



SPECIALITY CHEMICALS - EXCELLING IN NPD (2)

Most large speciality and performance chemicals companies have a formal new product development process in place, yet many still experience a variety of problems - the upshot of which is that they do not develop and launch new products as frequently and as successfully as they should or could. This article looks at the role of the npd process and some of the problems associated with its use.

THE STRATEGIC IMPORTANCE OF NPD

Our preceding article argued that companies in the performance and speciality chemicals business exhibit many common characteristics quite unlike those of other sectors - which is perhaps surprising since their products vary from 'ingredients' for other manufacturers (surfactants, catalysts, admixtures, pigments, etc) to ready-for-use products (adhesives, paints, coatings, pest killers etc), and their markets span just about every industry sector - water treatment, agriculture, textiles, cosmetics, food manufacture, air and sea transport, construction, printing, automotive.....

One of the key common characteristic is that new product development is absolutely crucial; outperforming competitors in npd is a cornerstone of competitive advantage. And, given the particular characteristics of the sector, this means a steady stream of successful new products, not just one every year or so.

Reflecting this, a snapshot of technical development in a large company would typically show many projects in the system - often hundreds - varying from 'radical innovation'/step change' exercises running into man-years of work, to minor modifications and customisations demanding a few hundred or even just tens of hours.

One project is rarely make-or-break, but the success:failure ratio in new product commercialisation is a prime determinant of long-term performance - from a competitive perspective, *npd is a war of attrition - and one with enormous strategic significance.*

INVESTMENT IN NPD

Consider the cost of npd - i.e. the company's investment in it.

Generalising about levels of expenditure on npd in chemical companies is impossible - it varies according to:

- the particular industry served, the overall maturity of products, the levels of customisation involved, the company's strategy, etc
- what 'development' work is included - e.g. are minor local modifications part of 'npd spend'?
- which non-R&D costs are included in 'npd spend' - e.g. the costs of field trials? of market research prior to commencing development? of producing new product literature? of training the technical sales force? of designing/sourcing new packaging material? of purchasing new process equipment?

Nevertheless most large speciality and performance chemicals companies would probably claim to spend anything between 2% and 10% of sales on npd - and some, if they really counted all the costs, may spend well over this in some years. But irrespective of the percentage, the fact remains that *npd is a massive investment.*

THE NPD PROCESS

The strategic importance of npd plus the level of investment in it mean that excellence in npd must be core corporate competence.

Only very naive companies expect successful npd to 'just happen'; it has to be prompted, nurtured, cajoled, managed and co-ordinated; and only small companies can do this without a formal mechanism. Larger businesses, with a requirement for a variety of types of new products, with many projects in progress at any one time, and with input required from different functions and geographic operations, must have formal procedures.

The npd 'process' is a pre-defined set of procedures and responsibilities, covering the whole chain of events which culminates (hopefully) in the successful commercialisation of a steady stream of new products - from generating an adequate number and quality of new ideas right through to planning and managing effective launches to customers worldwide.

The role of the process is in managing and channelling all product development activity - e.g. for ensuring consistency and objectivity in the treatment of proposals, for facilitating and accelerating the progression of attractive proposals through to launch, for halting poorly justified or unacceptably risky projects as early as possible - and, more broadly, as a support for innovation in general.

Think of the process as a tool to help manage complexity and reduce conflict. It should be a framework, a set of guidelines, perhaps with a few mandatory elements - not, as it often becomes, a bureaucratic straight-jacket. If your process document could double as a doormat or reads like an early computer manual, the chances are it is not performing the role it should.

PROCESS ISSUES & PEOPLE ISSUES

The concept of a formal npd process is relatively new, and most companies are still experimenting with and refining their process; our experience is that many have yet to develop it to a degree which adequately matches the complexity and demands of their business.

All but the smallest or most myopic speciality chemicals companies do have at least the basics of a process. In younger companies, the formal process may be confined to technical development - here, logical people, whose role is product development, organise their work formally with timesheets, project plans, milestones and so on; but the flow of project instructions coming into R&D can be quite disorganised, as can the handling of products once technical development is complete.

However we would judge that you haven't really got an npd process unless there is an unbroken sequence stretching from idea to launch. There are several vital criteria which this basic process should meet - e.g. functions other than R&D should be adequately involved

throughout; there should be continuity of responsibility for each development project; precisely what decisions will be taken at each decision point should be clearly specified.

If it does not meet any one of these criteria, problems will almost certainly arise sooner or later. However these are procedural issues, and providing the omission (or 'disconnect') in the process can be accurately identified, it can usually be ironed out.

