Submission to the Productivity Commission on New Models of Tertiary Education

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Submission

GENERAL COMMENTS

One of the main concerns of the Issues Paper is a putatively low income-premium for graduates, compared to other, more productive economies. Also, the Paper is concerned with the supply–demand ratio of skills. Employers encounter shortages of employable graduates with particular skills. But there is a contradiction between these two concerns, as employers will naturally prefer an *over*-supply of graduates with the skills that they want, so that they can pay *lower* incomes to hire and retain them. The more such graduates, produced at taxpayers' expense, the better for the employer. In any case, the Paper reveals no evidence or method as to how a government could estimate the 'optimum' supply of a particular kind of graduate, such that 'supply balances demand' at some time years ahead (given that it takes years to 'produce' a graduate).

The Issues Paper appears (wrongly) to assume that universities are reluctant to innovate. My observation, in contrast, is that they are very keen on innovation. Any university would like to reap the intellectual and financial benefits of royalty-earning innovations. But, governmental regulation and internal bureaucratic controls (to some extent inevitable in large institutions) do get in the way, and universities do have other very important objectives (such as preservation of heritage, repository of knowledge, etc.) Nonetheless, the desire to innovate and to compete is there. At the same time, though, university staff are very aware of the wider values, the heritage and the sustainability of what we do. It's not so much that people are stuck in traditions; it's more that academic staff are wary of doing harm to our collective heritage(s) for the sake of what may be short-term enthusiasm for new technologies.

The Issues Paper does not pay due regard to the full range of obligations of the TEIs, particularly universities.

Nonetheless, I will address the question about 'new models' and where the TE system may be leading. I take the music industry as an analogy or example, as it has already undergone massive change and innovation. There seem now to be at least 4 new models in that sector:

1. The vertically-integrated iTunes model which anyone can browse for free online, but which charges per item. The system is owned by Apple which reaps all the profits after payment of royalties. This would be akin to the NZ system being taken over by large American universities offering degrees online, with only low-level support functions (if any) on-shore here. Marking of assignments could be out-sourced through low-wage English-speaking academic labour-forces, especially in India.

2. The YouTube model in which anyone can view anything for free, participate and upload stuff, and potentially 'go viral'. A close analogy would be MOOCS. This kind of model appears (so far) only to be viable for courses that induct a student into a more substantial pay-walled system that offers whole recognised qualifications. Attention-spans and completion rates are extremely low in this model, and so it has limited value for higher learning, which requires concentrated intellectual effort.

3. The live gig. Despite the fact that any artist's work is available online in video for free, the live gig is as important as ever, or even more so. People pay large prices to see a famous artist live, in spite of YouTube. The closest analogy here is the traditional face-to-face classroom. I'd also point to the example of the History of Philosophy Without Any Gaps podcast which is free online (and very good too) and which has now resulted in a book published by OUP. Far from eliminating the book, then, the free online audio content has created an audience/market for the traditional hard-bound text.

4. Pirating has to be acknowledged too. Traditional models of IP are completely under threat, and no-one wants to pay anything for information/knowledge any longer. This phenomenon has hit the music and news industries particularly hard. Pay-walls are increasingly hard to defend.

What we might learn from this, as new models emerge in tertiary education:

We should not assume that the internet and innovative IT-based delivery of content will wipe out the traditional forms of academic learning (books and lectures).

The 'digitally native' generation expects to be able to work online, but they may be more aware than ever of 'the value of live performance'.

We need to rethink the future of our assumptions about IP.

NZ needs to guard against the risk of ending up like a mere 'filling-station', where overseas universities with well-known brands and reputations 'teach into' NZ, leaving the local industry bereft of any 'indigenous' or local intellectual activity. We must not give up 'the permission to think' to off-shore talent.

People already seek out free content that supplies them with the skills that they want and need for free, on a 'just in time' basis. If they need to know how to operate the latest device, they'll look it up on YouTube. There's bound to be someone offering free instructions. Higher education, on the other hand, will serve other longer-term personal and intellectual goals for those who wish to develop themselves further.

The PBRF skews efforts in a direction that makes NZ into a consumer rather than a producer. It makes researchers focus on peer-reviewed international journals which provide a strong indicator of research quality. But our libraries have to pay the off-shore publishers to allow our researchers to read our own work. The journals pay nothing for the articles or for the peer-reviewing, and they reap extraordinary profits. We still need those journals, but instead, we could encourage researchers to write books that will earn the country foreign exchange through royalties from off-shore readers and publishers, if we are to take the idea of academic labour productivity and innovation seriously.

