Aligning innovation and strategy

'Open innovation' – the theory that ideas should be allowed to flow to where they can be most efficiently researched, developed and commercialised – is being implemented by growing numbers of organisations. *Andrew Gaule* argues that the basic theory needs to be extended to address issues vital to a sustainable innovation process.

The search for new sources of value

Hugely increased computing power, advances in telecommunications and networking technology, offshoring, lean manufacturing, smart logistics, trade liberalisation and harmonisation – all these things have made it cheaper and easier to take an idea from its point of conception to its point of sale. As a consequence, smaller companies are now often in a better position than their bigger rivals to pursue market niches, or even to disrupt whole sectors. At the same time, the behaviour of consumers is changing radically. The deluge of information now available to them via the internet and other means has made them, simultaneously, more discriminating and more promiscuous. If you fail to diversify your product or service portfolio adequately, they will readily go elsewhere.

Investing more in research and development in order to generate more ideas is not enough to guarantee sustainable growth.

You might think a sensible response to these trends would be to invest more in research and development, and thereby generate more and better ideas. This is certainly the strategy that many large companies have adopted in recent years. However, it is not enough to guarantee sustainable growth (at least, not without a broader strategy for generating value from the innovation process), for three main reasons:

1. Generating more and better ideas does not guarantee demand for those ideas, especially given today's surplus of products and services in so many industries.
2. It is no longer the case that vertically integrated organisations can claim to be more efficient than their rivals in every stage of research, development and commercialisation. Those who try to keep everything in-house risk wasting money and passing on that waste to end-consumers in the form of higher prices.
3. It is now beyond the capabilities of any single organisation to monopolise the knowledge in its industry.

'Open innovation' is being implemented by a growing number of leading organisations and could be the antidote to all these problems. In essence, it holds that ideas should be allowed to flow to where they can be most efficiently researched, developed and commercialised, regardless of where they originated, thereby generating maximum value for all the organisations involved.

However, research and experience working with leading organisations has shown that the basic open innovation theory – as defined in 2003 by Professor Henry Chesbrough of the University of California at Berkeley – needs to be extended to address several issues vital to a sustainable innovation process.

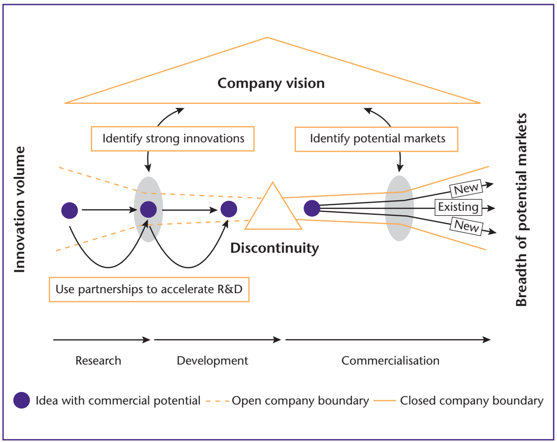
How to focus your innovation efforts

What the incumbent best-practice models of corporate innovation lack is a sense of market perspective. This is one of the strongest findings to emerge from research and contact with innovators at major companies. As exhibit 1 illustrates, the ideal process looks like a bow-tie. To use open innovation effectively, your company must concentrate not only on the left-hand side of the bow-tie, where new technologies are emerging, but also on the right-hand side, where new markets are possible.

If you can improve your knowledge at both ends of the bow-tie, you can become more effective at identifying value-creation opportunities throughout the process. Thus if a market need can be predicted far enough in advance, the need for a particular innovation can be identified.

Better still, a technology already in development can be steered so that its market appeal is redirected or broadened. In this context, the essential role of any large company becomes to create links between innovation and markets, no matter where that company extracts its value.

Exhibit 1: The open innovation bow-tie



Knowledge of end-consumer needs is vital

As open innovation proliferates, companies in business-to-business industries will have to improve their knowledge of the changing needs of end-consumers. If they do not, they will lose competitive advantage to those who demonstrate the market potential of their offerings. Yet even companies that face consumers on a day-to-day basis should not be complacent. It is possible to lose perspective if you farm out too much research to marketing agencies.

