IfM
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briefing

Making the business case for new technologies

Persuading organisations to invest in new technologies is one of the most important tasks of technology managers, yet the actual process of gaining the buy-in decision is often fraught and inconclusive.

Research at the IfM's Centre for Technology Management (CTM) aims to demystify the process of selling new technologies, and its conclusions may also interest would-be customers of technologies.

Actively seek the problems your technology can solve, combining market research with technology intelligence

CTM researchers have identified a five-step process for making the business case for new technologies:

1 **Identify the technology/problem combination**. Actively seek the problems your technology can solve, combining market research with technology intelligence.

2 **Select potential customers and sales strategies.** Find out who has a clear need for the technology, how much it will mean to them, and whether funds are available for it.

3 **Understand the chosen customers' needs.** Move the emphasis away from marketing and find out who is really in the buying centre, as it may not always be the engineering or R&D department. It is more important for the seller to understand the buyer at this point rather than vice versa.

4 **Develop the business case with the customer.** The emerging dialogue at this stage should eliminate any mismatch between the technology and the problem: if one party feels unhappy about the process, it can be fed back to the previous step.

5 **Present the business case and negotiate next steps.** By now, the seller is well prepared and buy-in has been established. The seller knows the customer's requirements exactly and uses them to provide an unambiguous business case.

The Centre's research suggests technology managers customise the five-step process to suit their own needs. An important part of this is to consider the maturity level of the technology – is it early, mid or late stage? The approach used will vary depending on the maturity level (see graphic overleaf).

The steps in detail

At step 1 it is vital to understand both identified as well as unidentified problems and find where they overlap with the new technology. A market is not always clearly recognisable, especially when a technology can have more than one application. Who can predict with any certainty what a market will require in five or 10 years' time?

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Ask what the technology can do, and what difficulties it could overcome. What areas of industry may be interested? Are there several routes to exploit the value of the technology? Can intellectual property (IP) be exploited? What are the possible markets? Such open-ended discussions can be started in a workshop and supported by web searches, roadmapping, industry literature and patent information. Allocating search areas to individuals and meeting regularly for discussion is important, and employing market research consultants could also be useful.

After step 1, the technology manager should have a list of technology/problem combinations and a provisional list of potential customers.

At step 2, the key objective is to build the sales strategy. Focus on prioritising the most promising customers and define a plan of action to approach them. Find out who controls funding and who has the authority to make the buy-in decision. Who is best able to appreciate the ability of the technology to solve the problem?

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At this stage, mapping the relevant stakeholders within the target organisations (gatekeeper, champions, purchasing, finance, adversaries etc) can help to give a good idea of who is involved and how.

Key activities are to select, explore and calculate the potential value to both seller and customer. Useful tools include force field analysis, mind-maps, databases, score cards and SWOT analysis.

When step 2 is complete, there should be a shortlist of three or so concrete customers with a plan of action for contacting prospects. A basic outline of the business case, with unique selling points (USPs), should be available.

At step 3, the customer must be made to realise that the technology seller understands their needs and is able to meet them. Discussion sessions, workshops and demonstrations can be used to display options. Discussion should involve open-ended questions by the seller. At this stage, too, diagnostic studies of problems can be begun and draft scenarios presented.

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With step 3 completed, the customer should be convinced of the seller's credibility and of his/her ability to understand his/her requirements. Tips for this stage include starting with the least likely or attractive of the three prospects so you can practise your technique, even if it leads to a refusal.

Step 4 emphasises how important it is for the seller to jointly construct the business case with the customer. Unlike a product, technology applications can be multiple and commercialisation routes various, so it is not easy to evaluate the cost/benefits of investing in new technology. Hence it is crucial to involve the customer in developing the value proposition.

This can be achieved by evaluating potential business models together, discussing the technology using demonstrators and investigating the IP strategy required. Sellers can also play 'devil's advocate' and challenge their own business case.

After step 4, there should be an informal joint agreement that the business case meets expectations, and a review of potential financial sources and budget limits.

Finally, step 5 is the formal presentation of the business case to the customer, with the aim of unambiguous approval of the seller's technology proposition.

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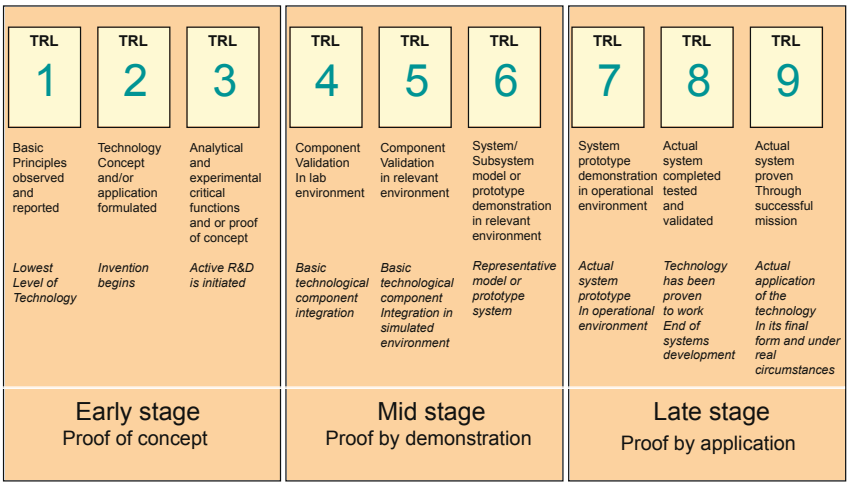
What about maturity of the technology?



The concept of technology readiness levels[1] – or degree of technology maturity – is a useful idea borrowed from the aerospace industry. The particular stage a technology has reached has a strong impact on the best way to make a business case for further investment or uptake of the technology.

Step 4 example: developing the business case with the customer

Internal

An aerospace company has a formal process whereby the finance group collects data for each business case. All stakeholders fill out case templates. For example, the business development group fills in predicted sales figures and details of how revenue could be generated from the technology (a review of business models). Technologists provide development costs and timescales. Similar figures are collected from competing technology cases to compare them. To avoid the technologists and the business groups remaining remote during the process, opportunities for debating inputs and implications are emphasised.

External

The technology seller encourages the customer company to name a key contact. Meetings with this person are then arranged to set up a structured programme of business case development through discussion, testing and revision stages. A rough template for the business case is agreed, to fit the customer company's procedures. A wide group of people outside and inside both companies is involved. Financial modelling is carried out for various scenarios. Expectations are discussed and refined.

[1]Key development stages, adapted from technology readiness level (TRL) concept as developed by Nasa. Source: DoD (2006), Defense Acquisition Guidebook.