It is likely that the Productivity Commission is considering following the example of the UK Green paper on 'excellence in teaching' and hence recommending a 'teaching evaluation framework' to add on beside the PBRF. If so, it would be an expensive exercise, and, like the PBRF, it would produce perverse incentives and suppress innovation, as people would stick to the 'safely predictable' and the 'measurable' activities.

Q2 **Do prospective students have good enough information to enable them to make informed choices about providers and courses? What additional information should be provided? Who should provide it?** **Page 8**

There is already much information available about the contents of courses and degrees offered by each university. But this question appears to be asking about the perrenial concern of students and parents regarding "what kind of job can I get with that?" As a person who sometimes advises prospective students, that can be a hard question to answer, as our graduates don't often keep in touch to tell us about their jobs and careers after they graduate.

It could be helpful to have information about the job destinations and careers (and not just the incomes) of graduates with different degrees. Perhaps CareersNZ could host such information, if that's feasible.

Q3 **Is the business model of universities published by Universities New Zealand a good characterisation? Are there aspects of the business model of universities that it does not explain?** **Page 11**

It's a reasonable schematic representation, if only for the purposes of 'following the money'. What it does not depict is the fact that academic activity exists within, and is supported by, national and global networks that are sometimes collaborative and sometimes competitive. Also, it does not capture the full range of obligations of universities, such as: community service; contributions to public debates; preservation of cultural and historical heritage; advancement of academic disciplines; repository of knowledge.

Q8 **How does competition for student enrolments influence provider behaviour? Over what attributes do providers compete? Do New Zealand providers compete with one another more or less than in other countries?** **Page 12**

One only has to observe the behaviour of TEIs (especially advertising) to see that competition for students numbers, and for the most academically able students, is intense. This forces universities to differentiate themselves in terms of public reputation, but also in terms of actual offerings. Some form of reputation-building campaign is inevitable nowadays; much of the content, however, is quite vacuous.

Q9 **What are the implications of fixed capital costs for the business of tertiary education? Do differences in the capital structure of different tertiary institutions have important implications for the delivery of tertiary education?** **Page 13**

Universities are permanent public institutions. They should be governed with an eye for future generations. Hence high levels of fixed capital are to be expected for the long-term planning and stability of their activities. An investment 'rate of return' analysis is not a sufficient goal-setting criterion for a public university or for the government. Nonetheless, new technologies affect design of buildings, the investment in IT (as opposed to buildings), and the flexibility of people to teach and learn across time and space. We need to avoid fadish claims that IT will soon turn the land and buildings that universities occupy into white elephants. But some divestments, as well as reinvesment in IT or innovative building designs, should be anticipated. The TEC needs to be quicker to respond to and approve institutions' proposals, or perhaps just to let the well-governed institutions make their own decisions.

There is no single model that can be applied across all TEIs. The long-term capital plans for different institutions will reflect their differing situations and strategic prospects.

Q11 **What are the benefits and disadvantages, in terms of students' learning outcomes, of bundling together research and teaching at universities in New Zealand?** **Page 14**

Research skills and experience are a valuable learning outcome, so the research/teaching distinction is somewhat artificial. The whole idea of a university is that students learn from those who are actively contributing as researchers and scholars to the discipline, preferably at an internationally recognised level. This 'bundling together' becomes more apparent as students progress to the end of their undergrad degrees, and of course is an integral part of postgrad degrees, especially the PhD. Students would be disadvantaged if they were not exposed to advanced knowledge in their discipline.

Q12 **What value is attached to excellence in teaching compared to excellence in research when universities recruit or promote staff?** **Page 14**

I do not agree with the perpetual complaint that teaching is under-valued in comparison to research at universities. Why would a university under-value the main source of its income? All applications for vacancies and for promotions, as far as I have seen, place equal weight upon teaching and research. Being a university, to maintain the quality and reputation of the institution, it is vital that we hire people who can perform at both teaching and research. Admittedly, it is easier to to ascertain the quality of a person's published research ouput than quality of teaching. But recruitment processes do consider any available student assessments, and a mock lecture or presentation is normally required. Recruitment interviews routinely ask candidates about their approach to teaching. The same applies to promotions, in which case the promotions committees will have access to student evaluations of teaching as well as research outputs.

Should teaching evaluation be elevated to the kind of national assessment system seen in the PBRF? I do not see this as being helpful for a number of reasons. Research quality is difficult and expensive to evaluate, under the current PBRF method. There is no credible evidence that the PBRF has produced real-world results in terms of research quality (see my answer to qu. 68). Teaching quality is even more difficult to assess. Student evaluations and completion rates, for example, may be useful for some limited purposes, but they are known to be flawed as 'measures' and possibly incentivise the wrong behaviours.

