Research Impact
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Research Impact

• Research impact is the demonstrable contribution that research makes to the economy, society, culture, national security, public policy or services, health, the environment, or quality of life, beyond contributions to academia.

• It is the showcase for key stakeholders (government, industry and community) of the real benefits of investment in Australian research activities.
Measuring Research Impact

• Why now? Key issues and benefits
• What the ARC currently asks universities to report
• Future
• Discussion
Why Now? Key issues about impact

• Increasing competition for research budget
• Need to demonstrate the value of research
• Types of Impact (peer, commercial, social, environmental, cultural)
• Diversity of outcomes from research disciplines and sector specificities
• How do you report it cost effectively?
What the ARC currently asks universities to report

- NCGP data collected—e.g. Centres of Excellence
  - Scholarly Impact—publications, citations, invitations, prizes and awards, prestigious panels
  - Research income
  - Research training
  - Engagement, End Users
  - Commercial—patents, Plant Breeder Rights, commercialisation income, take up
  - Collaboration with partner organisations
A reality check

• Balance
  – scale of investment ie fellowships versus ARC Centres of Excellence.
  – the cost of collecting the data with its usefulness
NCGP—What do we use the data for now?

• **Accountability**—Annual Report and other Parliamentary reporting purposes

• **Promotion** to range of stakeholders

• Program and scheme **reviews**

• Indirectly informs **assessment** of applications for future investment

• **Trends** for policy development and advice, i.e. business investment, research disciplines—emerging priorities

• **Ad hoc reports** and surveys
Instances of international collaboration on approved proposals in Linkage Projects 2014
Gender balance—Linkage Projects

The graph illustrates the success rates of Linkage Projects rounds from 2010 to 2014, categorized by gender. The success rates are depicted with red (Female) and blue (Male) markers. The data shows a slight decrease in success rates over the years, with both genders facing similar trends. The highest success rate was observed in 2011 R1 at 51.5% for females and 44.1% for males, while the lowest was in 2013 at 37.2% for both genders.
Gender of First CI: LP14

- Female: 30.9% of proposals are funded.
- Male: 37.90% of proposals are funded.

Number of proposals:
- Female: 132 unfunded, 59 funded
- Male: 314 unfunded, 192 funded
ARC’s next steps in Research Impact

• Embedding impact into proposals
• Identifying common, agreed reporting of impact
• Enable a possible future assessment of impact using common data and language
Proposal form changes

• The Administrative Summary has an added question about research impact which reflects the ARC’s recently developed policy on this issue

• Available on the ARC web site
Patterns of 'who eats who' in nature are called 'food webs'. Scientists study these because they reveal the flow of energy and nutrients in ecosystems. The survival of all organisms depend on such energy and nutrient flows. This research will use samples from xxx to study how these food webs have changed over a period. This will then help us to understand how animals will cope with x change.

Society intrinsically relies on efficient production, transport, usage and storage of x. By incorporating x technology into x, the project will significantly improve x efficiency in a vast range of applications providing cascading environmental and economic benefits.

[Outcome]

[potentially Impact]
Discovery Project—Impact statements

The proposal examines cycles in Australia, using x as indicators. It will directly contribute to inter-government agreements for resources, requiring assessment of the condition of these systems. The proposal will also help planning for extreme boom and bust cycles, particularly affecting land and tourism industries.
Should we be worried about impact?

• We shouldn’t be
  – Every aspect of the modern world is shaped by research—the impact of research is everywhere.

• BUT
  – Need to take care not to over-engineer
  – Need to disentangle contributions
  – Need to cope with diversity
  – Need to avoid perversity
  – Need to be clear about the **WHY**!
Developing a framework on common understanding of research impact

• The ARC has been working with:
  – CSIRO, NHMRC, AIMS, ANSTO, DSTO, AIATSIS

• We are looking for a set on data commonalities and a common framework for effective and efficient impact reporting
Small steps

• **Research Impact Principles**

• Release of the PFRA work on the ARC website:

  http://www.arc.gov.au/general/impact.htm
Initiative of Publicly Funded Research Agencies

In 2012–13:
• Australian Institute of Aboriginal and Torres Strait Islander Studies—AIATSIS (Canberra)
• Australian Institute of Marine Science—AIMS (Townsville)
• Australian Nuclear Science and Technology Organisation—ANSTO (Sydney)
• Australian Research Council—ARC (Canberra)
• Commonwealth Scientific and Industrial Research Organisation—CSIRO (Canberra)
• Defence Science and Technology Organisation—DSTO (Canberra)
• National Health and Medical Research Council—NHMRC (Canberra)
• National Measurement Institute—NMI (Sydney)

In 2014
• Geoscience Australia—GA (Canberra)
• Bureau of Meteorology—BOM (Melbourne)
Why collaborate?

• Understanding current arrangements
• Return on investment (both retrospective and prospective)
• Common understanding of the latest developments
• Set of overarching principles and a common understanding of language
• Identifying common data requirements
• Consider new data
• Identifying cost effective and efficient methodologies
• Sharing experiences to promote research impact
Principles Developed

- Excellent research
- Use of common language, *Glossary*
- Respect diversity in research disciplines/sectors
- A set of common, cost effective and efficient parameters for data collection and reporting
- Consultative approach with stakeholders
- Encourage, recognise and reward in planning, monitoring and evaluating
Considering Impact gives guidance on project planning

- Plan
- Report
- Assess
- Promote
Impact data collection—pathways

CSIRO Impact Framework

Inputs ➔ Activities ➔ Outputs ➔ Outcomes ➔ Impact

Feedback Loops

Engagement

Planned Work ➔ Intended Results

Within your control ➔ Outside your control
Input

- Budget
- Staff
- Infrastructure
Activities

• Research

• Lecturing

• Workshops
Output

- Publications
- Patents
- Engagement, community outreach
- Reviews
Outcomes

• Licences, revenue

• Customer/user feedback/survey

• Spin-offs
Impact

• Job creation
• Improved safety
• Joint ventures
Benefit

- Culture
- Economy
- Environment
- Health
- National security
- Public policy / services
- Quality of life
- Society
The CRC Program supports industry-led research partnerships between publicly funded researchers, business and the community to address major long term challenges.

- [https://www.crc.gov.au/Pages/default.aspx](https://www.crc.gov.au/Pages/default.aspx)
- Impact tool user guide—performance review
Tips for Research Managers

Helping researchers to:

• develop ideas on potential outcomes at beginning of the project
• collecting evidence according to scale of investment—evidence is not impact
• effective communication and accessible language
• good research design—capitalising on intended and unintended benefits
• training tomorrow’s researchers—bench to bedside, industry, government—mentoring and coaching

Web: www.arc.gov.au
Discussion/questions