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SPECIALITY CHEMICALS - NEW PRODUCT WARS

Competitors in many industries wage war in part by attempting to upstage each other with new products and modifications to existing ones. Speciality chemicals companies in particular exhibit several features which combine to dictate that new product introductions must represent a primary plank of competitive strategy.

Whilst one successful new product may win a battle, the war is one of attrition, demanding a steady stream of them simply for survival. Excellence in managing the whole process of developing and commercialising new products is a key, possibly *the* key success factor for speciality chemicals producers.

SIMILARITIES BETWEEN SPECIALITY CHEMICALS COMPANIES

At first glance, 'speciality chemicals' hardly qualifies as a discrete sector - the term encompasses companies producing products as diverse as printing inks, metal finishing aids, detergents, industrial cleaners, high temperature ceramics, adhesives, insecticides, construction materials, lubricants, cooking aids, food preservatives and all manner of additives, coatings and catalysts. The markets for these products are equally diverse.

However, there are various features common to many speciality chemicals companies which make the competitive pressures they face very similar. There is consequently scope for learning from the experiences of others. For example, in comparison to most industrial products :

- speciality chemicals are high value to weight or volume
- gross margins are usually quite high
- manufacturing is *relatively* simple and of low capital intensity
- products are sold primarily on technical performance
- continuity of supply and consistency of quality are critical
- individual national markets are often fairly small
- market requirements internationally frequently differ
- product ranges are large; and customisation is common, resulting in a long tail of variants

A prime consequence is that speciality chemicals companies of even very modest turnover can be highly international.

WHY IS NPD PARTICULARLY CRITICAL IN SPECIALITY CHEMICALS?

The key reason is that the product life cycle is particularly well defined. Consider the life cycle split into three stages:

Stage One

The company has a few new products which represent real technological advance, and which offer significant benefits over competitive products. Pricing genuinely reflects the value of the product to customers, which can be great, so high margins are achieved.

Stage Two

The company also has many products which are rapidly evolving through incremental improvement, sometimes in collaboration with key customers, spawning a myriad of "new products" (which are really only variants).

Major competitors each now have similar products (avoiding patent infringements), and are striving to upstage the technical performance of each others' products. Prices are gradually declining, and technical support costs remain high; but gross margins are still respectable as competitors focus primarily on selling the value of their products to customers; moreover, it is likely that the competitors have broadly similar cost structures, so rarely does one wish to start a price war.

Stage Three

Finally, the company has a great many older products, which have not yet been superseded by new technology. These have become commodities, orders being won mainly on price; many markets are dominated by low-overhead local producers who have pushed out the larger, international producers.

The company still has some businesses with loyal, long-standing customers, but margins have evaporated.

Classic life cycle theory perhaps; but speciality chemicals differ from most industries in that (i) the early stages of the cycle may be quite short and (ii) small manufacturers can enter easily mid-way through the cycle, undercutting the major producers - with the consequence that profits available for larger companies are concentrated at the front end and middle of the cycle.

This underlines the fact that the magic in speciality chemicals is in knowing *how* to manufacture them. Once development of a product has stabilised and its formulation become common knowledge, small, local firms can start to produce, prompting a collapse of prices. This is possible because patents are easy to circumvent and barriers to entry are often low.

NEW PRODUCT DEVELOPMENT AS A BASIC STRATEGY

As a manufacturer, the strategic choices are to:

i) invest in new products (both genuine new products and the incremental development of existing ones), so seek to make profit in the early stages of the life cycle, or

ii) monitor markets to identify products where incremental development has ceased and after-sales support requirements have reduced, then

focus on manufacturing 'me too' products and selling these at competitive prices - i.e. seek to make profit in the latter stages of the life cycle.
Without going into the relative merits of these basic strategies, in our experience most large speciality chemicals companies follow the former. Certainly many markets polarise between large international suppliers and smaller local firms, often set up by ex-employees of the major companies who have seen the opportunity to undercut the larger players.