Performance-based tuition funding based upon an evaluation of teaching quality would probably be a waste of public money. It would produce very little benefit in terms of improvement to teaching quality. Such systems are well-known to lead to behavioural displacement: people performing to meet that which is measured, to the detriment of other, often equally important, goals.

Q13 **Do New Zealand TEIs cross-subsidise research with teaching income?** **Page 14**

Or vice versa? Why assume that cross-subsidation goes in one direction? It may be the case that TEIs cross-subsidise teaching with research, to some extent, although the PBRF and external contracts surely mitigate this. But I suggest that this will be impossible to calculate, as so much academic time is simultaneously for both teaching and research. One of the fallacies hidden in the question is that the two are separate activities, which is not true all of the time. Much reading or laboratory work may be directly related to teaching and research at the same time.

Q14 **What other evidence is there about what makes for effective teaching in a tertiary environment? Is it different for different types of learning or student? How can teaching effectiveness be best measured and improved?** **Page 17**

Fig. 8 suggests that the ratio of academic to other staff in TEIs is about 1:2.5. This seems extraordinary, as Massey University's annual report shows that its ratio is closer to 1:1.5. Some further breakdown of these figures would be interesting. In any case, we have to ask how TEIs have become so heavily populated with people who do *not* teach or research (which is more or less the norm internationally, by the way). Naturally, people like technicians and librarians and administrators are necessary for teaching institutions. I suspect that the ever-increasing demands for legal and policy compliance, including employment, have something to do with the high ratio of non-academic staff, however. This needs to be better understood – though with due regard to institutional autonomy. But, if effective teaching is an aim, then steering more resources into teachers, rather than administrators, would seem like a good place to start.

I'm unable to offer any new *evidence* about what makes for effective teaching in a tertiary environment, other than student evaluations and the findings of Hattie and Marsh. But the Issues Paper does raise some very valid concerns about student evaluations (on p. 19). I support the comment in a footnote to the effect that a challenging learning process may induce discomfort. Student evaluations arguably incentivise being soft on or kind to students in the short term, at the expense of long-term outcomes.

Naturally, what works for one student may not be ideal for another. Some students simply do not like to participate in discussion in class, others do. But reading their work shows that either kind of student may do exceedingly well (or not) as learners.

Improving teaching effectiveness requires individualised professional development, and this is a matter of effective management at the level of academic schools or departments. Different academic disciplines have different approaches. Just as learners have differing learning styles and needs, so teachers have diverse teaching styles and diverse needs for support and development. We need to avoid succumbing to trendy ideas or 'one size fits all' models of teaching. On the other hand, if people want to experiment with new teaching methods, then we sould encourage it as a part of their professional development.

The take-home message here would be the same as for diets: ignore fads; seek variety and balance.

Q15 **How do tertiary providers assess, recognise and reward teaching quality in recruitment and career progression? To what extent do tertiary providers support the professional learning of teachers?** **Page 19**

In my experience, the university recognises teaching quality in recruitment and career progression in many ways. In recruitment, performance feedback and promotion processes, academic staff are expected to carry a reasonable and equitable teaching workload and to conduct student evaluations. Evidence of these do count in hiring and promotion.

The university provides IT-based teaching systems, training support and professional development opportunities on a very regular basis. There are annual awards for excellence in teaching. Could it do more? Yes, of course it could.

Q16 **How do New Zealand tertiary providers use student evaluations? How does this influence provider behaviour?** **Page 19**

Student evaluations of teaching have two obvious uses: for effective and well organised teachers, they provide positive feedback, which is encouraging for them, and they can be used as evidence in support of promotion. For poorly performing teachers, they provide some evidence that managers may need in case professional development, or even disciplinary actions, are required. So, while these evaluations are far from perfect, they do show evidence of problems, if there are any.

Q17 **In what ways and to what extent do employers interact with tertiary providers in New Zealand? Are there practical ways to encourage employers to have greater or more productive involvement in the tertiary education system?** **Page 21**

In lots of ways. In my experience, the main avenue is through professional fieldwork placements, which are required for some professional programmes. I personally take a course that links social science students with work organisations as part of their study and their preparation for ‘the real world’. Of course there are ways and means of doing more of this, but first we would need to decide on what our aims are in doing so. I’m not yet convinced that universities need to involve employers even more, however, as there are costs to both parties (mainly time), and we would need to be clearer about what the added value may be.

We often find that it’s very hard for employers to give even a small amount of time to students who are seeking to do projects with them. People are simply too busy; sometimes it’s not appropriate for people to talk openly to students about their business. In the private sector, they tend to say ‘too busy’; in the public sector, they often say that things are too sensitive and confidential. I’m not sure what can be done to change that and to get more interaction between employers and universities.

