ATSE Conference

Industry-Research Collaboration
The role of the intermediary

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Outline

→ Barriers
→ Are facilitators necessary?
→ Industry-research collaboration programs
→ The economic impact
→ International evidence
→ The facilitator business model
→ Conclusions
Barriers to industry-research collaboration

→ The firm often lacks:
  - Propensity for innovation risk (i.e. cost)
  - Absorptive capacity
  - Understanding and “knowing” the research institution (e.g. how, who, IP, execution)

→ Many research organisations have a:
  - Focus on publications and research per se e.g. ERA
  - Difficulty with timelines and milestones
  - Lack of interest in industry problems
One version of the problem...

‘Hello, industry, where are you?’
..and another version of the same problem

‘Oh thanks, just put the cheque under the door.’
Is this the answer?

‘Hi, I’m a business adviser from government and I’m here to help you innovate.’
Are facilitators necessary?

The core function of an independent innovation intermediary is to build trust to seed collaboration between industry and research...first, *establish the need*

Next, help to answer

- How do I express my need (or ask for)?
- Where can I go to get help?
- Who do I speak to?
- How do I negotiate?
- Will this process really work?
- What do we have to do to get this to work?

Three key questions for delegates to consider:

- Can a small business answer these questions on its own?
- Can a research organisation answer them for the business?
- If not, who can?
Are facilitators necessary?

• Soft skills such as trust and relationship management are equally as important in collaboration as technical and commercial skills
  – Collaboration is about people and is a skill that requires training and resource

• Companies must know what they want from a partner, where to look, how to manage partners, how to integrate knowledge internally

• External partnering is made more difficult when confidential information or strategic intent must be shared.
Industry-research collaboration programs

A. Subsidised by government

- ARC Linkage Grants
- CRC Program
- Researchers in Business
- TechFast (VIC/QLD/SA)
- Tech Vouchers (NSW)
Industry-research collaboration programs

B. Private

- Direct point-to-point
- IXC
- Nine Sigma etc.
- Intellectual Ventures
Case study - RipCurl

- AIC was engaged to assist Rip Curl to find new technologies and advanced materials to keep the second generation H Bomb at the forefront of wet suit performance.

- AIC found new materials and a university research facility capable of testing to improve the wet suit thermal characteristics and heat retention.

- Significantly reduced the heat loss and resulted in lower battery power consumption.

- Provided product samples for the evaluation of nano-particle application processes to modify surface characteristics and improve the heat distribution profile.

- Introduced Rip Curl to a number of private companies operating as technology providers in the Automotive, Giftware and Safety products industries in Victoria. These businesses had complementary equipment, technologies and knowledge.

- One of the technology companies was able to produce working prototypes within 4 weeks for testing.

- Intermediaries can “engineer serendipitous collisions”
Case study - Copeland

→ Market leader in plastic product development and manufacturing. Copeland supplies retailers including Mitre 10, Reece Plumbing and Hills Industries.

→ R&D project to upgrade ageing potable water pipes without the need to dig out existing infrastructure

→ Engaged AIC to establish collaboration with Flinders University in the product development phase (funding from RIB)

→ Copeland has since offered broad access to industrial equipment and premises which will provide University researchers and Copeland with the capability to create a range of new products, which would not be possible for either organisation individually.
The economic impact

→ TechFast intermediary program cost $5.4M between 2004-2010

→ Program established collaborations for 194 Australian SMEs
  • 40% of SMEs surveyed have already experienced direct revenue increases, ranging from 10% to 25%

→ The latter scenario has been independently modelled as providing
  • $350M economic output benefit annually
  • $150M economic value-add
  • 1100 new jobs
InnovationXchange – impact

• Link companies with opportunities using the IXC Intermediary methodology to identify, create and facilitate collaborations.

