Simulation Success

Steve Hemsley at Lanner examines how merging pharmaceutical companies can maximise efficiency gains and ensure a quick return on investment

MEGA-MERGERS

2009 has been labelled by some commentators as the year of the mega-merger, with pharmaceutical companies looking for broader portfolios, market collaborations and greater economies of scale, which they hope will bring stability in what are challenging times. Indeed, with pharmaceutical companies currently under various pressures, not least due to the economic downturn, we have already seen a host of significant mergers this year; Pfizer and Wyeth; Merck and ScheringPlough; and Roche's plans to buy the remaining 44 per cent of shares in US biotech giant Genentech.

Such collaborations offer real economies of scale for companies who are looking to make considerable cost savings. Yet, though the practice makes sense, there are considerations that merged companies would be wise to take on board.

To truly set off on the right footing, the merged companies need to identify the best route to driving efficiencies and exploiting operational synergies from day one. After all, it is pointless for two companies to merge but to then simply retain the same scale and cost base. Any collaboration must be well thought out, and the planning needs to take place ideally before the new merged business officially sets sail, or at the very least in the early throes of trading.

It is important to remember that even if two companies are well aligned in their strategy and goals, and share similar business process models, there are still bound to be a plethora of different methods to their working processes. Whether these differentiators are large or small, for successful cohesion to take place, such variations must be tackled head on from the outset.

Merging companies can derive cost savings in a number of areas, with the most obvious focus centred on the cost of goods. The immediate spotlight on where to save money will understandably always concern the cost of goods, and to achieve this, economies of scale need to be realised in all areas of the business.

But knowing what approach to take can be difficult, and cultural attitudes are likely to vary significantly. Pharmaceutical manufacturers must somehow assess which options will give them the best return on investment, and which will meet performance targets effectively and efficiently. Considerations over what degree of risk they are comfortable in taking and what the potential implications could be if they make the wrong decision must be measured. Forecasting what will work for individual pharmaceutical companies in the future is no mean feat. Assessing which options will give them the best return on investment and which will meet performance targets effectively and efficiently can be a game of chance – one that will have serious implications should the wrong decision be made.

Furthermore, where there was once room for error, such luxuries have eroded as stakeholder expectations and the current economic downturn demand that any process change is worthwhile, and delivers predictable results at the earliest opportunity.

One such area which is key to achieving operational economies of scale relates to packaging and distribution networks. It could be the case that pharmaceutical company A uses four packaging centres, whereas company B uses as many as eight. You can see there are obvious differences at operational level in how both companies operate their supply chain. So, what is the best approach when A and B merge? To just shoehorn into the four centres from company A, or the eight from B, or maybe one of the many combinations of a mix of both? But which mix will best deliver on time, with lower inventory and reduced cost? The decisions then get even tougher when one considers that many of these newly merged companies have themselves evolved from previous cross-mergers. Decisions therefore also have to factor in the differing priorities for pharmatech and biopharma companies. Already, it is easy to see why operations managers are left with a significant challenge to deliver against the merger objectives.

The task is made no easier by the fact that the time period for decision-making is so limited. Decisions need to be made quickly, and must be foolproof if the merged companies are to be successful. There are also so many variables to consider that operation managers need an in-depth, scientific understanding to make a definitive choice that they are confident will give them the best results.

With so many decision variables and so little time to find the best answers, companies need to look at the benefits that a scientific approach can provide. Indeed, many pharmaceutical companies turn to process simulation modelling as a means to quantify the right answers.

Upfront analysis and evidence-based decisions through simulation modelling are well established in other global industries, but their use in the pharmaceutical world appears more sporadically. Why is this, when there is a means of getting better answers at a time when there are so many questions? When we are impatient for answers, our industry's usual response is to turn to

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outside consultants to bring in the knowledge. But with budgets on hold and headcount reduced, we look to process engineers and value stream leaders to step up, learn quickly and find our answers, but all too often with over-simplified spreadsheet-based methods.

SIMULATION IN THE PHARMACEUTICAL INDUSTRY

However, in some leading pharmaceutical companies, a quiet revolution has been underway to provide working models of manufacturing lines and facilities. Taking a more modular and scalable approach than previously, and with much less external support, project teams and planners are testing and refining new product introduction (NPI) and product transfers in days rather than months.

One solid dose facility reduced inventory by £1.4 million in just six months. Recently, several facilities have also re-used their models to give precious confidence that their plans to meet the unprecedented surge caused by swine flu will ultimately deliver. Time has been tight, so while it has been tempting to use simpler traditional methods, the greater accuracy from applying more science in the same timeframe has been reassuring. The benefits of using simulation modelling are compelling, and would act as an ideal safety net for companies who have entered into a merger as a means of calculating how best to exploit the synergies in working processes.

The game is changing now that the option to bring in industry consultants is no longer preferred and self-reliance is at the fore. As the proof points grow, in its place pharmaceutical companies now need to build modelling competence on a very different footing to the enthusiastic dabbling of the past. But, the question of whether they can build and sustain such simulation modelling competence quickly enough is now critical for success. It should come as no surprise that several have collaborated in creating new technology that does more, so that users now need to know less to increase the quality of their plans and recommendations. Of course, learning a new skill can be incredibly frustrating and, much like learning to drive a car or perfecting a golf swing, many people will lose interest and give up if they do not see immediate results. But project teams need not sit through several lessons, or costly consultations with experts, as the latest techniques negate the need for resource-intensive and expensive guidance. Indeed, in the current climate, managers have smaller budgets for such projects so will welcome the new rapid results approach.

Such an approach to process simulation has been achieved by further simplifying the use of process simulation software, so that non-experts can easily pick up and use the products without the need for lengthy consultation. In fact, companies adopting new process simulation techniques can expect to be up and running in days or weeks, rather than months.

Such a shift in timescales will no doubt prove highly attractive to companies who need results post-haste. Pressure to make operational improvements is only going to increase, and in order to maximise profitability in the future; pharmaceutical companies require innovative tools which deliver fast, accurate decision-making power.

CONCLUSION

A tool which incorporates multi-dimensional intelligence in order to enable scientific, evidence-based business decisions is integral to every pharmaceutical company operating in the world today. This is especially important when mergers take place, as knowing which steps to take can be tricky, and there will always be differences of opinion. Yet squabbles over the right approach can be nipped in the bud: through adding a scientific approach, process simulation calculations provide the definitive answers to which method is most beneficial.

Process simulation software has become an integral player in any pharmaceutical company's team and its importance continues to grow, particularly in the current climate where there is little time and room for error.

About the author

Steve Hemsley is Vice President of Sales and Proposition Manager for Px-SIM at Lanner Group Ltd. He joined Lanner in 2003 and heads UK and US commercial activities for Lanner's business process improvement services and software solutions. He has over 20 years' experience in business process planning, optimisation and simulation in the US, Europe and the UK in various industries, such as pharmaceutical, automotive, government, food, outsourced services, internet services, retail and logistics.
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