at levels 3 and 4 – some of which prepare students for university and study at level 5, and others that focus on vocational or remedial skills instead.
- Programmes offered by universities, where staff are research active, and those offered by polytechnics and other organisations, where staff are not necessarily research active.

We would support the introduction of sub sector strategies that provided clearer focus and alignment of government objectives and type of institution.

Recommendation

- Introduce sub sector strategies for each type of TEO.

Investment Focus

The Tertiary Education Strategy has a major focus on economic benefits resulting from tertiary education. Currently the science industry dominates both the innovation and tertiary sector— from the privileging of STEM subjects, to the $1.6 billion invested in science research, to the way research excellence is measured in the PBRF, to the way business expenditure of research and development is measured and assessed as a sign of productivity.

Engineering is central to growing a modern economy, and to New Zealand's future success. It is a priority of the Government's Business Growth Agenda".[4] The Minister's own words, "opportunities

[4] See https://www.beehive.govt.nz/release/make-world-e2e-campaign-launched.

to *design* everything", reflect the central role design plays, yet design itself is absent from government prioritisation. There is a therefore a significant opportunity to provide a focus on design and humanities and social sciences, and their contribution to the economy by extending the focus of funding to these areas while maintaining the focus on economic outcomes.

For over ten years the creative and cultural industries have been the focus of much policy focus in the EU as policy-makers have turned towards business and industries that have been traditionally neglected but which have the potential to produce significant value. Figures published in January 2016 showed that the UK's Creative Industries are now worth a record £84.1 billion to the UK economy, with British films, music, video games, crafts and publishing taking a lead role in driving the UK's economic recovery. They grew by 8.9 per cent in 2014 – almost double the UK economy as a whole, rating £9.6million per hour, and all indicators are that 2016 is set to be another blockbuster year for UK's music, film, video games, TV and publishing sectors.[5]

There is an opportunity to replicate at least some of this in New Zealand, while retaining a close design-focused relationship with the STEM subjects to deliver value into the New Zealand economy.

Massey continues to observe that "soft" or transferable skills that are a keystone of the Arts qualifications continue to be rated by employers nationally and internationally as desirable skill sets. This was confirmed by a survey of 400 New Zealand employers on their skill requirements and the ability of the BA to meet these.

A report recently compiled by Universities New Zealand[6] provided data regarding graduate income. As educators in Arts and Social Science qualifications:

- Only 2 to 3% of Arts graduates are unemployed three years after graduation – this is very low.
- 90% of Arts graduates are in work that is degree-relevant (e.g. planning, policy, management or teaching roles).

These findings provide evidence in support of the resilience and relevance of the Arts qualifications to New Zealand. The skills traditionally associated with the BA are in demand from employers. These skills such as resilience, flexibility, communication and teamwork remain relevant throughout our working lives and more so in the changing labour market ahead. However, we are unsure of the extent to which this is understood in the wider public domain.

Universities will continue to need to scan the environment in order to translate social, political and economic trends into localised action for the benefit of our communities – whether they are students, staff, employers, or our local, regional, national and international partners. This will inevitably require a wider focus than just areas that can immediately generate economic growth.

Recommendation

- Develop tertiary policy and an investment infrastructure that supports the growth of the creative and cultural industries as part of the growth and wellbeing agenda for New Zealand.
- Support the funding of humanities and social sciences in recognition of the value assigned by employers to "soft skills".

Collaboration and Competition

Universities collaborate with local and central government, businesses, communities and other tertiary sector organisations domestically and internationally. There is a role for the Government to provide more leadership in relation to collaboration particularly in the international forum, where

[5] See https://www.gov.uk/government/news/creative-industries-worth-almost-10-million-an-hour-to-economy.

[6] Universities New Zealand/Te Pokai Tara. (2016). A Degree is a smart investment.

New Zealand universities are competing in the global market and are a strong credible brand for New Zealand internationally.

Competition can be a useful motivator to drive developments, efficiency, and innovation, but after a certain point it undermines collaboration and results in increasing and undesirable fragmentation of the student cohort. The way competition reinforces a culture of "winners" and "losers" undermines education, which is more appropriately served by the enabling and sharing of knowledge and expertise. The New Zealand university sector is fortunate to have retained much of its collaborative nature as evidenced by collaboration in research (between institutions, and with CRIs and businesses) and through the New Zealand Vice-Chancellors and Chancellors (NZVCC) and its quality assurance arms AQA and CUAP.

