Engaging with employer groups and industry

In order to map priority research skills within

Individual disciplines and industry sectors

Presented by Bill Scales AO

President

Business/Higher Education Round Table
Thank you and acknowledgements

Thank you Craig for your kind introduction. I would like to acknowledge colleagues Professor Ian Chubb AC, Professor Glenn Withers AO and Professor Bob Williamson AO, all of whom have contributed enormously to Australia’s research effort and reputation, the debate about Australia’s productivity performance, and the very important debate about the future of Australia’s university sector.

I would also like to acknowledge the traditional owners of the land on which this conference is being held, the Darug people, and pay my respects to those elders past and present from that great nation.
As President of the Business/Higher Education Round Table, I recognise how very important research and research skills are to Australian business.

At B-HERT, we understand better than most in our community how the demand for research skills by business is dependent on their understanding of the value of those skills and their application to the business environment. It is this understanding that determines the level and the quality of the collaboration between business and universities.

B-HERT’s primary objective is to develop better engagement between the business and the higher education sectors.

We also aim to create the necessary conditions for a dialogue that encourages mutually beneficial cooperation and understanding between business and the university sector. It
is these productive relationships that, in our view, will lead to increased career opportunities for researchers in business.

As Chancellor of Swinburne University of Technology, I see every day the value of this collaboration.

The role of research and researchers for the future of business in Australia

But as you will clearly appreciate, understanding the value of research collaboration between business and universities and knowing that business will gain from a greater relationship with the research community is one thing, making it happen is another.

Clearly, the existence of qualified, research-trained individuals is a necessary pre-condition for this ongoing
collaboration, and for a meaningful dialogue between business and universities on matters of both local and national significance.

It is very encouraging to know that others in the past have also observed this link between broadly based innovation, productivity, and a highly developed skilled workforce with professional research capabilities.

Peter Drucker, the renowned academic and writer on business theory, had long held the view that the productive workforce of the future would consist primarily of what he described in the 1960’s as ‘Knowledge Based Workers’.

In a supplement that he wrote for The Economist magazine in 2001 entitled ‘The Next Society’, Drucker spelt out some of
the characteristics of ‘knowledge based workers’. This was in essence a summary of his life-long work on this subject which he placed in a contemporary context. His work still resonates with us more than a decade later.

He said, ‘knowledge based workers’ had two main needs, ‘formal education’ and ‘continuing education’.

But it was the tasks that Drucker saw for ‘knowledge based workers’ that is of particular interest to us today.

In essence, he was arguing in this supplement in the Economist, that all workers in his ‘next society’ are researchers in some form and are driven by the need to innovate within their chosen profession.

According to Drucker, these ‘knowledge based workers’ are constantly re-educating themselves, so that they can
successfully apply new ideas and concepts in their chosen profession.

As many of you will know, Drucker’s ‘knowledge based workers’ are now sometimes described as ‘intelligence based workers’.

And of course, the concepts and the contemporary reality of Drucker’s insights clearly have relevance today.

It is therefore interesting but perhaps not surprising that some recent workforce projections seem to suggest that Australia is heading in the direction that Drucker predicted.

The Australian Government’s research workforce projections indicate that demand for research-qualified people is set to grow at a faster rate than overall employment demand.
These projections suggest that over the decade to 2020, the number of employed individuals with a doctorate by research qualification alone is expected to rise in Australia by around 3.2 per cent per annum over this period.

A similar situation has been documented in the US where the US Bureau of Labor Statistics has forecast that between 2010 and 2020, there would be an increase of 20 per cent in the number of jobs requiring a doctorate.

These surveys about future workforce needs require significant input and projections from business and industry. This suggests that businesses, along with other organisations, seem to be indicating that in the future they will need to employ an increasing number of ‘intelligence based workers’
with basic research skills and that many of these ‘intelligence based workers’ will require high level PhD qualifications.

These predictions are consistent with my own anecdotal observations about what business say they will need in the future, and are consistent with similar observations of other B-HERT members.

In my interaction with some of the organisations employing Swinburne University graduates, I observe that high level research and analytical capabilities are increasingly stated by business as being required in infrastructure, manufacturing, engineering, consulting, banking, pharmaceutical, financial services, the building industries and of course within governments.
In a very practical sense, what we are seeing in our better performing organisations is that employees today are also researchers in some form.

In addition, I also observe that some professional bodies within these business sectors are encouraging their members to undertake postgraduate qualifications, particularly in areas of study that include high-level research components.

But it is also worth saying that the awareness and actual performance by business in appreciating the value of research capabilities seems to be mixed.

I think it is worth taking a moment to reflect on why industry engagement with the higher education sector is so important?
Australia is not alone in reflecting on this important question.

There is a growing realisation among many OECD countries and nations in the Asian region, that research and innovation and the skills necessary to exploit them, are essential components that will allow economies to prosper and grow.

For example, the Harvard Business School has been examining what might be required to lift American competitiveness.

The co-leaders of this work, Professor Michael Porter and Professor Jan Rivkin recently published ‘An eight-point plan to restore American competitiveness’, and the very first point was:
‘Ease the immigration of highly skilled individuals, starting with international graduates of American universities’. And among the reasons why they recommended this were:

that ‘America faces pressing skills shortages in knowledge work’-------

Unfortunately there is not a great deal of data that informs us about the extent and quality of Australia’s business/university collaboration, and therefore by implication, the opportunity for the education and employment of Australia’s ‘intelligence based workers’ within business.

And in addition, what indicators we do have are not encouraging. If anything they cast doubt on the likelihood
that the projections for the growth of Australia’s research workforce will in fact be met.

