Using technology scouting as part of open innovation

By Simon Shohet

In a world where technology and product knowledge has become globally distributed, companies must also look outside their R&D departments for sources of new technology and innovation[1]. This has become known as 'Open Innovation'. Technology scouting is an essential tool for any organisation striving to achieve this. It is a search and intermediation process that enables you to very efficiently find new technologies, often helping to uncover those which may not otherwise be identified. Here we share some of our learning on how to use technology scouting effectively.

Planning and search criteria
We have learned that to be effective any technology scouting exercise must be strongly grounded in the requirements of end users. To achieve this, some customer insight work may first be needed to identify unmet needs and the desired benefits of the new technology or product. These insights are then translated into 'claims statements', which are used to create search targets by defining the market-led characteristics of the technology being sought externally.

There is little benefit in embarking on a scouting exercise unless there is a clear strategic intent that is linked to a compelling business case. Although it is tempting to conduct a 'search and see', this is far less likely to deliver a successful result.

By thinking through and defining product strategy and scouting objectives, clear search criteria can be developed. These are generally best implemented in two stages:

1 coarse or screening filters – the 'must' and 'must not haves' which allow poor results to be quickly eliminated

2 fine or ranking filters – the detailed characteristics that match the business case and rationale. These should include internal factors relevant to the business strategy (eg technical competencies, IP policy), and external factors (eg market growth rate, competitive intensity).

It is essential to have clearly defined criteria and claims statements from the outset. The exercise could easily fail if the remit is too broad, as each sub technology may need its own set of criteria and claims statements for the scouting to work. These criteria can then be used to score technology candidates and help gain consensus in a multi-functional team.

There is a real danger that key market imperatives may be lost if the scouting is purely 'technology driven', so commercially relevant technologies are more likely to be found if the scouting team comprises a combination of marketing and technical functions from the start.

Searching and populating the master database
We have found that if scouting is disjointed or lacks clarity, it can take longer, opportunities can be missed, and it may ultimately fail. It must follow a structured approach using clear criteria that reflect strategy, scope and customer needs.

Initially the following should be captured in a database:

- fields to reflect search criteria
- links between claims and technology characteristics
- details on technology performance, patents, ownership and key literature
- filtering capability eg scores to pick out the best target short list.

The next step is to gather key information – resources include online information, patent databases and trade magazines. Potential technology candidates might be close to the target, but not yet screened in detail. Key stakeholders should then review the database, apply screening criteria, and aim to identify a few attractive opportunities (20% of the initial find).

Deep dive
Detailed information is then required on each short-listed technology. Information not in the public domain can be obtained from technology owners and if external agencies can't disclose client details, non-disclosure agreements can help. Typical areas examined at this 'deep dive' stage include patents and IP situation; ownership and existing licensees; costs of goods; technology characteristics making it suitable for the application of interest; and other specific criteria, eg fit with processing or production skills.

Select and package
Once the data is collated, selecting the best technology is often a 'trade off' between criteria. A balanced scorecard approach can help by weighting criteria and scoring each technology accordingly.

It is also important at this stage to question if technologies could be combined – combination solutions can be highly innovative, but are often harder to identify.

Deciding when to move from scouting to transaction is one of the most difficult stages but it is vital to act quickly to capture technologies of interest. With rapidly evolving technologies, each scouting exercise should last only a few weeks or – at most – months. If you delay, it could mean missing a market window, which your competitors might then exploit.

At this stage, having commitment from senior management and resources in place to conduct the detailed evaluation to complete the deal is critical. We have seen situations where, despite compelling technology opportunities, a lack of management support and evaluation resources meant that the scouting exercise did not deliver.

Finally
It is becoming increasingly clear that companies who take a 'closed' view to innovation and new product development risk being at a major competitive disadvantage. Structured technology scouting can deliver step changes in innovation execution by revealing the vast expanse of the open innovation marketplace. By following some simple steps, uncertainty and risk can be managed for a more successful outcome.

Sagentia's scouting experience spans medical devices, food ingredients, energy and automotive products. Outcomes include new partnerships, acquisitions and licensing deals, resulting in the launch of successful products and services.

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1 See Chesbrough, H. (2003) Open Innovation – the new imperative for creating and profiting from new technology. Harvard Business School Press.