Some of the previous bastions of collaboration between universities such as student recruitment – formerly student advisory – have been undermined through competition, however much institutional and regional collaboration occurs with international recruitment.

Transition from School to Tertiary

Universities are currently investing a significant level of resources to bridge the gap between student's achievement at school and the level of achievement necessary to succeed at university. Massey University is working with students from year 10 at school to support them to participate in science, engineering, technology and maths at university.

The Government is expecting universities to do more to lift participation and achievement of Māori and Pasifika and to increase numbers of STEM graduates. To realistically achieve this, more is required to support and guide students at year 10 or earlier. This means that universities are supporting secondary students for three years and at the end may not realise any gains from their investment as students may choose to attend another university.

For example Massey is working with eight schools to improve Māori student engagement in science, technology, engineering and mathematics (STEM). This programme, PŪHORO responds to Māori student over-representation among the proportions of lower performing students in science programmes within secondary schools. The Tertiary Education Commission reported that Māori students are leaving school without clear educational and career goals and pathways and without having completed relevant subjects and qualifications tied to those goals or pathways.[7] The PŪHORO programme provides:

- Academic support to increase Māori student performance across STEM subjects
- Exposure to career opportunities within the STEM workforce
- Support with the transition between secondary and tertiary programmes through exposure to tertiary settings and familiarisation with the university environment, and
- Support with the transition between tertiary programmes and employment.

Recommendations

- Support the Universities NZ recommendation for clearer ownership and a national strategy for managing transitions.
- Equity funding to TEOs is at a sufficient level so they can work with schools and their students.

[7] Tertiary Education Commission. (2012). *Doing better for Māori in tertiary settings. Review of the literature.* Pg. 9.

Funding

Challenges in the Funding Environment

Universities are facing increasing financial pressures as costs continue to outgrow revenue. This has resulted in universities having to undertake significant cost cutting exercises and at the same time look for new sources of income. To realise additional income usually requires a significant level of investment and the return takes some time (years) to be realized.

While universities have a significant asset base, this is usually contained in property and buildings which are not easy to convert into other forms of investment such as new technologies.

Universities deliver research excellence and teaching across an extensive range of defining specialisations for the advancement of society. To support research and teaching outcomes, Universities have invested in capital intensive programmes such as veterinary, health, technology, engineering and general sciences, as well as business, social sciences and creative arts. Many of these programmes require specialist assets and have high fixed asset costs with significant legislative compliance overheads.

Universities have an established critical mass, and a substantial asset base; they are well positioned to invest research and teaching, and meet the changing stakeholder demands. There are, however, some significant challenges in the legislative and economic environments that constrain repositioning of the asset base.

- The majority of University assets held are in land and buildings. Releasing of value from divesting these assets can take years (while environment is changing rapidly) being constrained by the statutory clearance processes required under the Education Act 1989, Public Works Act 1981, Heritage New Zealand Pouhere Taonga Act 2014 and other legislation.
- Realising an acceptable value from property for reinvestment is also constrained by district plan zoning and regional economic factors. The yield from regional divestments is unlikely to support repositioning. Massey is currently collaborating with local and regional government and organisations such as Palmerston North City Council and AgResearch to deploy capital that will enhance regional development.
- Universities repositioning to meet shifting geographic demand also face higher operating costs where regional cost disparities occur. Capping the annual inflationary increases for domestic students, for organisations with lower average fees, also constrain their ability to respond to regional disparity and inflationary pressures.
- Transitioning the mix of assets, from investment in long term property assets to short term technology (ICT) assets, also presents challenges. Significant increases in depreciation expense and other direct costs occur with growth in ICT. The duplication of costs during transition places pressure on organisations underlying profitability. However, the investment in ICT is regarded as a key enabler for global engagement versus onshore delivery. To fund this investment optimising balance sheet asset base or securing debt financed capital is critical.
- Gaining approval for debt financing of investment initiatives is restricted by Ministry of Education legislative constraints and compliance assessments. While universities are tasked with responding to societal demand and strive towards the aims in the Tertiary Education Strategy (TES), they are constrained by the broader legislative framework and compliance environment.

The current funding model is a barrier to innovation. For example, it is difficult to unbundle courses from programme delivery at degree level and above. This constrains collaboration with domestic and

international partners in delivering higher qualifications. In the future students will be seeking to combine courses from different institutions to create a degree.

As performance commitments become increasingly linked to funding, compliance costs increase and it may be that significant effort is spent in improving targets with very little (or no) return. There is little ability for providers to "model" broad objectives (e.g. performance commitments). The current controls on university fees make it difficult to charge a premium for higher quality courses.

