Research Impact: The Wider Dimension

Or

For Complexity

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Introduction

I am here today to talk about research ‘impact’, or the importance of assessing the public value of university research; and to persuade you to want ‘complexity’ in research assessment. When I say ‘complexity’, I am being provocative: I mean that, in my opinion, ERA needs to adopt a sophisticated, robust, contextual approach to assessing research impact (and research quality).

I will explain:

- what research ‘impact’ is and why it is important to assess it;
- how ‘impact’ may be assessed;
- what governments want from research assessment;
- what governments should want from research assessment;
- and will argue for complexity.

The point is that governments (or public research funding agencies) want to demonstrate that the research they have funded has made a difference. But it seems that all too often evaluators are fated not to get what they want because of the way they choose to get it. That is why I shall argue for complexity.

What is research ‘impact’?

To explain what research ‘impact’ is we first need to make a distinction between what evaluators call research ‘quality’ and research ‘impact’. In simple terms, research ‘quality’ refers to academic publication and creative outputs, and citations between academic publications. Research ‘impact’ is the extra-academic influence of research: that is, the benefits that arise from academic research beyond the academic world.
I am leaving ANU this week to take up a research post in London, and will be encountering the ‘MIND THE GAP’ on the London Underground on a regular basis. Paul Nightingale and Alastair Scott talk of the ‘relevance gap’ between the research society most needs and that which is produced. They believe that a social contract exists between publicly funded researchers and the taxpayers who fund their activities, and so publicly funded research should address pressing social issues.

Governments are increasingly seeking to link research funding to the ‘impact’ of research, but are struggling with how best to do this. And I think that Nightingale and Scott are making a valid point, and this idea of a ‘relevance gap’ resonates (perhaps unfairly) within government, particularly with regard to the humanities, creative arts, and social sciences.

Yet I think that this sets the debate about research ‘impact’ on the wrong foot because: (1) there is plenty of research that has ‘impact’ beyond academia – the problem is that this is rendered invisible by standard approaches to assessing research impact; and (2) it is essential to retain ‘blue skies’ research. Both (1) and (2) are a public good in themselves.

As part of the RQF process, I chose to argue that the Australian government needed to radically rethink its idea of what research ‘impact’ was.

In most industrialized countries, the innovation agenda has come to dominate science and research policy. This predicates thinking of ‘impact’ in economic terms: economic returns, and returns to business and industry, but not in terms of its broader public value. In other words, there is a conflict between the agendas of innovation, Higher Education, science policy, and public good agendas. And this perspective is
criticized for marginalizing the role of the humanities, creative arts, and social sciences (HASS). I argue that the innovation agenda also undervalues all research fields in science, technology, engineering and medicine (STEM) also. The innovation agenda alienates STEM and HASS academics, and perpetuates a narrow view of what ‘impact’ is and what ‘impact’ can be.

Meaningful impact assessments must strive to measure the wider public value of research. This idea is embraced by ‘triple bottom line’ accounting which seeks to account for public value not purely in economic terms, but by using a balanced approach to social, environmental, and economic gains.

This approach redefines the purpose of innovation policy, or science and technology policy. Yet, public value eludes standard quantitative approaches to research assessment, and we find that the application of simple metrics is increasingly detached from the direction of public policy.

**How ‘impact’ may be assessed**

How we choose to measure ‘impact’ will determine what kind of impact we find. Historically, simple metrics fit with the aspirations of the innovation agenda, and contextual approaches lend themselves to public value agendas.

Simple ‘impact’ metrics do not measure research impact. For example ‘technometrics’ such as number of patents and number of spin-off companies focus on economic returns, and only really gauge very low levels of impact rather than wider public
benefit, and also privilege private over public interests. And ‘sociometrics’ such as attempting to link macro-level social statistics (e.g. the crime rate or the divorce rate) to the efforts of particular researchers is just not credible (this was once described as ‘making alchemy look good’).

Simple metrics therefore ignore wider public value. More complex, holistic and contextual methods of assessment rely on peer (and ‘end-user’) judgements, and are necessarily complex but more meaningful.

There is a danger that over-attachment to simple metrics limits the imagination of what governments and evaluators want and how they seek to find it. This limits our imagination and our aspirations.

Metrics-led thinking is like searching for a dropped set of car keys on a dark night only in the circle of light provided by a lamppost – there is a whole universe out there. To give another analogy, to allow simple metrics to shape research evaluation exercises because they exist and are cheap is like the tail wagging the dog: rather then seeking what is out there, simple metrics limit what can be found. And this applies not only to ‘impact’ metrics but ‘quality’ metrics also.