However *excellence in npd is not just about having a sound formal process - that's the relatively easy part. It also demands that all staff involved understand, accept, agree, support and follow the process.*

Staff who disagree with the process can easily disrupt it - often without being observed. And once the process begins to encounter problems, others who were initially neutral in their opinions quickly join the doubters. Basically a new process is quite fragile, and if its opponents can demonstrate flaws in the early days, it can easily become discredited and quickly rejected by the whole organisation.

Why should staff wish to de-rail a new npd process? Lots of reasons - general scepticism about anything new; a perception that it is a device designed by one part of the organisation to exercise greater control over others; fear of increased bureaucracy (or workload); fear of loss of autonomy; fear of greater transparency of their activities; the 'not invented here' syndrome.

'People problems' can be reduced (we hesitate to say they can be totally eliminated), but this is best done *before* the process is put in place. Defending a process which is apparently not working is far harder than converting (or marginalising) its opponents before it is installed. *The most challenging aspect of developing and installing a npd process is pre-empting and heading off the inevitable 'people problems' before they occur - and this is key to the process' success.*

GEARING THE PROCESS FOR A LARGER COMPANY

Larger, more mature companies are likely to have formalised and refined the whole process. Yet most still experience a variety of problems: strangely, the bigger and more sophisticated the company, the knottier the problems. However they still fall into the same two categories as above: process and people problems.

For example, consider the main decision-points in the process. A nominated group probably meets periodically to review projects in progress and new proposals; after debate, they arrive at a consensus decision of which to support (i.e. which to allocate funds to).

Fine in principle, but with a large product range and a profusion of different product/markets, there could be mix of perhaps a hundred npd proposals in hand and projects already underway. Group members cannot possibly mentally juggle all the individual risk/ reward arguments and make rational and objective decisions without the aid of a formalised portfolio management framework.

Conclusions

Npd is a critical strategic activity in chemical companies, and one where they invest huge sums. To meet the company's needs - a steady stream of successful product launches - proficiency in npd must be a core competence. This demands a well-defined process which maps closely onto the organisation. The more complex the business, the more refined this process must be; yet the priority attached to improving it often does not adequately reflect its importance, so often it is still inadequately developed.

Simply having a sophisticated process will not deliver new product successes; it must be adhered to and supported by staff. Conversely, the process can be fragile and easily disrupted by its opponents. Therefore its success is heavily dependent on the planning and management of the 'people issues' - which are usually far more complex and difficult than the process issues.



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Devising a robust and practical method for allocating funds across a myriad of deserving and competing projects, whilst far from simple, is a logical and soluble process issue - the sort of refinement which large companies often seek external specialist help with.

In parallel, resource allocation decisions will channel the new product stream into one business unit (or region) at the expense of others. This becomes highly sensitive, and inevitably provokes considerable internal reaction. Therefore people issues - *who* should be on the decision-making group, *who* should be consulted, *who* should have 'casting vote', *how and by whom* the various criteria in the portfolio management tool are weighted, *how and by whom* decisions are communicated back to operations etc. etc., are crucial if the decisions made are to be implemented effectively.

As one powerful business unit boss was reported as saying: "I may not always be able to affect the decision, but if I don't like it, I can certainly make sure it doesn't work".

The better the process, the more effective it is likely to be. However *the larger the company, the greater the complexities of the process, and the more crucial the management of 'people issues' becomes in ensuring the process is permitted to work effectively.*

WAITING FOR PROBLEMS

Companies review their npd process when problems arise. We argue that ongoing improvement and fine-tuning is imperative.

Consider how much your company spends firstly on developing and launching new products, and secondly on its field sales force. Chances are that the sums are of the same order of magnitude.

Now consider how much effort goes into reviewing and improving information flows to and from the sales force, the measurement of its performance, the reporting mechanisms it uses, the communication and 'teamworking' between it and other parts of the organisation, etc. - i.e. into improving the sales process. Chances are the effort going into constantly improving the npd process is only a fraction of this.

Why? Well, it certainly *isn't* because npd is less important to the company, because it represents significantly less in terms of cost, or because the npd process is far less complex than the sales process. We believe the two main reasons are:

- management thinking on npd as a process is still unsophisticated - certainly compared with that on the sales and manufacturing processes, where continuous improvement is the accepted norm.
- A surprising number of companies admit their npd performance could be improved and vow their intention of doing so - but it only reaches the top of the agenda when things go wrong. Could this be because the impact of more effective npd is both harder to measure and less immediate than improved sales performance?

Our suggestion? *Don't wait for problems to prompt action; respond to the importance of npd by proactively seeking improvements.*