The area of 'discontinuity' at the centre of exhibit 1 represents the point at which you may have to make fundamental changes to your organisation. For example, Tate & Lyle realised it needed to shift its focus from commodities to added-value products and services if it wanted to sustain its growth and competitive advantage, so it invested more in end-consumer research. It then responded to trends in the needs of end-consumers by concentrating its innovation resources on a handful of key areas such as nutraceuticals, and launched services to help clients incorporate ingredients in their products. However, the change was not just one of budgetary reallocation. It required major organisational restructuring – its sales people, for example, had to adapt from selling bulk commodities to selling specialised ingredients, based on a deeper understanding of end-consumers. Added-value business now accounts for half of Tate & Lyle's profits even though it accounts for only around a quarter of its sales.

The danger of using only the first part of the funnel as your innovation model is that you miss the emergence of new markets and fundamental changes to your existing ones. Consider Kodak's slow reaction to the emergence of digital photography, for example. The company has now moved into diverse markets such as healthcare imaging, but for a long time its innovation efforts remained chemistry-based, rooted in analogue photography. As a result it had to slash its R&D staff from a few hundred to a few dozen. Chief executive Antonio Perez said recently that the company was in the 'final stages' of a $3 billion adjustment. But the company nevertheless made a net loss of $282 million in the second quarter of 2006.

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Towards an integrated innovation strategy

Practise closed innovation and you are responsible for every stage of the value-extraction process; practise open innovation and you need to concentrate on the stage in which you can extract the biggest slice of value.

During its first few years in the private sector, QinetiQ, a defence technology company, focused on research because that had traditionally been its strength. However, this first stage of the idea commercialisation process was the one that had the lowest budgets. In a typical R&D process, 20% of the expenditure takes place in the research phase and 80% in the development phase. So, during the former, there was relatively little money available to QinetiQ from other large organisations. At the same time, the company worried that the innovations of its own creation, which it was attempting to license via a 'technology push' strategy, were being undervalued.

In recent years, QinetiQ has invested more in improving its awareness of end-customer needs and thereby strengthened its hand in licensing negotiations. Indeed, Stephen Lake, the director of the company's New Business Accelerator team, says that greater end-market awareness has enabled it to generate more sales leads. Significantly, the far-left and far-right of the bow-tie represent phases of minimal capital outlay in the process of commercialising an idea. It makes sense for QinetiQ to leave the more capital-intensive phases to an external partner.

Of course, to make optimal use of external knowledge you need to provide that knowledge with clear routes in and out of your organisation, and be able to find similar paths through the structures of potential partners. It is in the nature of globally disaggregated organisations to have different departments with different areas of expertise based in different locations. So if, for example, you have an innovation that could improve a complex piece of technology, how should you go about selling it to the developer of that technology? Should you go through a local office, a national office, the international headquarters, the divisional headquarters for the relevant business area, the group's intellectual property department or some other point of contact?

As the receiving company, you ideally need a single point of contact through which to accept unsolicited offers of partnerships, such as the single phone number for all enquiries to QinetiQ. Equally, you must have the mechanisms in place to channel ideas to the right person. It is not advisable to let a good idea arrive on the desk of a scientist or engineer who is in the process of developing a rival technology. The chances are that they will feel threatened and will leave that idea gathering dust in their in-tray, no matter how good it is. Being open means being unafraid to have the potential of your internal R&D challenged.

Why every idea should be aligned with your strategic vision

The question of which innovations and which markets to focus on should be answered by the organisation's overarching strategy. The vision could be termed the 'roof' that protects and contains the whole process. It should be developed in line with open innovation principles, in that it must be informed by knowledge from both ends of the bow-tie and be subject to iteration if markets change fundamentally. It must also be promoted continuously, throughout the organisation, from the board downwards. In the context of innovation, this should ensure that digressive ideas are culled, licensed or divested as soon as possible.

