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Greater Involvement and Interaction

Between Industry and Higher Education

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Greater Involvement and Interaction Between Industry and Higher Education
B-HERT Position Paper

There is a significant and urgent challenge in Australia to set the scene for a steady transformation in industry/business-university relationship and interaction. This interaction needs to occur across the broad spectrum of industries and businesses and should not be restricted to "big business" or major industry sectors.

With all industries and businesses increasingly dependent on human resources in a knowledge-based economy, business will need to increasingly rely on universities which remain world class and diverse. Universities and business will need to cultivate mutually beneficial and lasting relationships with one another. In this emerging framework, robust high-quality, long-term relationships, based on two-way investments of time and resources, are becoming essential to understand, influence and improve the interactions between both sectors.

To forge ahead with this transformation universities will need to leave the campus and engage with industry. At the same time, industry and government can facilitate the development of close links with universities by venturing onto campus for regular discussion and exchange of views on matters related to the preparedness of graduates for the workforce, and collaborative research. Individual academic staff members will often engage with professions in industry, adopting leadership roles in professional bodies, undertaking commercial research or consultancy, and often volunteering to participate with industry and the professions in areas of mutual interest. This strategic partnering needs to be encouraged at organisational level, as well as around personal links.

A particular area of partnerships for universities and business lies in the joint work by universities and business in building competitive regional economies[1]. Regions seeking to compete more effectively within a world economy will need to develop 'soft structures' that support knowledge creation and learning and that enable firms to collectively strengthen a state or region's capacity for knowledge creation and innovation (Cairney, 2000). Garlick (1998) argues that "many regional communities are feeling the demographic, social, economic and environmental impacts of their area growing at rates either well above their effective capacity to manage or well below the potential of their human, economic and physical resource capability".

Cairney (2000) has suggested that this approach to regional development requires the creation of trust between the public and private sector and between universities and regions. He suggests that regional communities will be increasingly looking to their universities to provide them with skills knowledge, research and development activities, intellectual argument and analysis. Such a role is not consistent with the way in which universities have historically operated, that is, places where knowledge was sought by an elite few, and where it was protected and passed on as seen fit to restricted communities of interest. It should be noted that the link between universities and regions is not restricted to regional universities and the region(s) in which they are located. The relationship is significantly broader and extends to universities, both "city" and "regional", which actively work with regionally-located industry and business.

Of significant importance is the issue of strategic partnering between universities and business. This is the case both at regional level and more broadly, where special and particular interests encourage the forging of global links.

To achieve this strategic partnering new forms of governance will be required. At the more general level this can be achieved by greater attention to the appointment of business leaders and professionals to university planning committees, advisory and management boards, business and university partnership arrangements in the form of joint membership of regional development and specialist organisations, and cross membership in each other's governance, management and advisory structures. These might include training and

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[1] See also B-HERT Position Paper 'The Role of Universities in the Regions' by Professors H.Winchester, A.Glenn, P.Thomas & Mrs.M.Cole on website www.bhert.com

development programs, centres of business expertise, business incubators, centres for commercialisation and so on.

It must be noted that institutional governance is coming to emulate business in the way that it operates, in that many universities have adopted a more corporate approach for quite some time with all senior positions from Head of School/Department being appointed rather than elected. Universities also already draw significantly on business leaders and professionals in terms of council or senate membership and advisory and management boards.

Business and the professions can also be involved more directly in university governance by greater use of formal and informal business and industry partners in the design, content and delivery of courses and by the involvement of business and industry partners in the selection of staff. Carefully planned semi-formal structures such as think tanks and forums, and mechanisms to facilitate exchange between universities and key organisations should be encouraged.

