Senate Economics Reference Committee

Review of the National Innovation System

Response by the Council of Australian Librarians (CAUL)

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Submission

Introduction

The Council of Australian University Librarians (CAUL) is pleased to have the opportunity to make a submission to the Review of the National Innovation System. CAUL is the peak leadership organisation for university libraries in Australia. Our mission is to enhance the value and capacity of Australian university libraries and to influence scholarship, learning, and information policies and practices relevant to Australian higher education. Our members are the University Librarians or equivalent of institutions which have representation on Universities Australia.

CAUL is committed to strengthening the role of university libraries as partners in the research process and in promoting their libraries’ unique contribution to scholarship and scholarly communication.

The contribution made by university libraries is critical to the success of Australia’s higher education system, one of the chief components of a successful national innovation system. Of particular relevance is CAUL’s encouragement of and involvement in open scholarship initiatives, including the development of members’ capacity in research data management and support and involvement in government research assessment programs and other relevant programs and initiatives.

Over the past few years the role of university libraries has been changing to provide greater support for innovation through higher education by:

- provision of open access repositories to store, promote and preserve the digital assets and outputs of universities;
- management and, increasingly, curation, of research resources such as datasets and digital collections;
- publication, especially electronic and often open publication, of material based on research;
- support for innovation in scholarly expression and communication;
- provision of advice on e-Research data management, including data management policy and planning, metadata, standards and persistent identifiers; and
- transformation of services and physical facilities to support the development of students’ lifelong learning skills.

Further details about CAUL and its activities can be found at http://www.caul.edu.au/.
National Innovation Strategy

This submission addresses the following three key challenges to Australia’s higher education and research industries and jobs posed by increasing global competition:

- Research infrastructure
- Knowledge sharing and innovation: there is no scholarship without communication
- Research into innovation

Research Infrastructure

CAUL supports the Australian National Commission of Audit’s (NCA) finding that quality research infrastructure is a critical component of Australia’s research and development system. CAUL also supports the Commission’s recommendation to commit to ongoing funding for critical research infrastructure in Australia.

According to the National Collaborative Research Infrastructure Strategy (NCRIS), Australia and the European Union (EU) share a common approach to investing in and prioritising research infrastructure and since 2010 have developed a strong collaborative relationship at both the policy and facility management level.

The European Commission (the Executive body of the EU) defines research infrastructures as facilities, resources and related services used by the scientific community to conduct top-level research in their respective fields, ranging from social sciences to astronomy, genomics to nanotechnologies. Examples include singular large-scale research installations, collections, special habitats, libraries, databases, biological archives, clean rooms, integrated arrays of small research installations, high-capacity/high speed communication networks, highly distributed capacity and capability computing facilities, data infrastructure, research vessels, satellite and aircraft observation facilities, coastal observatories, telescopes, synchrotrons and accelerators, networks of computing facilities, as well as infrastructural centres of competence which provide a service for the wider research community based on an assembly of techniques and know-how.

The Research and Innovation pillar of the EU’s ten-year growth and jobs strategy recognises that world-class infrastructure and adequate funding are crucial to attracting Europe’s best minds to research. Actions include financially supporting joint ICT research infrastructures and innovation clusters, and investing in high performance computing.

For Australian research to remain competitive, and continue to provide the foundation for the nation’s innovation, growth and prosperity, Australia will need to emulate global trends around research infrastructure, including supporting the unique contribution to scholarship and scholarly communication made by academic libraries.

Predictability around funding is integral to retaining highly specialised skills and expertise and optimising infrastructure investments.
CAUL advocates that the Australian Government commit to an action strategy around research infrastructure; and to financially support research infrastructure including libraries and high performance computing facilities to ensure Australia remains globally competitive.

Knowledge sharing and innovation: there is no scholarship without communication

Open data is the key to unlocking entrepreneurial potential. The knowledge industry relies on existing data to create new data, information and knowledge. To be valuable to governments, society, researchers, educational institutions and industry, scholarly/research data needs to be open, accessible and reliable.

.... in this age of Big Data, the rich universe of research data could be accessible:
  • to obtain new insight in research processes
  • to stimulate creativity and the discovery of new fields of research
  • to increase transparency of the practice of scientific research and its results in the form of publications and the underlying research data
  • to enhance the quality and excellence of research
  • to enhance societal accountability
  • to make innovation possible. (TUDelft Initiatives in Open ....)

CAUL supports the Government’s AusGOAL initiative, which provides the open access and licensing framework for government and related sectors, however, more needs to be done to remove barriers to openly accessible scholarly/research information. The following barriers continue to hinder the success and future potential of Australian innovation:

  • the rise of Asia countries as locations for innovation “offshoring”. Australia is at risk of losing talented researchers and students as Asian countries recognise the importance of an educated workforce to economic growth and invest in research to make their economies innovative and competitive;
  • tensions between accessibility of information and the intellectual property rights of protection. Australia needs national copyright law reform and improved access to publicly-funded research; and
  • sustaining an out-dated research communication industry business model along with an adherence to antiquated academic promotion models.

On the 1 June 2014, the United Kingdom introduced exceptions to copyright for research and private study, text and data-mining, education and teaching, archiving and preservation, et al.. These copyright law reforms include many changes including the following of particular interest:

  • Much needed digital preservation exceptions to prevent the loss of vital sound recordings, film, as well as text based works.
• Allowing the digitisation of analogue collections and their use on dedicated computer terminals on the premises of libraries, archives and museums.
• New educational exceptions to support teaching, learning and research.
• A new text and data mining (TDM) exception, which will dramatically boost non-commercial research. In an era of “big data”, research must be supported by allowing organisations and individuals, who have legal access already to copyright materials, to extract facts and data contained therein on a large scale. This new exception will provide unlimited opportunities to support vital research leading to new discoveries and greater innovation.

To remain competitive internationally, CAUL advocates that the Australian Government take a similar and immediate approach to reforming Australian copyright law to ensure the future viability of Australian innovation.

**Research into Innovation**

*Coordinated, long-term public support of research will generate the new ideas that will become the game changers of the future. Research fuels innovation. It is an investment in our future.*  (Australia’s Chief Scientist)

Government initiatives can help drive positive and sustainable change in Australia’s innovation economy. Investment in research will be critical to future success and, as with research infrastructure, predictability around research funding is integral to retaining highly specialised skills and expertise and will ensure Australia’s competitive positioning in the Asian century.

CAUL supports recent Government initiatives such as the 2013 *Science, Technology, Engineering and Mathematics in the National Interest: A Strategic Approach* (STEM) position paper. In particular, CAUL supports key innovation objectives to:

• Increase the translation of ideas to new and improved goods and services.
• Enhance links between business and publicly funded research agencies and universities and between education providers and business to meet the need for a well-prepared and STEM skilled workforce.

A coordinated approach to research and innovation frameworks, policies and strategies is critical to strengthening Australia’s position in the global economy.