**What do governments want?**

Not unreasonably, in terms of research evaluation, governments want to link funding to high quality original research and to beneficial outcomes. Governments also want research evaluation exercises to be cost-efficient, simple, to be transparent and to have replicable evaluation methodologies, and to use remote technologies (i.e. databases
that are independent from researchers and so cannot be manipulated, and also do not involve taking up a lot of researchers’ time in conducting assessments).

Yet, as we have seen, more simplistic metrics-based approaches do not deliver a sophisticated appreciation of research impact. Rather, this often yields disappointing results that do not credibly link the research produced to its outcomes.

What should governments want?
Governments should want to link funding to original high quality research to beneficial outcomes. Governments should seek complexity and the long way round rather than short-cuts. This complexity involves seeking a variety of types of public value, and mixed quantitative and qualitative assessment methods which are transparent, robust and replicable. Governments should also want to invest the necessary time and effort, and to use ‘embedded’ knowledge, interpretation and expertise (for example, the views of ‘end-users’).

The message today coming from best practice in impact evaluation is that the time of simplistic metrics has passed.

What do governments want? Governments want to demonstrate how research funding has made a difference. But it seems that governments will be fated not to get what they want because of the way they choose to get it.

What may change government’ minds? An example of a successful, large-scale contextually-driven, evaluation of research impact. Australia came tantalizingly close to this in the form of the Research Quality Framework, and HEFCE have adopted precisely that model and methodology of assessing research impact for the 2014 Research Excellence Framework and which is currently being piloted.

For complexity
I will now conclude by arguing for complexity. Take the RQF approach which defined ‘impact’ as the social, economic, environmental and cultural benefits from research. It was found that metrics simply did not capture public value, and so a complex approach was adopted involving a minimal (but important) role for metrics,
the evaluation of context statements and case studies, and the use of ‘end-user’
testimony, if required.

This sought to reveal what was called ‘social benefit’:

“Improving quality of life; stimulating new approaches to social issues; changes in
community attitudes, and influence upon developments or questions in society at
large; informed public debate and improved policy-making; enhancing the knowledge
and understanding of the nation; improved equity; and improvements in health, safety
and security.”

‘economic benefit’:

“Improved productivity; adding to economic growth and wealth creation; enhancing
the skills base; increased employment; reduced costs; increased innovation capability
and global competitiveness; improvements in service delivery; and unquantified
economic returns resulting from social and public policy adjustments.”

‘environmental benefit’:

“Improvements in environment and lifestyle; reduced waste and pollution; improved
management of natural resources; reduced consumption of fossil fuels; uptake of
recycling techniques; reduced environmental risk; preservation initiatives;
conservation of biodiversity; enhancement of ecosystem services; improved plant and
animal varieties; and adaptation to climate change.”

and ‘cultural benefit’:

“Supporting greater understanding of where we have come from, and who and what
we are as a nation and society; understanding how we relate to other societies and
cultures; stimulating creativity within the community; contributing to cultural
preservation and enrichment; and bringing new ideas and new modes of experience to
the nation.”
And examples of the top-most level of benefit would include the work of Barry Marshall and J. Robin Warren for their discovery of ‘the bacterium Helicobacter pylori and its role in gastritis and peptic ulcer disease’; John Braithwaite and Hilary Charlesworth on restorative justice and post-conflict reconciliation.

This combines to show the richness that contextual impact approaches bring to the understanding of research impact.

Now take ERA, and its approach to ‘impact’ which uses simple metrics in the form of:
- patents
- plant breeders’ rights
- registered designs
- registered commercialization income

That is the approach in total. What benefits may be captured here? That is why I argue for complexity, which is sophisticated (uses contextual, qualitative and quantitative approaches), embraces meaningful public value (social, economic, environmental and cultural); values the humanities, creative arts and social sciences in their own terms; and appreciates the broader benefits of STEM and HASS for society.

To not think in complex terms is to limit government – and our own – imaginations about what research ‘impact’ actually is and can be. This is how we may gauge what, through their research function, universities give back to society.

The problem is selling complexity to government. As we found with the RQF and ERA, what governments think is best may not be what research funders want, or may not coincide with best practice in the research evaluation community. The RQF approach to assessing research ‘impact’ is an example of the richness a sophisticated approach can bring when compared with simple metrics alone. Simple metrics cannot display public value.
Conclusion
Metrics widen the gap between academic research and research impact.

Public value closes the gap between academic research and research impact.

This view of impact should be mainstream and (if you will pardon the pun) not just underground thinking.