• Since 2006, IXC has identified over 500 collaborative opportunities taking Australian capabilities and needs to 12 countries

• Impact of collaborative outcomes valued > $500 million by clients

• In 09-10, IXC created $11 million of joint PSRO-industry R&D

• Most collaborations begin with knowledge transfer as first step : not immediate $$
Client Base

International Footprint

- IXC Australia has provided Intermediary services for Australian organizations seeking national and international partners

- IXC Australia seen as most efficient method to access Australian innovation system by foreign clients including Dow (US), ITRI (Taiwan), Fonterra (NZ), Solvay Pharmaceuticals/ Abbott Products (Germany), NIZO (Netherlands)
Diversity of Clients

• Clients and networks in all sectors and all organization sizes: medical research, manufacturing, food, social innovation, transport, all science and technical fields
• Multinational companies (Fonterra, KCA, Abbott Products)
• Large Australian companies (Resmed, Cochlear, National Foods)
• SMEs/Start-up (10 social ventures)
• Universities and research providers (Swinburne, UTS, ITRI, NIZO)
• Government programs (Dept of Transport, DEEWR Social Innovation)
10 Steps to a More Innovative Canada

It is no secret that Canada’s weak overall innovation performance undermines our global competitiveness and standard of living.

The question is: What to do about it?

Last spring, I and Paul Lucas, President and CEO of Glanbrook Inc., assembled a national coalition of leaders from business, academia and supporting organizations with the aim of building consensus around a focused and achievable agenda for action.

In our report, we present 10 priority items that we believe Canadians can begin to put in place within the next 12 months.

Reform tax support for research and development. The Scientific Research and Experimental Development (SR&D) program is a powerful tool, but inconsistently applied.

Ottawa’s review of the program should seek to make the credit more broadly, consistently and predictably accessible. The review should benchmark other OECD countries to ensure that Canada’s system produces the best possible results.

Expand the pool of risk capital. Building a larger pool of risk capital is essential if we are to create and grow tomorrow’s successful enterprises.

One approach that is gaining favour in Canada and elsewhere is the establishment of government-sponsored co-investment funds that invest in innovative companies alongside private investors. At the same time, banks and pension funds that once were significant providers of risk capital need to rebuild their management talent in this sphere—drawing on established entrepreneur and operational experience.

Adopt the world’s strongest intellectual property regime. Canada should aim for a reputation as the best place in the world in which to research, develop and bring to market new products and processes. It is imperative that Canada achieve the gold standard of intellectual property protection and thereby create a more attractive environment for innovation.

Strengthen business-academic links. Businesses and educational institutions engage in a wide variety of collaborative ventures, but these efforts are often thwarted by barriers ranging from the perception of one another’s mission to tangible considerations such as differences in expectations and culture. Business and academia should consider a pilot program that would identify up to 25 companies that would be nurtured through access to top coaches and other support. The goal should be to build a portfolio of successes that would inspire further innovation.

Top private-sector expertise when spending public money. Ottawa spends billions of dollars annually to support research and innovation, and in recent years has sought to increase private-sector representation at the granting council level. We strongly endorse this approach. At the same time, we recognize that governments also take advantage of private sector expertise in developing new research and innovation initiatives and in evaluating existing programs.

Rapid adoption of innovative products and services. Canada ranks middle of the pack by OECD standards in business investment in new machinery and equipment. Tax incentives would help, but even more important is heightened recognition by business managers and boards of directors of the need for investment in productivity improvement. Governments, too, can spur innovation by becoming early adopters of innovative products and services.

Launch a national learning and innovation initiative. Governments across Canada should agree on goals for learning that could include: a 90 percent high school graduation rate; expanding post-secondary enrollment in science, engineering and business programs; ensuring that researchers have access to people with the same competencies needed to drive commercialization; and increasing graduation rates at the Master’s and Ph.D. levels. At the same time, the private sector must take more responsibility for work-based skills training and lifelong education.

Seek out the best and brightest. Academic institutions already recruit abroad for students. These efforts should be reinforced by federal and provincial support for overseas marketing and recruitment. It is making it easier for foreign students to obtain visas, work permits and health care while studying in Canada. Other provinces should consider adopting the British Columbia model of providing standard per-student grants for international graduate students.