Many students, especially those studying by distance, are already in employment. For example, they are seeking mid-career advancement through expanding their knowledge and qualifications. Hence they do not really need exposure to the world of work through their academic studies.

Internships can be good, when employers have well-organised programmes. They need to provide meaningful work experience that connects with, expands upon, and feeds back into academic learning. If not, the danger is that the intern is left doing menial work or feels exploited, or the supervisor hasn't time for them. Employers have responsibility for the intern's health and safety and for providing a programme of work that develops the intern. All of this requires time and organisation on the employers' side, as well as the TEI's.

Q23 **How effective is the TES instrument at giving government education agencies direction about prioritising resources and making trade-offs in carrying out their roles? What are the benefits and risks, in terms of fostering an innovative system, of a more or less directive TES?** **Page 24**

The TES is an over-hyped document, and is generally too long. Certainly it helps to have some clarity about the government's priorities and aims. But these should be sketched out fairly broadly and briefly in the TES itself. TEIs, after all, are supposed to be autonomous, and they cannot and should not be changing course dramatically every time there's a change of government or change of minister. Detailed specification of strategic goals should be avoided.

Q29 **What factors best explain the discrepancy between growing levels of tertiary education attainment without a significant productivity dividend?** **Page 34**

Why not ask "what factors best explain the discrepancy between economic growth without a significant educational dividend?" Either question is loaded with a presupposition. Even though the Issues Paper implies (correctly) that the relationship between educational attainment and economic growth is merely a statistical correlation (and not a one-way causation), the question steers our mind to think only in one direction (as implied in the term 'dividend'). This is illogical.

If it is true that, in general, "the evidence of actual productivity gains from education is weak" and that, in particular, "lower skills" is not a sufficient explanation for the lower productivity of the NZ economy compared to Australia and the UK, then clearly we have to look outside of the education system for explanations as to why our economy is not performing as well as "the Joneses". The traditional problems of small size, distance from important markets and reliance on commodities would be obvious places to start. The fact that so many high-skilled tertiary-qualified NZ'ers migrate to Australia and the UK tells us something about the opportunities for advancement to be found in their larger cities, as well as the higher incomes.

Nonetheless, I do not want to evade the question about why higher tertiary education attainment does not contribute more to economic productivity (even though this question is undermined by the admission of a very weak interaction between the two!) Two possible explanations that the Paper has not thought of are: 1, Employers are not very good at realizing the potential of smart, educated young people; or, businesses are more focused on 'presenteeism' than on innovation

(making workers work longer hours to boost output, rather than seeking ways to work smarter). 2, University life (and not just classroom activity) does not offer enough to boost students' self-confidence in going out into the job market and making a difference for an organization (noting, however, that the key employee attribute of 'positive attitude' is not one that universities can set down as a 'learning outcome').

I surmise though that the Productivity Commission is looking for support for the pre-conceived conclusion that this weak link can be explained by two factors: we are producing more graduates (in some disciplines) than we really need, and that we need to realign the degree-funding system to produce more of the skills that employers say they want. But the evidence presented in the Issues Paper itself suggests that such state-led labour-market intervention (to try to attain "a good match between supply and demand", p. 48) will be futile from an economic perspective! The way that the questions are being framed suggests that this faulty logic, unsupported by evidence, will set the tone for the Commission's report.

Q30 **What are the best measures to determine whether the tertiary education system is working well?** **Page 36**

"There is little agreement on how performance should be measured". That's true, because there is little agreement about what constitutes good performance, or even about what a university exists for. Box 5 illustrates the radically shifting goal-posts as governments come and go. Given that a university will outlast a government, it would be an unwise university that took governmental aims and performance measures too seriously for long-term strategy, other than to secure its next year's income.

The word 'measure' implies quantitative results. But we still have not defined (and probably never will define) what we mean by 'working well', and so the question is a rather limp one. It appears that the Productivity Commission is steering our minds towards a definition *du jour* of 'working well' that means something like 'contributing directly to greater economic productivity', and that this will boil down to 'producing the skills that employers want'.

The recent emphasis on completion rates has apparently led to an increase in completion rates of papers and qual's. (Fig. 15). The danger is that it has also led to grade inflation and to qualifying poorly performing students, just to get them through. As a teacher, I have observed that the pressure to raise completion rates has also caused us to look more carefully for signs of probable non-completion early in the semester and to advise students to get cracking or withdraw. This latter effect is not a bad thig, as it does no-one any good when students fail or do not complete papers.

