

INVENTION AND INNOVATION IN THE BUILDING SECTOR

Although Kiwis have a reputation as innovation leaders in some fields, our rate of adoption and commercialisation of new ideas appears to need improving. Lincoln University is studying innovation in the building sector and is seeking your views.

By **John Fairweather**, Lincoln University

How do we encourage the development and use of building and construction technologies that are both economically valuable and culturally appropriate for New Zealand, or the development and uptake of 'green' building technologies that deliver positive benefits?

To answer this question, and help encourage successful innovation, there is a need to find out what helps and hinders it. A current research project aims to shed some light on the issues. It is being led by a team at Lincoln University, assisted by scientists at Otago University and the Maastricht Economic Research Institute on Innovation and Technology in the Netherlands.

Research seeks user perspective

The recent OECD review of innovation policy recommended promoting innovation in all business sectors by focusing on funding instruments, tax incentives and programmes currently in place. However, the research team believes user sources of innovation were not given high enough priority.

The approach in this project rejects the top-down view and seeks the user's perspective. What are builders coming up with by way of inventions and innovations, and what is helping or hindering them? How much is

innovation driven by builders, architects or clients? The aim is to encourage the kinds of building innovations that are derived from and fit in with Kiwi builders and are relevant to current technology issues here.

After all, science and innovation influence and are influenced by society. The latter link is important, particularly how technological development is influenced by end-user invention.

Identifying what helps and hinders

The research will identify the socio-technical networks that form around new user-derived innovations. These include the key knowledge flows, actors and organisations and how they operate to support or hinder innovation. It will show how New Zealand is distinctive in the ways it creates, reacts to and adopts new building technology.

New Zealand technology users are important sources of new technologies, but there is a need to find out why uptake and commercialisation is only average. It may be because the necessary social and institutional factors to get the idea off the ground and up and running commercially are missing. The goal of the research is to examine the social setting of innovation and see what is helping or hindering the commercialisation process. This can be achieved by comparing successful and unsuccessful cases.

A second hypothesis is that inventors or innovators with high social capital have better success rates. Social capital includes the quality and the number of the linkages of all the groups involved in commercialising an innovation.

Similar research is being carried out for the farming and energy sectors, as well as a comparison of New Zealand innovation with what happens overseas to find out what is distinctive about our innovation.

Benefits of the research

The main benefits of the research will come from improved development, adoption and commercialisation of building technology. BRANZ will use the results as part of its wider programme looking at innovation in the building industry and how to better facilitate it. Insights from the research will find their way back to industry via the Department of Building and Housing and Standards liaison, industry education and commercial research and development services.

Further, BRANZ wants a review of building sector user/inventor innovation centres internationally, to find out whether Kiwis have preferences or peculiarities that would aid or preclude the establishment of such centres. These centres may be an important way for innovations to be encouraged in the early stages and refined and developed later on. Proven ideas can be publicised and promoted. A successful user/inventor innovation centre website could list all the recent innovations in the sector. This would be useful for other innovators and could include case studies to illustrate successful innovation in practice.

The research will also contribute to the government's energy and economic strategies and innovation policy by improving the knowledge base used to implement each of these strategies.

The outcomes of the research are to support innovative builders in their endeavours, and put appropriate policies in place to facilitate innovation commercialisation. The research starts with improving knowledge about technology users as a source of innovation but ends with improving the knowledge of technology users who wish to innovate.

Calling all inventors and innovators

Both successful and unsuccessful examples of building innovation are being sought. Each case will be studied in detail to find the factors associated with its success or failure. If you have had some experience, good or bad, with invention and innovation, the research team would like to hear from you.

If you would like to be involved, email John.Fairweather@lincoln.ac.nz and look for a questionnaire survey coming your way soon – it won't take long to fill out. Once a list of possibilities has been put together, the team will visit you to ask about your experience. The aim is to get the information directly from you – the experts and the users who invent and innovate.

For further information, email John.Fairweather@lincoln.ac.nz or phone (03) 321 8291. ♦