Student demand still drives EFTS consumption in New Zealand. There is significant control at student choice level, and this generates systemic issues. As an example, if New Zealand wants to generate more engineers, then the intervention to generate a good pipeline of students should take place at either compulsory sector (through right subject choices and career support) and, for those who left the compulsory sector, through appropriate pathway programmes with the right incentives for both student, provider and employers (e.g. at work learning, low cost pathway programmes).

Research funding approaches continue to be problematic, as is the in general with performance based funding systems in the tertiary sector. This starts with the challenges of how to effectively assess performance. There are also the inevitable unintended consequences of such systems, including: "… institutional gaming of the rules; mischievous advertising of the results; goal displacement – with institutions and individuals focusing unduly on what is assessed at the expense of what is not; and a potential loss of staff morale and capability in poorly performing units."[8]

The Ministry of Education provides advice to the Minister on the financial position of tertiary institutions and compares direct costs and funding across the different institutions and different areas of delivery based on the New Zealand Benchmarking Tool (NZBT). This analysis and advice influences budget decisions and funding rates to institutions. The Ministry has noted that there are limitations with their analysis, such as:

- Results under-state the total costs of delivery in each field of study as they treat capital and indirect costs as overheads.
- Results understate the relative costs of delivery in any field of study which has high capital costs relative to operating costs.
- The NZBT reflects current practices within TEIs and does not identify 'ideal' costs structures.
- NZSCED fields of study do not align neatly with SAC funding categories. This makes linking relative under or over funding back to specific SAC funding categories inexact.
- The analysis is based on teaching unit data. The NZBT is unable to provide fine-grained information about income and delivery costs for particular courses or qualifications.

Opportunities in the Funding Environment

We have identified a number of opportunities to strengthen the funding and purchasing environment.

- Funding commitments should be made on a long-term basis. At the moment, universities have long term plans and invest in fixed assets which often are long term investments, however the funding used to resource these activities is currently done on a short term basis (through the Investment Plan). If universities are susceptible to fluctuations in the student pipeline, long term investment on fixed assets become very challenging.
- If the future investment model is to consider outcomes for New Zealand rather than volume of consumption, then it will be very important to use appropriate performance indicators and understand the intended and unintended consequences of these indicators. For

[8] Jonathan Boston, *The Performance-Based Research Fund: Issues and Options for the Future* , Paper prepared for a Forum on the Performance-Based Research Fund, Victoria University of Wellington, 26 June 2007, Introduction.

example, there is a strong focus on completion rates, however, for distance and mature students already in the workforce completion may take longer and different indicators are required.

- Student Component Funding is currently only available as a funding mechanisms for qualifications and an alternative funding vehicle needs to be provided to fund high quality, nationally and internationally relevant professional development and compartmentalised blocks of training in order to ensure our in-work learners continue to add value, innovate, ensure our companies and infrastructure succeed and they continue to grow and thrive professionally.
- Funding universities is also an investment for New Zealand internationally. This investment helps New Zealand become a leading knowledge economy that can provide leadership across the globe. The investment model should look at these international NZ outcomes as well as domestic employment outcomes.
- There should be a better relationship between cost of provision and funding mechanism to ensure that quality of provision is maintained, particularly in qualifications that are high cost, capped but attract positive international reputation to New Zealand.
- Additional funding should be available to target strategic priority areas to provide more comprehensive response to needs through research as well as teaching and learning. It is important that the compliance requirements for the provision of this funding are not too onerous in order to ensure the recognising the benefits for New Zealand through work funded by such funds are not overshadowed by the compliance costs.
- Ring-fenced and specific funding should be made available for specific engagement between the sector and targeted priority groups. These funds would be assigned via a competitive process in order to ensure the most appropriate deliverer/group of deliverers are funded to deliver tangible outcomes for New Zealand
- Funding should acknowledge the high level of investment universities are currently making to bring students up to the necessary level to study. Equity funding does not meet the investment level required to support students from school through to university.
- Currently there is a need for providers to undertake multiple course classifications for the purpose of SDR and funding. The type of provision for course level should only require one effective classification, and this should be based on NZSCED because it has better definitions. This would simplify the funding model, reduce cost compliance to the sector and allow better analysis at subject level.
- The PBRF needs to be reviewed to ensure that it is contributing to the wider outcomes that we wish our universities to address.

[i] [i] https://www.youtube.com/watch?v=16N6pro-1So