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## Opening the door to innovation

We all have to innovate to survive, but how we do it is changing in important ways, writes Professor John Bessant.

Innovation has always involved weaving together many different strands of what could be termed 'knowledge spaghetti' to create something new. But today's innovation context differs from earlier times in two important ways. Firstly, the sheer volume and distribution of that knowledge – for example it's estimated that nearly \$1 trillion of new knowledge is being created every year in public and private sector R&D around the world. Secondly, valuable new knowledge now emanates from a wider range of sources, internal and external, public and private, academic and commercial. Keeping track of this knowledge explosion becomes a major headache even for major technology-based firms. US Professor Henry Chesbrough coined the term '*open innovation*' to describe the challenge facing even large organizations in keeping track of and accessing external knowledge rather than relying on internally generated ideas. Put simply open innovation involves the recognition that '*not all the smart guys work for us*'.

Open innovation is a great slogan – but how are firms actually making it happen? Some of the experiments are well-established by now. For example Procter and Gamble's 'Connect and Develop' approach started in 1999 when the share price was wavering and analysts felt the company was losing its innovation edge – despite spending around \$3bn /year on R&D and employing 8000-plus white-coated scientists around the world to carry it out. The incoming CEO, Alan Lafley, challenged P&G to source 50% of its innovations from outside – a revolution in a culture which had been dominated by in-house innovation. Ten years on and they are close to that target, having achieved impressive turnaround in market performance through a string of innovative new products. More important, they have created new mechanisms to make open innovation happen and to sustain its progress – for example they employ around 80 'technology entrepreneurs' who have the enviable task of roaming the world searching for good ideas to bring home. Websites like [innocentive.com](http://innocentive.com) and [9sigma](http://9sigma.com) – which effectively function like eBay for innovation – extend the range of knowledge resources which P&G can tap into and are having an impact on many of the nagging problems which had stumped the internal teams. And their doors are open to an increasingly long line of prospective innovators; they are greeted by internal staff skilled in the entrepreneurial arts, including the thorny issue of managing intellectual property to everyone's benefit.

But what about the world beyond P&G? One size doesn't fit all in the world of innovation – so how are others playing the open innovation game? We're seeing a rich variety of approaches which loosely fall into three categories – open R&D, open user engagement and open involvement.

- Open R&D is about finding and accessing external technical knowledge – essentially the P&G connect and develop challenge. Organizations like the BBC, Lego and Ordnance Survey are increasingly engaging communities of software developers, sharing source code and inviting them to 'use our stuff to build your stuff'. This is the highly successful open model used by Apple in building the i-Phone platform where thousands of developers create applications which make the core product more attractive. 'Crowdsourcing' is another variant on this, where companies open up their innovation challenges to the outside world, often in the form of a competition and usually web-enabled. The famous example here is Goldcorp – a struggling mining company which threw open its geological data and asked for ideas about where it should prospect. Tapping into the combined insights of 1200 people from 50 countries helped them find 110 new sites, 80% of which produced gold. The business has grown from \$100m in 1999 to over \$9bn today. Companies like Swarovski have recruited an army of new designers using crowdsourcing approaches – and in the process have massively increased their design capacity. Another variant - 'recombinant innovation' – uses ideas developed in one world to good effect in another. Cross-sector learning throws some unlikely partners together and opens up new ways of looking at old problems. For example, low cost airlines like Ryanair learned their tricks about rapid turnaround in airports by watching pit stop teams in Formula 1, whilst the NHS is learning some powerful lessons about patient safety from oil rigs, chemical plants and aircraft cockpits.
- Open user engagement builds on the ideas of pioneering academic Eric von Hippel who has consistently shown the importance of user-led innovation. Companies like Lego, Threadless, Adidas and Muji engage with users as front-end co-creators of new products and services. Importantly this doesn't stop at the private sector – there is growing use of these approaches to create innovative and more successful public services. Hospitals are increasingly focusing on patients as a source of 'experience-based design' input and innovative partnerships, like Nokia's Living Lab, aim to work closely with users co-developing services for long-term care.
- Open involvement revisits the 'sleeping giant' of employee engagement in the innovation process which companies like Toyota (who receive around 2 million employee suggestions every year) have long deployed to good effect. Through

idea competitions and internal venturing this rich source of creativity is being linked not only to process improvement but to new product and service creation.

The risk in management is that we become increasingly fashion-driven, hopping from one interesting idea to the next without really exploring in depth. Innovation is no exception - it's an old problem and there is no single magic bullet to solve it. Open innovation certainly offers some new approaches to finding, forming and getting knowledge networks to perform more effectively. But it won't happen just by mouthing the mantra – we need to be innovative in the ways we manage innovation.

***Key references:***

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Originally a chemical engineer, John has been active in the field of research and consultancy in technology and innovation management for over 25 years. He currently holds the Chair in Innovation and Entrepreneurship at Exeter University. In 2003 he was awarded a Fellowship with the Advanced Institute for Management Research and was also elected a Fellow of the British Academy of Management. He has acted as advisor to various national governments and to international bodies including the United

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He is a regular speaker at corporate events, conferences and centres such as Cranfield, the Irish Management Institute and the Scandinavian Management Institute. Consulting clients include Toyota, Novo-Nordisk, Lego, Morgan Stanley, Coloplast, Corus, Danfoss, GSK, Grundfos, Hewlett-Packard, Kumba Resources.

He is the author of 15 books and many articles on the topic and has lectured and consulted widely around the world. His most recent books include 'Managing innovation' (awarded the 'best book' prize by the European Association for Creativity and Innovation) and 'High involvement innovation' (both published by John Wiley and Sons).