Nurture innovation clusters. Governments should align their policies to support regional and local innovation clusters. Educational institutions should work to ensure their research and training efforts meet the needs of local clusters. Private sector leaders should consistently communicate their needs to local post-secondary institutions and research centres. All three sectors should form a national network to share best practices.

Ensure ongoing advocacy for innovation. Governments, business and academia should collaborate in the creation of an independent advocacy body with the mandate of encouraging innovation by Canadian business. An interim step, and possible alternative, would be to mandate an existing organization with this responsibility.

Even these measures will not solve the problem entirely. But our recommendations are practical. Many can be put in place quickly. We believe they would make a real difference in putting Canada on track toward an innovative future.
International lessons

→ **International Commercialisation Alliance**
  - Ottawa based grouping of 47 economic development agencies or intermediaries from 18 countries
  - [www.theicforum.com](http://www.theicforum.com)

→ **3 programs singled out as groundbreaking**
  - Innovation Mill [Finland]
  - TechFast and TechClinic [AIC- Australia]
  - Accelerator “learning by doing” [USA/Canada]

→ **AIC assisting**
  - KISTI in Korea
  - NZ CRIs in agricultural sector
  - MOSTI agencies in Malaysia

→ **IXC International active in UK, Malaysia, and Taiwan**
The failure to transfer publicly funded research to businesses to generate economic gains is seen as one of the biggest innovation issues by EU and member states.

Fear that non-Europe patent trolls and multinationals will prevent European businesses accessing valuable European publicly funded research.

European Investment Fund (EIF) has announced establishment of €500 M IP Investment Fund to acquire, bundle and sell EU IP to EU businesses only.

Some countries (e.g. Austria) are considering centralising tech transfer and commercialisations of public research through a dedicated national institute.

Australian advantage:
- We (some) realised value in facilitating other forms of knowledge transfer from ROs to industry while others focused only on commercialising patents.
Facilitator Business Model

Key Partners

Key Activities

Value Propositions

Customer Relationships

Customer Segments

Key Resources

KA

KR

CR

CH

Rising star SMEs

Cost Structure

Revenue Streams
AIC focus areas to help knowledge-intensive SMEs

- Innovation Index
- Stars
- Rising Stars
- New Entrants and Small Businesses

AIC focus on skills development, networks, and advice

AIC focus on IP and collaboration
Facilitator Business Model

**Key Partners**
- Research Organisations
- Govt innovation/economic dev. agencies

**Key Activities**
- Business development
- Convince SME
- Find and facilitate collaboration
- Structure deal
- Build absorptive capacity

**Key Resources**
- Staff and their skills
- Networks – RO & SME
- Database
- Guides/templates

**Value Propositions**
Innovate to grow or improve
(for govt): additional economic activity

**Customer Relationship**
- Trusted relationship with SME CEO

**Customer Segments**
- Direct intermediary
- Rising star SMEs

**Cost Structure**
- Staff Costs
- Overheads

**Revenue Streams**
- SME pays Government subsidy

**Notes:**
- KR: KA
- CR: CH

**Additional Points:**
- Business development
- Convince SME
- Find and facilitate collaboration
- Structure deal
- Build absorptive capacity

- Staff and their skills
- Networks – RO & SME
- Database
- Guides/templates

- Innovate to grow or improve
- (for govt): additional economic activity

- Trusted relationship with SME CEO
- Direct intermediary
- Rising star SMEs

- SME pays Government subsidy
Comments and Conclusions

→ Intermediaries are trying to encourage open innovation

→ Research collaborations will normally be technological innovation, somewhat narrow

→ Australian independent intermediaries rely on the largesse of government for survival
  • SME appetite for the risks and benefits of innovation does not extend to paying for facilitation
Final question for delegates

➔ If industry – research collaboration is so important…

➔ …and is all about economic growth

➔ Then why are Australia’s only two best-practice independent intermediary programs perishing through lack of funding?
For further information please visit:  
www.ausicom.com

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