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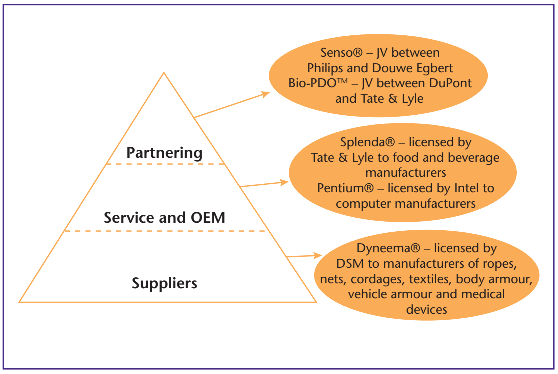
When innovations get stuck, it is often because their contribution to the overall strategic vision is not recognised or understood. Frequently the leaders of innovation projects say: "We don't understand where we fit." They don't get the attention of the top people, they don't get enough 'airtime' throughout the company and ultimately they don't get adequate resources. It is possible, of course, that the innovations in question are worthless, or that they have the wrong people working on them. A strong idea is unlikely to succeed unless it has a 'champion' fully invested in it. However, imagining you will 'learn by doing' is a sure-fire way to waste resources. Progressing an innovation will always be an iterative process and there are always failures along the way to success, but you are unlikely to find a strategic reason for commercialising an idea in retrospect. Starting to innovate from a clearly defined area of strategic interest is far more efficient.

Where is open innovation easiest?

Open innovation activity is usually greater at the bottom of supply chains (see exhibit 2). Why? Because here it takes only a simple deal structure to generate value from external knowledge. Imagine, for example, that a yarn manufacturer invents a particularly strong and light type of thread. By alerting textile manufacturers to the properties of that thread, it could stimulate the creation of new types of fabric, and thereby sell more yarn. In turn, the textile manufacturers could stimulate the creation of new types of apparel, and thereby sell more fabric.

Exhibit 2: Where is open innovation easiest?



In a closed innovation environment, the yarn and fabric manufacturers would market their new products on the basis of properties, performance, cost and so on. In an open innovation environment, they would exchange much more information with prospective clients. For example, they could suggest what the applied benefits of their products would be in each client's markets. By the same token, the clients could alert the suppliers to the changing demands of end-users. The underlying point is that the stronger your relationship with other companies in your supply chain, and the more willing you are to exchange knowledge, the greater is the potential income for everybody.

Of course, at the bottom of the supply chain margins are lower, and most innovations are about lowering the cost of a material or component without lowering its performance. Further up, margins increase in inverse proportion to opportunities.

The next level is arguably that of enabling technologies such as advanced electronic components, food and pharmaceutical ingredients or software. Here, open innovation is governed by original-equipment-manufacturer (OEM), licensing or service-level agreements. So, for example, Tate & Lyle manufactures Splenda®, a sugar-substitute, and sells it to food and beverage manufacturers so that they can create diverse new products of their own. It also offers added-value services to help clients add the ingredient to their industrial processes and achieve specific taste, consistency or nutritional goals.

Open innovation activity is usually greater at the bottom of supply chains where margins are lower.

If your company is situated at this level, it probably already has the people it needs to benefit from open innovation of this sort – people who are used to forging OEM, licensing or service-level agreements. But are they clear about the strategic context for such deals? Have they leveraged as much internal and external knowledge as possible to envision the markets these deals will eventually tap? Again, it is in your interests to foster the exchange of ideas between those people and their counterparts in other organisations.

At the top of the supply chain, open innovation does occur between brand owners, but it is much more difficult to manage. Here partnership structures such as joint ventures or strategic alliances are crucial to the entire R&D process. The resulting ventures usually involve complex and unprecedented business models, making it crucial that all parties understand their place in the value chain. Are you being saddled with phases where the potential margins are too low or the capital exposure is too high? Or are you able to extract just as much value from your responsibilities as your partners are from theirs? These are the kinds of questions you need to ask yourself before agreeing to such a venture.

This article is from a recent book by Andrew Gaule and the H-I Network – *Open Innovation in Action: How to be strategic in the search for new sources of value.* The book addresses the strategic alignment of innovation in leading organisations, describing the '5 Ps of Innovation' (purpose, process, people, partners and performance) and including case studies from Procter & Gamble, QinetiQ, Shell, DSM and Tate & Lyle. The book is available at www.h-i.com.

Andrew Gaule is the founder of the H-I Network (formerly the Henley Incubator), a thought leadership forum comprised of senior executives from some of the world's leading organisations. He is the creator of several management theories now in use at organisations such as Unilever, DHL, BOC and the Health Protection Agency and co-author of many H-I Network reports, including *Corporate Venturing: Rewarding Entrepreneurial Talent*, *Innovation Performance Measurement: Striking the Right Balance* and *A Review of Leading Global Corporate Venture Units.*

Tel: + 44 (0)7798 616934
Email: andrew.gaule@h-i.com
Website: www.h-i.com