According to OECD research on this matter, when it comes to business collaboration on innovation with higher education or government research organisations, Australia ranks 21 amongst the 30 countries surveyed. On the positive side, we are above Estonia, Turkey, China, New Zealand, Brazil, manufacturing in the Russian Federation, Chile, and Mexico.

In addition, according to ABS data, where collaboration does exist in business in Australia, only somewhere between 2% and 6% of this collaboration happens between business and institutions such as research bodies, universities or government.
Another indicator of the level of business and higher education collaboration can be seen from various business surveys.

For example, the results of the 2013 National CEO Survey conducted by the Australian Industry Group found that only 58% of the 500 employers who responded to questions about business/university collaboration are satisfied or very satisfied with literacy and/or numeracy of tertiary graduates; that only 39.6% have links with universities and educational providers and that almost half of these links were through internships or apprenticeships.

One could debate the efficacy of elements of this research or the direct relevance of these business surveys, but taken together they do seem to indicate that the conditions for promoting, encouraging, and employing people in industry
who have extensive research knowledge, skills and experience may not yet be in place in Australia.

**So what do we make of all this?**

Clearly, we live in a world of constant change. Technology has transformed almost every industry sector requiring increased education and high level research capabilities in all occupational fields including in the fields of finance, treasury, marketing, ICT, people management, business, and general management.

In addition, the challenges facing industry today are more complex than ever, and there is no sign that this level of complexity is declining.

As more and more of the tasks of organisations require employees to work across different disciplines, we need to
help employers recognise the importance and benefits derived from employing individuals who have research training particularly where that research training is conducted within multidisciplinary teams.

B-HERT has for many years been organising Business/Higher Education Round Tables, where these important matters are discussed and debated.

At these round tables, B-HERT is able to hear first-hand, the day-to-day challenges and the experiences of both business and universities.

At these round tables, employers constantly tell us how important, in today’s workplace, are the application of analytical and critical thinking skills and the capacity to work in team environments.
But business also tells us that they find it is not easy to work with universities to ensure that their future employees have the specific skills required by them.

Increasingly, there is greater recognition within business that highly developed research skills offer them a strategic competitive advantage.

What Australian business now needs to do, is translate this recognition, into concrete action by employing individuals with advanced research capabilities.

In addition, Australian universities need to better engage with business on a number of levels, so that they can help Australia meet the future workforce needs of an increasing sophisticated business sector that needs to be internationally competitive.

I think what’s happening overseas in this regard is instructive.
Business enterprises in innovative countries seem to be employing high proportions of researchers because of their capacity to solve problems creatively.

The Canadians, for example, have established a program designed to improve lagging productivity by training their next generation knowledge workforce, through effective academic-industry partnerships.

By translating industrial challenges into research problems, interns in Canada apply their research skills within the workplace.

Through this program, companies have come to increase their understanding of the practical value of research skills, and the competitive advantage of employing researchers.
International data confirm that research collaboration directly links to innovation, and that increased productivity is one important outcome of an innovative economy.

It is a matter of concern therefore, that among OECD countries, Australia is not only lagging behind other nations in relation to business/higher education collaboration, but also our position seems to have steadily declined in the past 5 years.

What we do know about collaborative activities makes it abundantly clear, that partnerships between the business and Australia’s higher education sector must improve so that we can lift our productivity and our competitiveness.
Professor Ian Chubb’s ‘Five Breakthrough Actions’ if implemented, would make a very useful contribution to addressing some of these challenges.

Summary

So let me summarise B-HERT’S view on these important matters.

The changing nature of work and of organisations, calls for high-level skills, and requires Australia to have a world-class research base and a culture of innovation.

The skills offered by the Australian research workforce are valuable and essential assets for business and we believe that these research skills are relatively untapped by business - but we are not sure why.
We have very little reliable and economy wide information about Australian business engagement with the higher education sector, despite the fact that international experience suggests that these partnerships are going to be fundamental to Australia’s economic development.

We think that Australia would be wise to follow the example of the UK to determine both the quantum and the quality of business–university collaboration, in all its forms, and to encourage its development.

The UK has now completed their second national review of collaboration in 10 years and the British government is now consulting closely with business on how best to implement the recommendations.
Based on the review findings, the UK government is prepared to implement programs that support business-university collaboration, provide modest incentives to encourage more and better collaboration, measure progress and report the results.

This process of review, consultation and implementation in the UK demonstrates good practice in developing public policy in this important area. We think that it is also a good model for Australia to adopt so that we can develop the knowledge-based society that we argue is the way of the future.

**Conclusion**

Let me finish by saying that Australia clearly is a nation with almost untold potential.
That potential will be best realised if we are able to harness all of our resources, physical and human.

Australia, and Australian business in particular, must encourage, develop and use effectively the significant intellectual capability of all our people.

That is our collective challenge, and B-HERT is committed to doing all it can, to build Australia’s intellectual capability, by continuing to encourage business/higher education collaboration, for the benefit of all Australians.

Thank you.
Chair for Day One

The Chair for Day 1 will be Dr. Craig McInnis from PhillipsKPA. They are a Higher Education consulting firm and below is a short bio of Craig for your reference.

Craig McInnis is a director of PhillipsKPA. He is an internationally recognised expert in strategic policy development and implementation with almost 20 years experience in higher education research and consultancy involving a wide range of issues. He has led numerous high profile national and institutional policy projects and initiatives, including establishing the national agenda to improve student engagement, developing key survey instruments to assess the quality of the student experience, and advising on quality assurance, academic standards and accreditation processes.

He has conducted organisational and program reviews in almost every major field of study, and across a wide range of university contexts in Australia and overseas.

Prior to joining PhillipsKPA in 2005, Craig was Professorial Fellow at the University of Melbourne, and Professor and Director of the Centre for the Study of Higher Education (CSHE).