I suspect, however, that some students are enrolling in papers that they know they can't complete in order to qualify for an allowance, thus sacrificing academic record in the long-run, and accruing interest-free debt, in order to keep an income in the short-term. Or, they enrol, but their jobs take priority. So, completion rates, though a simple quantitative performance measure, are a complex issue, and they do not necessarily incentivise higher-quality outcomes.

The sheer number of graduates does not suffice as a measure of 'working well'.

Ironically, one of the best measures of the effectiveness of our universities is how many graduates get jobs in Australia and the UK. In those more productive economies, our graduates and their skills are in demand, partly, it is said anecdotally, because of their 'positive attitude'. But this might look like celebrating the wrong thing.

If we take seriously (and as relevant to NZ) the Paper's Figure 26 (Index of changing work tasks in the United States, 1960–2009), then it appears that the positive trends are towards 'working with new information' and 'solving unstructured problems'. These are skills that a student has to develop every time that they answer an assignment in (I hope) most of our courses (and certainly in mine). So, I'd recommend that we survey universities on the extent to which their learning experiences require these kinds of skills.

Q31 **What other evidence is there about the influence of tertiary education system performance on graduate income premia in New Zealand?** **Page 38**

If a school student whose aim was to make lots of money in life was to ask me about tertiary study, I'd reply: "Don't waste your time. Go out there and make lots of money. You don't need a degree for that!"

The Issues Paper notes that "Income premia are low compared to most OECD countries, but it is not clear how much this has to do with system performance". The suggestion appears nonetheless to be that, if we can engineer 'the system', or the funding and incentives, then somehow (we don't really know how) those income premia will improve in the future (maybe 10 or more years hence). But we can't account easily for the decision-making of those going into the system, and no government, I presume, would dare go as far as assigning individuals to courses without choice.

Further research is needed into how students themselves 'calculate' the risks and rewards of tertiary education. My anecdotal impression, on talking with students, is that they regard their futures as precarious, with uncertain prospects of well-remunerated employment, no matter what they study now. They will be faced with debt and high rents anyway, and few will have secure or fulfilling jobs, or so they fear. Some of those with supposedly high-value degrees in engineering are sitting behind computer screens all day not doing anything that they find fulfilling or rewarding. Those in Auckland will increasingly have to leave town (if they can find a job outside of Auckland) in order to have a prospect of a home and a family. They all know that some degrees normally lead to more lucrative careers than others, but that is not the main motivation for degree choice for most students, as far as I can tell. This appears to have been supported by the Graduate longitudinal study NZ (2012), which found that "The three most frequently given reasons for graduates choosing a field of study were: (i) a strong interest in the topic/field (77.1%), (ii) wanting to pursue a career in this topic/field (71.4%), and (iii) to increase earning potential (34.5%)." The supposed future income premium appears not to be a top priority for those most intimately involved in choosing what to study. And people are concerned with personal fulfillment, not only money.

Q32 **To what extent are graduates meeting employers' expectations with respect to hard or technical skills? What about soft skills and capabilities?** **Page 47**

Can we first ask "What are employers' expectations?" (I'm sure they vary a lot), and "How many of those expectations are realistic?" The pressure is on the tertiary education sector to relieve employers of the expense of training new hires. Some employers appear to expect that a diploma or degree will mean that the graduate should fit straight into the job. And if they don't, then there must be something wrong with the education system. It may be that employers expect too much of graduates and want to cut their training budgets.

It is interesting to see the difference of opinion between academia and business about their perceptions of the preparedness and abilities of graduates (Fig's 22 and 23). Both sectors probably have unrealistic perceptions. Naturally, business schools, and now even arts faculties, go out of their way to emphasise graduates' work-readiness and preparedness. That's all a part of their marketing and reputation-building, and hence they believe their own hype. Governmental pressures to improve employment outcomes, or employability of graduates, will only raise the stakes for the production of this kind of hype. Reputation sometimes matters more than substance.

We may be doing no-one (not even employers) any favours if we begin to push the idea of "work-ready" graduates too hard.

The real problem is stated in this sentence, however: "The openness and dynamism of the labour market makes it hard to match the domestic supply of skills to labour market demand, especially for occupation- or industry-specific skills, or for skills with high global demand" (p. 44). The danger is that government will attempt to control the supply to meet the demand, thus reducing "openness and dynamism", or reducing flexibility and choice in tertiary study, and hence in employment outcomes too, all on a short-term basis. With lag-times from entering to exiting university of at least three years (much longer, if a new major has to be initiated, or if you count the time needed to prepare students at school, or if post-grad quals are needed), the danger is that such social engineering comes too late to meet a demand that no longer exists, or it misses out on meeting some unforeseen demands. There is no 'just in time' solution, as far as tertiary education is concerned, and employers will fall back on immigration to fill short-term gaps.

