



## **Leveraging the pioneers.**

How does your company carry out R&D? It is most likely that an in-house team of experts typically generates the innovations perhaps with assistance from focus groups or market research but most of the time companies look inwards for inspiration.

This can be restrictive and often leads to new products being evolutionary rather than revolutionary. Now evolutionary is safer and normally requires less tool-up investment to establish the new production but step-changes in company performance typically need bigger, more bold ideas and for that you may need to look outside your organisation.

The 'Lead User' concept was pioneered by Prof. Eric von Hippel (MIT Sloan School of Management) in 1986. It refers to a specific type of user of a product or service having two characteristics: (1) They are at the leading edge of important market trends and; (2) they have a strong incentive to find solutions for the novel needs they encounter at the leading edge. In the everyday business world these can often be found within your existing customer base. Your products are taken into the real world and sometimes into extreme situations that push the parameters of efficacy. It is these users who from necessity are driven to innovate – in some ways they know your technology and its limitations better than your research team – tough to accept, I know.

An often highlighted example is the development of advanced braking systems within the aerospace industry. Faced with a paramount need to stop aeroplanes before the end of the runway there was in effect more incentive to improve braking in that sector than in the auto industry. The new technologies of course later made their way into car manufacturing once the expensive R&D had been done.

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Professor Hippel's innovation was to propose involving such users routinely in the R&D process. Teams are set-up with in-house R&D personnel combined with selected lead users. There are typically then three phases of the development:

- Go into a defined market place to 'look for challenges needing a solution'
- Upon return, establish workshops with experts in the field to come up with ideas that could potentially resolve the identified challenges
- Finally, set-up design teams to working on the concepts identified in Phase II in order to fine tune to a finished product.

Companies such as 3M are great exponents of the lead user approach and have accredited market-leading developments in areas such as aseptic drapes within their medical surgical division to such an approach.

Lead users are fanatical and frankly will find ways to adapt your product to better fit their local requirements even when not prompted to do so. This can be seen in IT with the explosion of freeware materials that can be found online to tweak existing commercial software and improve performance in certain areas. Some of the people behind these programmes are developing a business but often it is interested (and skilled) users who have simply developed the item for their own use. It is a matter of numbers, with potentially millions of individuals interested in the application of your product or products like it, this 'community' is better at spotting new trends/requirements that will become broadly recognised much later – the trick is to find a way of harvesting the ideas! Today with the internet this is a realistic option and 'Crowdsourcing' a term coined in 2005 describes exactly that – reaching out to the wider community of users to solicit ideas. On such a large scale the mechanism employed is usually a competition or innovation contest. It is unpredictable and not very controllable but it is extremely low cost, quick and could take your R&D in a completely different direction. At the very least you will effectively hold a mass market survey by hearing the views and ideas of a large constituency of interested users.....valuable in itself!

As a footnote it is always worth widening the scope of participation in R&D. My favourite tale is of Swan Vestas – the match makers – who asked all employees to suggest cost saving measures. The winner was a guy on the production line who proposed that each box of matches only required one strip to strike the match not two. This simple change saved the company thousands upon thousands of dollars.....

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