



3M: Rethinking Innovation

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Background

Large (70K employees, \$15bn sales), global operations (200 countries), multi-product (50K range), multi-market business.

Innovation ‘Claim to Fame’

This company has been around for just over 100 years and during that period has established a clear reputation as a major innovator. Their technical competence has been built up by a long-term commitment to R&D on which they currently spend around \$1bn p.a.; this has yielded them a regular position in the top 10 in US patents granted. They have launched a number of breakthrough products which have established completely new markets and they have set themselves a consistent stretch target of getting 30% of sales turnover from products launched during the past four years.

How Do They Manage Innovation?

The company presents a consistent picture in interviews and in publications – innovation success is a consequence of creating the culture in which it can take place – it becomes ‘the way we do things around here’ in a very real sense. This philosophy is borne out in many anecdotes and case histories – the key to their success has been to create the conditions in which innovation can arise from any one of a number of directions, including lucky accidents, and there is a deliberate attempt to avoid putting too much structure in place since this would constrain innovation.

Innovation Strategy and Leadership

The company has always valued innovation and this has been a consistent and key theme since their inception; their ‘hero’ figures amongst previous CEOs have been strongly associated with enacting and supporting the innovation culture which characterizes the firm. Their overall innovation strategy is focused on two core themes – deep technological competence and strong product development capabilities. They combine these to enable them to offer a steady stream of breakthrough products and line extensions/product improvements. A great strength is the integrated input from the technical and marketing side which enables ‘creative association’, coming up with new and often powerful combinations of needs and means.

A number of key strategic enablers are worth flagging:

- Setting stretch targets – such as ‘x% of sales from products introduced during the past *y* years’ – provides a clear and consistent message and a focus for the whole organization

¹ For more on this company and the ways in which it manages innovation see Gundling, E. (2000). *The 3M way to innovation: Balancing people and profit*. New York, Kodansha International

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- Allocating resources as ‘slack’ – space and time in which staff can explore and play with ideas, build on chance events or combinations, etc.

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- Encouragement of ‘bootlegging’ employees working on innovation projects in their own time and often accessing resources in a non-formal way – the ‘benevolent blind eye’ effect.
 - Provision of staged resource support for innovators who want to take an idea forward – effectively different levels of internal venture capital for which people can bid (against increasingly high hurdles) – this encourages ‘intrapreneurship’ (internal entrepreneurial behaviour) rather than people feeling they have to leave the firm to take their good ideas forward.

In recent years they have seen their momentum falter, in part because of the sheer scale of the operation and the range of competition. Their response has been to identify a series of ‘Pacing Plus’ programmes, which attempt to focus and prioritize around 30 key areas for development across the business – essentially an innovation strategy.

Enabling the Process

Having been working on innovation for so long, they have developed a set of structures and policies to guide innovative activity from picking up signals through to implementation. Importantly they allow for parallel routes through their system so that innovations can come from close market interactions or from deep technology research in their labs or from various forms of collaboration, or from serendipitous discovery by their staff. As they put it, ‘we don’t have a skunk-works – round here everyone is a skunk!’ Their skill in enabling *association* is particularly relevant; many of their breakthrough products have come about because staff with technical knowledge have worked alongside those with awareness of real or latent market needs and the result has been a creative combination.

There is a formal stage-gate system for innovations and extensions based on established products but in addition there is a clear progress route for more radical ideas, moving from an incubator stage, where they are encouraged and where development funds are available against loose targets, through to much more rigorous business plan appraisal for projects further down the line. The ‘trial by fire’ approach is well-known but carries with it a strong element of encouraging innovation champions to take non-linear ideas through the system. Effectively they run parallel systems which all involve funnels and clear gateways through which ideas pass into narrower parts of the funnel and which also commit more extensive resources – but although the mechanisms differ, the intent is the same.

Building an Innovative Organization

- *Recognition and reward.*
Throughout the company there are various schemes which acknowledge innovative activity – for example, their Innovator’s Award which recognizes effort rather than achievement
- *Reinforcement of core values.*
Innovation is respected – for example, there is a ‘hall of fame’ whose members are elected on the basis of their innovative achievements.
- *Sustaining ‘circulation’.*
Movement and combination of people from different perspectives to allow for creative combinations – a key issue in such a large and dispersed organization.
- *Allocating ‘slack’ and permission to play.*

Allowing employees to spend a proportion of their time in curiosity-driven activities which may lead nowhere but which have sometimes given them breakthrough products.

- *Patience.*
Acceptance of the need for ‘stumbling in motion’ as innovative ideas evolve and take shape. Breakthroughs like Post-it’s and ‘Scotchgard’ were not overnight successes but took 2-3 years to ‘cook’ before they emerged as viable prospects to put into the formal system.
- *Acceptance of mistakes and encouragement of risk-taking.*
A famous quote from a former CEO is often cited in this connection: ‘Mistakes will be made, but if a person is essentially right, the mistakes he or she makes are not as serious, in the long run, as the mistakes management will make if it’s dictatorial and undertakes to tell those under its authority exactly how they must do their job ... Management that is destructively critical when mistakes are made kills initiative, and it is essential that we have many people with initiative if we are to continue to grow.’
- *Encouraging ‘bootlegging’.*
Giving employees a sense of empowerment and turning a blind eye to creative ways that staff come up with to get around the system acts as a counter to rigid bureaucratic procedures.
- *Policy of hiring innovators.*
Recruitment approach is looking for people with innovator tendencies and characteristics.

Linkages and Networking

- Recognition of the power of association – deliberate attempts not to separate out different functions but to bring them together in teams and other groupings
- Encouraging broad perspectives. For example, in developing their overhead projector business, it was close links with users made by getting technical development staff to make sales calls that made the product so user-friendly and therefore successful.
- Strong culture dating back to 1951 of encouraging informal meetings and workshops in a series of groups, committees, etc., under the structural heading of the Technology Forum – established ‘to encourage free and active interchange of information and cross-fertilization of ideas’. This is a voluntary activity, although the company commit support resources, but it enables a company-wide ‘college’ with fluid interchange of perspectives and ideas.
- Recruiting volunteers. Particularly in trying to open up new fields, the involvement of customers and other outsiders as part of a development team is encouraged since it mixes perspectives.

Useful links

Company website with extensive detail on their history

<https://www.3m.com/>

Timeline

https://www.3m.com/3M/en_US/company-us/about-3m/history/timeline/

History

https://www.3m.com/3M/en_US/company-us/about-3m/history/