It appears that US high-tech employers are drawing on immigrants, especially from India, even in spite of an over-production of STEM graduates from their own universities: http://www.nybooks.com/articles/2015/07/09/frenzy-about-high-tech-talent/

Employers want high-skilled labour *as cheap as possible*, and so immigration is the most cost-effective source. But this means that the anticipated increase in income-premia from 'more STEM' may turn out be a mirage. If supply of highly-skilled graduates begins to exceed demand, then their income-premia may be less than attractive once balanced against income foregone (while in education), investment in fees, and debt accrued. Employers will, if they can, keep the incomes of most employees, including graduates, as low as they can.

It is absurd to propose that an optimal number of STEM graduates, 4 or 5 years hence, can be calculated, let alone actually produced, such that "supply meets demand", and that skill gaps will be filled while higher incomes are gained.

The economic terminology used in the Issue Paper appears to be masking a trend towards state planning and intervention, and hence towards more micro-management of legally 'autonomous' institutions.

Q33 **What are the significant trends in employer demand for tertiary-educated employees, and in student demand for tertiary education? How is the system responding?** **Page 50**

Employers consistently ask for positive attitude, intiative or self-motivation, and good communication skills. Only some of that (e.g., writing well) can be 'taught' in the education system; most of it is learned through life experiences beginning from birth. One important life experience is 'going to uni', and no doubt many life-skills are developed through extra-curricular activities and other formative experiences, such as participation in student politics. Employers also need specific technical knowledge or expertise in a range of disciplines, of course. It is impossible, however, for the particular needs of every employer to be catered for, let alone the future needs of employers who will be dealing with yet-to-be-invented technologies and their social consequences 10 or more years hence. Do employers need to do more work on analysing and giving public information on their long-term skills requirements?

The public education system must also be open to students who are only marginally employable, either due to disability or due to negative past experiences, such as participation in crime or family dysfunction. Accountability on universities to be producing 'employable' graduates could lead to a subtle form of discrimination against those prospective or current students who may never be highly employable.

Is there a qualifications "arms race" occurring? Students know that they need at least a degree in order to have a chance of getting a half-way decent job. Recruiters, to some extent, use degrees as a "sifting mechanism", to sort out CVs from a large pile and to put together a short-list. So, the degree may have become a competitive necessity, even though its acquisition, in terms of skills, may not be adding as much economic value as the government's calculus would hope for. To what extent is 'the degree' a purely superficial competitive advantage, like good looks?

To whatever extent that the degree may appear to be 'merely' a piece of arsenal in one's competition for a job, this does not present a cogent argument against the lasting value to the individual, and to society, of higher education, however. The benefits are not solely economic.

Q34 **What is being done to develop, assess and certify non-cognitive skills in tertiary education in New Zealand? Do approaches vary across provider types, or between higher, vocational, and foundation education?** **Page 51**

Employers do look for non-cognitive skills; it would be a foolish employer who regarded only the academic qualifications of applicants, without considering the person as a whole, including attitude, communication and presentation.

It may be equally foolish to expect the tertiary education system to 'supply' all, or even most, of the required non-cognitive skills. One only has to visit a lecture room to see that most people who are on their way to graduating have excellent social/communication skills and attitudes, but some simply don't. Those who don't are not to be discriminated against in terms of their eligibility

to study and to graduate, even though they may be less desirable to employers. To expect universities to upskill those who lack the requisite non-cognitive skills may be asking too much. University study will normally help to improve written and oral communications skills, and the ethical self-awareness ('attitude') of the individual. But universities cannot guarantee good all-round non-cognitive skills in all its graduates. We should all 'stick to our knitting', and in a university that means higher academic learning.

Q35 **What are the implications of new technologies that are predicted to make many currently valuable skills obsolete? Will this change the role of the tertiary education system?** **Page 53**

One thing that won't change is that people will go on wanting to earn and to learn. The lesson of history is that radical shifts in technology make *tasks* redundant, but not people (after some disruption and migration); instead, more people end up working longer hours to make their living at a higher standard. The implication (by induction) is that we will need more people who can do the things that machines and algorithms won't do: 'working with new information' and 'solving unstructured problems' and (I add) 'sustaining positive relationships with other people or communities'. This points to the lasting value of the BA degree.

Another lesson of history is that, in spite of radical changes in technology in the 800 years since the first European universities were established (think of the printing press, the steam engine, the computer), the basic role of the university has not really changed, even though it is true of course that many new specialisations have entered the curriculum. So I am not convinced that the basic role of the university will be changed by the current wave of technological change. Obviously, we are sharing information in new and much more efficient ways than ever before, and new topics get covered as new technologies emerge.

