



**Research to Inform the
Capitalising on Research Summit**

**for
Ministry of Research, Science & Technology**

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SUMMARY

A study of business innovation experiences and their perceptions about New Zealand's research sector was undertaken based on the responses to an online survey by 180 Business NZ Regional Associations' members, three regional workshops and telephone interviews with 48 of the survey respondents. The purpose of this research is to inform the development of topics to be covered in the Capitalising on Research Summit planned for later in 2006.

Compared with the "typical" New Zealand business, firms that participated in this research were more likely to:

- have introduced a new innovation in recent years,
- be involved in manufacturing activities,
- have a higher revenue and staff numbers,
- be involved directly in exporting.

Characteristics of innovating firms

Firms reporting to have introduced a business innovation in the past ten years¹ tended to have:

- Annual revenues in excess of \$1 million
- Experienced higher net growth in revenue over the past five years
- More revenue earned through exporting

It seems that larger employers are more likely to innovate, however, the sample also included a cluster of firms that employed less than 10 staff, earned reasonably high revenue, and had a high propensity to innovate.

Behaviour of innovating firms

Relationships with customers and responsiveness to customers appear to have been a dominant driver of innovation for firms involved in this study.

Innovation also seems to be a largely internal activity in New Zealand firms, with respondents placing a low importance on relationships with:

- Crown Research Institutes (CRIs),
- Private Research Institutes,
- Financiers and
- Universities.

¹ Innovations were defined, as per the Statistics New Zealand Innovation Survey, as occurring if the firm had developed or implemented any new or significantly improved products or services, or processes. Although a long time span (ten years) was allowed for how long ago the most recent innovation might have been, 94% reporting innovations had introduced one within the last five years and 74% within the last two years.

Potential reasons for this, as picked up in the interviews and workshops, include:

- Innovation in a number of these firms seems to be about problem solving rather than research
- In firms where formal research takes place (typically larger firms) research is funded out of working capital (thus reducing the importance of financiers).
- Firms have secrecy concerns about dealing with external agencies in the development of innovations (ie concerns that competitors will get wind of their proposed development).
- Firms expressed a number of difficulties in dealing with universities and CRIs (difficulties in finding appropriate contact points, the amount of management time it takes to organise a joint project, a lack of timeliness in reaching results, difficulties in aligning their business objectives with the aspirations of scientists).

Factors inhibiting innovation

In addition to technical difficulties that can slow any development project the following factors were observed as potentially slowing or preventing innovation:

- Access to finance appears to be an important impediment to innovation, but only for small, low revenue firms.
- Management time seems to be a critical potential constraint on innovation irrespective of the size of the firm.
- For some firms, operating in an industry with a mature technology, obviated the use of innovation as a source of competitive advantage.
- Competitive pressures influence the pace of innovation, either because a lack of competition diminishes incentives to innovate or, in intensely competitive industries, innovation might be prevented because the opposition has beaten you by an earlier or superior product.

Strategies for success

Observations on strategies for success by innovative firms include:

- Technical development is just part of the equation. The aim is to meet the expectations of customers, so focus tends to be on responding to changes in customer requirements.
- New Zealand based firms target highly specialised niche markets. This plays to their strengths (responsiveness, reliability, customisation) and, by avoiding direct competition with large scale producers, provides a source of price premium.
- An implication of a niche market focus is a requirement to continually innovate (ie a focus on relatively small return innovations). This in turn can mean that most specialist knowledge is held within the firm and so there is little scope for using external research services.
- A further implication is that innovative firms need to focus on global markets as the New Zealand market is in many cases too small to

compensate firms for the fixed costs of product development. Business success can then depend as much on the success of distribution strategies as on the technical qualities of the product.

- Successful innovative firms have systems that manage the process of killing off unsuccessful projects. The costs of an unsuccessful innovation project are minimised if one can let it go early: “kill them then move on”.

Business perceptions about capitalising on research

Comments received in this project indicate that a desired outcome would be the development of a responsive culture in universities and CRIs that results in relationships with businesses that value timeliness, quality and credibility.

Maintaining macroeconomic stability was seen as an important role for government that would foster returns to innovation. For example, some firms noted the damage to export performance resulting from swings in the exchange rate.

Obtaining skilled staff was typically identified by interviewed firms as difficult, but not a binding constraint on the business. Providing a mechanism that provided some more business influence on tertiary education priorities was considered as important for improving the match between the supply and demand for skills.

In terms of improving business skills and making management time more efficient, a number of respondents advocated the development of business mentoring schemes, for example like the one run by Industry New Zealand.

In terms of government assistance for stimulating R&D, business perspectives were about reducing the compliance cost associated with applying for funding, having a funding system that minimised its influence on the direction of R&D activity (ie support R&D not direct it) and funding systems that provided more emphasis on the commercial performance of projects. Comments noted government funded organisations have a preoccupation with the fear of failure, which leads to a low risk, over-cautious approach. Another noted that the constraint for young firms is cash flow, which could be more efficiently met by access to credit than by grants.

Finally there was a view that government activities and policies need to be co-ordinated. For example, firms receive funding assistance and at the same time consider some of the tax rules disadvantage their firm; and prescriptive regulations (as distinct from outcome-based regulations) can stifle innovative solutions and result in perverse outcomes.