Hamnetts (1999) has referred to such activities as part of a university's "third role"- community engagement. Cairney (2000) argues that Universities which understand this third role will see judgement of their success not simply in terms of the internationally accepted quality of their teaching and research, but also in terms of their role in a region's social, economic, and cultural development. Universities are attempting to accept this enhanced role in their regions and more widely by:

> university membership of key groups and cross membership of industry business, and government representatives on university course accreditation committees;
> specific programs that provide student involvement in industry based projects;
> co-location of universities with other training providers (public and private) as part of education precincts;
> the creation of innovation and technology precincts designed to link university researchers with technology based industry;
> university involvement in efforts to obtain key infrastructure of importance to industry development and competitiveness; and
> joint training appointments with local industry, business and government departments.

Higher education institutions, in consultation with business, students and other stakeholders should adopt models for university governance, administration and practice which directly addresses the following:

> lifelong learning[2] - opportunities for students to develop their knowledge and skills to their highest potential throughout their lives for personal growth and fulfillment, for effective participation in the workforce and for constructive contribution to society;
> the application of knowledge and understanding to the benefit of the economy and society, particularly in the area of innovation;
> an opportunity which will enable individuals to adapt and learn, consistent with needs of an adaptable knowledge-based economy at local, regional, national and international levels; and
> the opportunity to enable individuals to contribute to a democratic, civilised society and promote the tolerance and debate that underpins it.

In order to achieve appropriate models of governance, institutions should recognise business, along with the professions, as a major participant in the knowledge-based economy and in those debates which underpin our democratic and civilised society. The very nature of knowledge production is changing. Increasingly knowledge is being generated as problems are set and solved in the context of application. This requires transdisciplinary approaches and heterogeneous skills and the direct involvement of stakeholders (Johnson, 1998).

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[2] See also B-HERT Position Paper 'The Critical Importance of Lifelong Learning' by Professors P. Sheehan, J.Chapman, M.McMeniman and Dr.M.Toner, which is relevant to this issue and to a number of other areas, discussed in this paper.

There are many good examples of how universities and industry already do work together to deliver outstanding education and training that meets to needs of employers as well as creating graduates who are equipped for lifelong learning. For example, many institutions have introduced professional doctorates that seek to provide postgraduate training that has a strong connection to the needs of industry. In many cases these programs involve industry representatives in planning, delivery and supervision and equip graduates to undertake research that is linked directly to industry problems or needs. Another example is flexible program delivery to enable students who are in full-time employment (including those in relatively senior roles) to better balance their work, study and family commitments.

Many universities have also introduced co-operative education programs. These come in several forms. Some provide periods of work interspersed with studies throughout the degree program. Others provide final year graduates with the opportunity to work within industry on a project that the industry partner has identified.

The need to involve business along with the professions in this approach to the advancement of knowledge and understanding is already being done very successfully through collaborative research. However universities also need, as Pelikan (1992) advises, to involve business and the professions in the work done by universities to prepare people for roles in business and the professions.

There is a new generation of universities which have schools and research groups, staff and students who are increasingly seeking to create new knowledge by stepping outside the boundedness of discrete disciplines and organisational structures, and beyond the perimeters of the institution's campuses.

Institutions that do this will not find the task easy or fast. They will need to create an environment within which staff are rewarded for identifying relevant applications of knowledge, intended to be of use to industry, business, governments, communities and the professions. It will also require university staff and the institutions themselves to see collaboration with others as central to all that they do. This is a lesson that business and industry has already learned and which has led them to engage in multiple alliances and consortia. Collaboration and co-production will allow "modern" universities the opportunity to embed themselves more fully within the economy through a series of innovative, multi-layered partnerships. This will substantially benefit the innovation agenda, so important to Australia as a basis for future knowledge growth and therefore wealth creation.

Many organisations have now incorporated the notion of "triple-bottom line" reporting into their vocabulary and some have already incorporated it into their accounting and reporting practice. Based on the work of John Elkington and others, triple bottom line thinking argues that economic prosperity, environmental quality and social justice are not only compatible but together represent truly sustainable progress. Elkington (1998) identifies seven dimensions of sustainable progress. These are Markets, Values, Transparency, Life-cycle Technology, Partnerships, Time and Corporate Governance.