This needs further research, but the impression I get from talking to young students is that the online world they inhabit makes them only more aware of the value of live or face-to-face activities, such as teaching. One can compare this with the music industry where the live performance is even more important than ever, despite the free availablility of sound and video recordings online. It's only the older generation who think that the young want to do *everything* online.

Q36 **What challenges and opportunities do demographic changes present for the tertiary education system?** **Page 55**

Not much that we don't already deal with quite effectively. One hears some complaints of racism against those students who are admitted to some degrees (mainly in law and medicine) on a preferential quota. The universities concerned have been called upon to do more to combat such racism, although I guess they would already have appropriate policy in place.

Q49 **What new models of tertiary education are being implemented in universities, ITPs, PTEs and wānanga? How successful have they been?** **Page 74**

What I see going on around me is quite a lot of experimentation and innovation in new approaches to teaching and learning, utilising the new IT platforms that are becoming available and increasingly powerful. This environment is in a state of flux at the moment, with new ideas being trialled, some of which will develop and others not. Also, different disciplines and institutions will no doubt settle on a different mix of IT tools and associated pedagogical models. I'd recommend that the sector simply be encouraged to experiment, be it in collaboration across institutions or competitively. There is a sense that we have to monitor and keep up with innovations at other institutions, and people are learning from what others have successfully implemented. Let the sector get on with it!

Q59 **How innovative do you consider the New Zealand tertiary education system is? Do you agree that there is "considerable inertia" in the system compared to other countries? If so, in what way and why?** **Page 81**

Innovation is a somewhat over-used term nowadays. The Paper defines it narrowly as "The process of translating an idea or invention into a good or service that has value". Does this mean economic value only? Does 'service' include teaching? It's not clear. In any case, universities are always in the business of innovation, if you include new knowledge and discovery generally, which may (or may not) translate into a good or service of social, cultural, environmental or economic value – and if it does, normally in unforeseen ways.

As a caveat to this, while the Issues Paper is concerned largely with innovation (narrowly defined), it has nothing useful to say about the preservation of knowledge, which is, for long-term social and cultural well-being, an equally important role of universities. This is noted here as an ideological bias affecting the Commission's approach.

Yes, there is "considerable inertia" in the system, beginning with the TEC (but probably no worse than other comparable countries, from what I hear). After all, there is always "considerable inertia" in any large, highly regulated institutional system. Governmental controls lead to bureaucratic institutional controls, and there is plenty of research evidence that tells us that bureacracy kills innovation and creativity. (D. Pink's *Drive* sums it up). University middle-management is increasingly risk-averse, compliance-oriented and focussed on form-filling. Policy instruments such as the PBRF have helped to multiply this compliance and control mentality.

Innovation now often happens in spite of, rather than because of, governmental and institutional policies. It has become prohibitively time-consuming, for instance, even to make changes to the assessment processes in a single paper, thanks to excessive bureaucratic regulation and control.

The more that government adds to and tinkers with incentives and performance-measures, the worse it gets.

Any new model of tertiary education that wants greater innovation needs to think in terms of reducing bureaucracy (in the TEC and in TEIs) in order to unleash innovation, creativity and

productivity. We need a new style of leader at VC and PVC levels in order to understand and accomplish this. But we also need the TEC to control less, and to trust more, those institutions that are already well governed (which includes all 8 of the universities).

Q60 **What are the factors associated with successful innovation in the tertiary education system?** **Page 81**

Innovation in any environment requires **trust** in the creativity, abilities and good will of the people in the system. In particular this means trusting academic staff (those particularly who are known to perform their jobs well) to act as follows:

- Identify leading-edge knowledge and knowledge-gaps in their disciplines.
- Seek out creative solutions to (as yet unstructured) problems.
- Find ways to incorporate that leading-edge knowledge into teaching curricula – if necessary using innovative teaching methods.
- Find and recommend ways to apply that new knowledge to real-world problems.

Most academics are self-motivated to do these kinds of things due to their intrinsic sense of interest in their fields of study – otherwise they would not be in the job. External controls and incentives have less impact than the harnessing, or unleashing, of intrinsic values and motives.

At the moment we have a system that tends to reward getting money first, so that one can do some research, rather than applying money in support of research. Our system is money-driven rather than innovation-driven. Our mentality is shaped by economic scarcity and extrinsic incentives, rather than by the intrinsic rewards of learning and discovery.

The money should follow the innovation (and not only in the econimic sense of the term). We need inspired academic leadership, rather than more ‘performance anxiety’ and form-filling.