If your company is following the former strategy, its effectiveness in bringing new products to market is absolutely critical; and it must do this not just once, but again and again.

NEW PRODUCT PROBLEMS

This strategy however gives rise to much heartache. The problems cited are very diverse: different companies experience different problems, but one company may experience several at any point in time. Some we have encountered most frequently are:

"We don't have enough new ideas"

"We have plenty of ideas, but all for improvements to existing products, rather than 'real' new products"

"We've developed some great products only to find nobody wants them"

"The products which get developed are those which are supported by somebody important"

"Nobody thought to ask manufacturing (or operations, or purchasing) - the first we knew about it was when....."

"Funds are carefully budgeted for technical development, and a detailed work plan is produced; but we don't adequately plan or budget for field trials, market testing and launching"

"By the time we've finally launched a new product into all of our markets, competitors often have developed an equivalent"

"Our technical people don't seem to listen - we say we need a horse by next week and we get a donkey in three months"

"Trying to convince our Operating Companies that they should sell a new product can be very frustrating"

"The German company insists there isn't a market; the French say the product doesn't do what they wanted; the Mexicans have re-named it and are selling it for a different application altogether; the Malaysians have decided to modify it; the Chinese reckon it's too expensive. Why didn't anybody say anything nine months ago ??"

" Our new products don't get launched - they leak out!"

All these are facets of the same basic problem: simply, few companies have in place a comprehensive mechanism for managing and co-ordinating the whole of the critical process of developing and commercialising new products.

WHAT *IS* A NEW PRODUCT DEVELOPMENT PROCESS?

The process itself prescribes the sequence of events which will occur in moving from the generation of product ideas right through to the successful commercialisation of new products across the company's markets. This is usually accomplished by defining a number of stages, delineated by decision points (often called "gates" - hence, "a stage/gate process").

Inevitably this process requires some paperwork and formal meetings. Here opponents of the process will cry "bureaucracy". But if a little bureaucracy can improve the company's performance in successfully commercialising viable new products, the price will be a small one. Moreover, the bureaucracy should be minimal; and there may even be a net paperwork reduction through fewer "projects gone wrong".

However the process does not stand alone; the necessary organisational structures and communication channels must be in place to enable it to function. For example, it may require close liaison between technical, engineering and marketing departments, both at the centre and in operating companies - which means it must be clear precisely who this liaison should be between and what their respective responsibilities are.

Finally there are always those who will resist change, and in the early days of installing a process it is easy for a well-placed non-believer to throw the whole exercise into disrepute.

The best solution is to convert such non-believers; second best is to limit their involvement until the process has been shown to work and confidence in it is established.

The process then is really far more than just a flow diagram of the steps in developing and launching new product. A well-engineered and carefully installed process will radically change the importance the entire organisation attaches to new product development, and improve the levels of inter-functional co-operation and understanding.

WHAT DOES BEING 'WORLD CLASS' IN NPD MEAN?

If your company is a "typical" medium to large speciality chemicals business, it is probably international, possibly global. Your major competitors probably include at least one company from each of North America, Japan and Europe. This means you must match up to world class standards in the primary competitive areas; and new product development is almost certainly such an area.

If so, you should periodically ask: "Are we at least on a par with the best in terms of developing new products and commercialising them globally?".

If you have any doubts about this - if some of the above comments sound familiar - you may have one of following fundamental problems:

1. You do not have a comprehensive "new product process".
2. You have a process, but it does not marry up with your organisation's structure sufficiently well either to ensure an adequate flow of new products or to eliminate occasional expensive failures.
3. You have a perfectly sound process, but it has not been fully absorbed into the company's culture - with the result that there is passive resistance and/or non-adherence.

This highlights the complexities of developing and installing a new product development process. Designing the basic process is not too difficult; fleshing it out such that it marries up with the organisation's structures and systems and works in practice is rather more so; getting everybody on board with the new thinking requires skill and careful planning - and patience.

☎ **Contact Steve Butler on +44 (0) 121 708 0823 or email: stevebutler@cerebraconsulting.com**