

Bridging the Gap Between Academic Research and Industry Research Needs

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The Problem

Researchers often call on industry and the public for help in data collection but rarely feed results back in a form that is able to be understood by the public and industry.

Objectives

1. Examine how research is produced and used by government, industry and academic
2. To examine mechanisms for bridging the gap between academic research and the research needs of industry and to a smaller extent the public.

Outline

- The research community
- Reasons for undertaking research
- Comparison of academic, business and government research
- Users of academic research
- Strategies to bridge the gap
- Discussion

The Research Community

- Universities
- Business
- Government
- NGOs (range from organisations such as WWF to Gates Foundation)
- Significant differences in research *needs* and *objectives* of each of the four members of the 'research community'
- Academics have opportunities to assist other members of research community if these members needs are understood and there is good understanding of the role of academic research.

Reasons for Business Research

- There is often a difference in approach between SMEs and large corporations
- Research needs are driven by the objectives of the business. For example airports are interested in projections decades out because of the timeframes involved in investment decisions. A tour operator may be interested in next years market mix.
- High tech companies look for new technologies to develop new products and services and employ researchers (drug companies, electronics manufacturers, automobile manufacturers)
- SMEs have much smaller capacity to fund and use research
- In tourism there is relatively little industry research capacity and understanding of research
- When asked what type of research is required most tourism SMEs have difficulty in nominating specific research needs.
- **Expenditure on research is made to increase revenue**

Government Research

- Government has a need for a wide range of research, some for its own use and some to add to knowledge in general
- For internal use there is often a preference for consultants or in-house capacity
- Some government organisations such as Defence fund a range of pure and applied research
- Departments such as health, education and environment are major research users and often engage academic researchers
- Funding may include programs such as the National Environmental Research Program which diverts considerable funding to academic researchers
- The government also operates a range of research orientated organisations such as Australian Institute of Marine Science, the Antarctic Division and CSIRO.
- A significant proportion of University research is government funded (ARC)
- Significant amounts of government funded research appear in the academic literature (CSIRO)
- Reports from many government organisations are published on line usually for a fee
- Governments have significant influence in setting national research objectives if they so desire
- China for example has an agenda for increasing the number of Nobel prizes
- Research is supported to further national economic, social, cultural, educational and political agendas
- **Research is not expected to produce outcomes measured in dollars**

Reasons for Academic Research

- Some academics are interested in understanding the world around them
- Others see research as a means of enhancing their teaching
- For promotion
- Universities increasingly see research as necessary to maintain their position in league tables and encourage academic staff to undertake research
- Research is a significant source of revenue for universities
- Research is part of post graduate training
- Passion and the lifestyle it brings with it (Conferences, Visiting Positions, research grants, freedom from teaching)
- To make the world a better place
- **In a sense academic research is now a vehicle to generate income for universities**

Differences Between Academic and Industry Research

Industry

- Significant gap in research needs between large companies and SMEs
- Need driven and almost always applied
- Blue sky research is limited to large corporations that deal in new technologies
- Generally seeks specific answers to specific problems
- Often undertaken by consultants
- Results often not widely available
- Tight timelines
- Written in non academic language
- May have confidentiality clauses
- Large corporations may have significant in-house capacity
- Small firms have little budget for research
- Rarely peer reviewed
- **Where researchers are used they usually work to very specific agendas**
- Expenditure expected to produce income

Academic

- Enquiry driven
- May deal with theory
- May be applied
- Peer reviewed
- Published in academic journals and books
- Research generally not published in non academic outlets venues because the academic rewards system don't recognise these outlets
- May be funded from Government sources
- May include consultancy work
- Academic layout and language
- Generally have long lead times to publication
- Emphasis on postgraduate research
- Except for research only positions must be done in parallel with other duties such as teaching
- **No overarching agenda**
- Considerable freedom to pursue personal search interests
- Results shared at conferences and in journals

Who Uses Academic Research?

The main consumers are:

- Students
- Other academics
- Business
- Government
- General public
- Media

Access

- The pressures of promotion and peer review, the current rewards systems for research output and other university related agendas often see research results limited solely to the academic literature.
- Results captured in this form of publication are often not readily accessible to the public and in many cases are so infused with the jargon of academic speak that non academic readers have difficulty distilling results.
- New tools such as Wikipedia have to some degree opened up academic research
- The growing body of tertiary trained people who understand research are now interested in accessing research
- The media has become much more interested in research (perhaps a reflection of the growing number of media consumers who are tertiary trained)

Responsibility

- Do academics have a responsibility to go further with their research results and ensure that they are available to the public in a form that is accessible and intelligible?
- If yes how can this new dimension of research be operationalised?

Bridging the Gap

- The research interests of academics and industry are often quite different however there are opportunities to produce good academic research that can assist industry
- First, it is imperative to *understand* industry needs – can be difficult if industry does *not know* what it wants as is often the case and do not understand the research process.
- Even where industry members have undergraduate degrees there may not be a detailed understanding of *how* research is produced
- There may be a need to identify research *gaps* and ask industry if they are interested in these topics

Strategies

- Work with industry bodies to identify research *gaps*. These may not be obvious to industry.
- Explain the research process, how long it takes and what it may produce
- Produce results in a form that can be *used* by industry. Examples – research reports, barometers, background papers, media releases, workshops
- My strategy has been to identify issues that sometimes are *ahead* of what the industry perceives to be important
- Obtain funding from a variety of sources including government funding schemes, consultancies and contact deals with industry
- Outputs are in *two* forms – journals and book chapters for academic consumption and reports, barometers and media releases for industry consumption.
- My strategy is to produce the industry material first then the academic version. This ensures data is *contemporary*.

Academic Examples from Marine and Tropical Sciences Research Fund

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Questions for Discussion

- **Do academics have a responsibility to publish research beyond academic outlets?**
- **How can universities facilitate this?**
- **How can we establish a research agenda to satisfies both industry and academic requirements?**