Q61 **What are the benefits to innovators in the tertiary education system? What challenges do they face in capturing these benefits?** **Page 81**

Some academic work – a very small proportion – has the benefit of being translatable into a commercially successful product. (If you add in books, which disseminate new knowledge, and their royalties, then the proportion increases). Universities have policies on commercialisation and IP to manage the distribution of economic rewards, and this is beyond the scope of government to interfere with.

The ‘benefits’ of innovation are intrinsic and (downstream) extrinsic. People get a natural ‘buzz’ and satisfaction from discovery and successful application of new ideas. If possible, they also seek to reap economic rewards. The latter need to be shared equitably and transparently between the institution that supported the research and development, third-party firms, and the individual researchers. But this is a matter for the institutions to manage transparently.

Q62 **What are the barriers to innovation in the tertiary education system? What might happen if those barriers are lowered?** **Page 81**

The basic barriers are: 1. Our imaginations, or lack thereof; 2. Risk-averse, bureaucratic interference.

Governments can’t do much for barrier no. 1, but it has a huge responsibility for assisting in lowering no. 2.

Q68 **What impact has Performance-Linked Funding had on providers’ incentives to innovate?** **Page 86**

The assertion on p. 86 “that the PBRF is successful at lifting the measured performance of tertiary education research” is not scientifically credible.

PBRF data are contaminated by the financial and reputational incentives inherent in the system itself. The PBRF is both the yardstick of and the intervention into ‘research quality’, and hence it has no independent variable. There is no control group, the sample keeps changing, and the comparative data-series (2003-2006-2012) is invalidated by economic incentives, gaming and window-dressing. The PBRF cannot be used to measure improvement in ‘research quality’ or ‘performance’; it only distributes a sum of money based on aggregated assessments of researchers’ outputs.

The assessors on PBRF panels may have a bias towards ‘grade inflation’, as they are assessing performance in their own disciplines, and each discipline is being compared with all others.

Performance-linked funding discourages innovation, except when it comes to gaming and manipulating the performance evaluation system. It tends to operate on the Matthew principle: to those who have, more shall be given. This is particularly evident when the PBRF rewards institutions for the amount of external research incomes that they already get.

The PBRF alters researchers’ activities and publication choices; it also encourages improved ‘window-dressing’ of evidence portfiolios etc. If the PBRF is taken too seriously, the incentive for the average academic staff member is to do research that is most likely to get published, and published as soon as possible, in a reputable journal. This encourages repetitive outputs with ‘safe’, predictable results that peer-reviewers will easily understand, and it discourages (as ‘too risky’ for one’s career) the exploration of new ideas or fields.

Q72 **Do New Zealand's tertiary policy and regulatory frameworks enable or hinder innovation? What might happen if existing constraints are loosened?** **Page 90**

Governmental policies cannot 'produce' or 'incentivize' innovation, so 'enable' is a good choice of word. Too much policy and regulation can be a hindrance to innovation, unless they operate to support or 'free up' those people who are seeking to innovate. Because innovation is unpredictable and risky, one cannot predict (let alone promise) what will happen if constraints are loosened. But constraints must be loosened if innovation is to stand a greater chance. There is simply too much bureaucratic control over academic work to really encourage innovation. Instead, innovation largely occurs because individual researchers and teams want to achieve new things; not because officials and policies make them do it.

Q73 **How do intellectual property protections in tertiary education foster or hinder innovation? Are the effects different in different parts of the system or for different kinds of provider?** **Page 91**

Institutions have IP policies which have sometimes been controversial. Nonetheless these matters do need guidelines and some rules about the distribution of royalties etc.

Q74 **How does the Crown's approach to its ownership role affect TEI behaviour? Is it conducive to innovation?** **Page 92**

The Crown has a long-term interest in the fiscal sustainability of universities as entities, and will naturally take a prudent, if not risk-averse, approach to monitoring them. But universities are sufficiently large to accommodate some risk-taking or entrepreneurial activities that may (or may not) lead to innovation.

In my own observations as a university council member over 5 years, the Crown's approach does seem to be too risk-averse and micro-managing. For those institutions in which the Crown can have some confidence, the approach could be to allow greater autonomy and to seek to encourage new ideas – which of course means tolerating some failures.

Q77 **How do tertiary providers create incentives for internal participants to innovate? What kinds of choices by providers have the biggest "downstream effects" on their level of innovation?** **Page 93**

The question is based on the false premise that innovation can be stimulated by incentives 'from above'. Nonetheless, transparent policies on the distribution of consequential rewards from royalties etc. are needed and already exist.