It is critical that universities and business collaborate in explicating the values underlying this approach, in developing appropriate technologies and, through partnerships, in environmental and social projects as well as economic and resource projects.

Business and higher education will also need to "harmonise their decision time constants". Universities have traditionally been long term thinkers and actors, business has all too frequently appeared very short term in its perspective. A closer relationship between industry and universities requires recognition of the customary timeframes within each sector when appropriate, with universities accepting the value of a shorter-term orientation and industry a longer-term orientation. Such changes in the rhythm of sectoral life are likely to prove challenging for all concerned.

Universities have long since sought support by industry through scholarships, awards and sponsorships. Such support encourages a relationship which offers a balance of obligation and benefits, and is a vital enabler of business interests, as well as nurturing the engine room for future talent and ideas. One must not forget the role Government needs to play in partnership with universities and industry in encouraging industry activity through appropriate enabling policies and programs. Where such gifts and support are stewarded correctly, strong relationships are maintained with those benefactors, including access to research

data, access to seminars, and notification of other matters going on in university life. This provides another link between industry and the professions and universities as well as Government. Such activities are a business investment on the part of industry and are beneficial to industry and the professions by such things as simply providing access to the university in order to tap the information required, or to better understand the programs on offer. The access and management of these relationships by the universities will encourage greater involvement by industry in education and training.

Another area for joint involvement is in creating a more positive outlook for professional men and women in fields that are suffering from poor perceptions of life long opportunities, under "old economy" images. Many of these professions (traditional fields of science and engineering come to mind) are misunderstood, and it may need a strong input from industry and universities in collaboration, focussing on secondary students in particular, to turn the national tide.

Corporate programs are another avenue which many universities are branching into. Typically, these programs are built from the same base as an existing program, with the same degree of academic rigour, but they may be tailored or fine-tuned in terms of some of the cases presented to meet the needs of a particular corporate client. These programs represent a joint venture between the university or corporate partner involved and serve both parties very well. It is an area which offers great potential in terms of growing collaborations between industry and universities both locally and globally, including consideration of the articulation of suitably approved corporate programs toward degree qualifications.

Other forms of engagement between universities and industry include commercial research, involvement in cooperative research centres, ARC SPIRT (Strategic Partnerships with Industry) grants, and the appointment of adjunct professors from industry to inform curriculum and to play a role in teaching programs. Such collaborative activities provides research students with workplace experience, an opportunity to apply theory to practice skills development opportunities in such areas as commercialisation and experience in work teams (Kemp, 2000).

To further build on the partnerships and the mutual advantage between industry and higher education, universities will likely need to take the lead. The reality of commercial life means that in most cases, industry will not accord the same priority to the development of industry-university relationships that universities will.

Conclusion

We have argued in this paper that notwithstanding the many fine examples of university and industry collaboration, there is a need for a more enhanced partnership between higher education and the business community. As Australia moves further towards a more knowledge dependent economy, we need to look increasingly to how universities can work with business to advance the process of innovation and renewal across all industry sectors. The above discussion has suggested that there are a number of key priorities:

Business and universities need to expand the range of ways they engage with each other to enhance capacity for growth and development at regional, state and national levels.
University and business leaders need to seek new strategic partnerships and forms of involvement.
Universities need to embrace more fully their 'third role' of community engagement and leadership.
Staff and students within universities need to be encouraged in their efforts to engage with industry, and there needs to be an increased acceptance and rewarding of such efforts.
Industry and universities have a key need to work in partnership to advance knowledge through research and development in order to enhance industry capacity for innovation.

In short, business and universities need to work actively to expand the current forms of partnership and engagement This should lead to a higher level of interaction and seamlessness between business and higher education, with staff from both sectors moving freely across boundaries in order to engage in new and expanding forms of collaboration.

It has not been our aim, in writing this paper, to provide substantive policy recommendations toward reaching the above priorities and objectives. Rather, we have sought to offer some background, examples

and to raise awareness of issues to provide a basis for further exploration and policy as a framework for future actions across this important and far-reaching topic.

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