

LEARN PLANNING SECRETS:

First comes strategy,
process, then systems



No amount of planning allows you to see into the future. But with a flexible supply chain that can react immediately to customer demand, you give yourself the best chance of prospering in the face of the unpredictable. In the absence of a crystal ball, the next best thing is sales and operations planning.

By Anthony Doesburg

When it comes to the unpredictable, Cement Australia isn't short of examples. Take a look at some recent incident reports.

August 14: Two trailers of a Cement Australia road train tip over in Queensland, causing no injuries and without spilling their contents.

September 20: A train hauling 12 Cement Australia wagons derails 60km south of Cairns, again without injury, but closing the line for several days.

Traumatic though such events are, they're the natural risk for a business with a fleet of 250 trucks and five rail and six shipping routes – and a heavy product to move around. Cement Australia shunts millions of tonnes of raw materials and finished products up and down Australia's east coast each year. The company, which took its present shape after the merger of Australian Cement Holdings and Queensland Cement and Lime, accounts for nearly half

of Australia's cement supply. It employs more than 1400 people, racks up sales of almost A\$1 billion and has four manufacturing plants and 11 transport terminals in four states.

In these boom and bust times, demand for cement is a direct barometer of wider economic activity.

Poor planning costly

"It's a real supply chain with real challenges," says Leo van Rensburg, the company's Brisbane-based sales and operations planning chief, with a touch of understatement. The kinds of challenge he is talking about are unforeseen market upheavals that can cost millions of dollars, rather than the occasional road or rail mishap that can readily be worked around.

In 2008, the company had a costly taste of what can go wrong, when poor forecasting saw cement demand outstripping supply. "In essence, the problem started 18 months before, when we didn't see it coming. We had very poor forecast accuracy that year."

If sales projections had shown the looming spike in demand, it would have been a routine matter to import cement from China to cover the shortfall. "There's huge excess capacity in China and if you've got a long enough lead time, between three and six months, you can pretty readily schedule imports. In 2008 we were fighting to find ships to get the product in and we just couldn't do it. "We were having to use very ineffective ships that weren't suited to our product and had huge handling costs to get the

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What is S&OP?

- Stands for sales and operations planning
- An integrated business management process
- Leaders achieve focus, alignment & synchronization throughout organisation
- Process reviews customer demand & supply resources
- Focus is on future actions & projected results

Playing mind games

If your organisation struggles to match output with demand, it could be coming up against a psychological problem.

Danie Vermeulen, Chief Executive of the Auckland-based Kaizen Institute, a consultant and trainer in lean production processes, says sales and operations planning falls down when the various links in the supply chain can't rely on each other.

The 60-year-old institute is based in Switzerland and has about 300 consultants worldwide preaching Japanese-style operations planning. "It's about helping people reduce waste and gain efficiencies in their business," says Vermeulen, a veteran of Ernst & Young and former Carter Holt Harvey supply chain development manager.

A mismatch frequently occurs between what salespeople order from production and the amount of goods they've actually sold. "It's a fascinating issue and there's a whole psychology involved, I believe," Vermeulen says. "Salespeople, typically, do not have confidence in their organisations' abilities to supply what they can sell. So what they normally do is inflate their numbers so the production guys will make a little bit more just in case they sell it." That might save the salesperson the embarrassment of having to tell the customer stocks are exhausted, but it also means carrying more inventory than is needed, imposing a cost on the business.

"It becomes a bit of a joke — sales don't trust production and production don't trust sales. We should get salespeople to sell as much as they can — that's their job. But if you can let consumption dictate the business, and give the confidence to sales that they can sell anything and you'll be able to supply it, then you've got things right."

TRICKS OF THE TRADE

The trick is to build enough flexibility into the supply chain so salespeople know that if products are not immediately on hand, the wait will be minimal. "That gives sales guys the confidence they need. Don't worry about forecasts, they hate forecasts. They just want to sell. If you take forecasting away from them and have them believe

if they sell, you'll deliver. If they can have that confidence, you're in a different ball game."

Forecasting has its place for capacity planning purposes, but supply chain execution should be tied to actual demand. Macroeconomic trends are accounted for by adjusting the point at which products are re-ordered.

"If you expect a 30 per cent growth or reduction in the economy, you will cater for that in your re-order point. If it doesn't happen, you can adjust it up or down. But you never make stuff you don't need. You'll make it once, and then you'll wait to replenish it before you make it again. "Forecasting will insert that assumption in your planning and you will continuously over-produce or under-produce."

BEHIND THE REST OF THE WORLD

Vermeulen thinks New Zealand is about 10 years behind the rest of the world in S&OP practice, but is catching up fast. "Many organisations are now realising that to be competitive, this is the only way, and it's all about taking out inefficiencies and giving customers what they want. "It's a culture change, you have to change the paradigms, and that's what we teach people. Once you've seen it in action, it's a no-brainer."

"S&OP is just about bringing sales and operations into the same room in a synchronised way and saying let's agree on what we're doing, and then reviewing it. Often it's amazing that sales and marketing don't talk to the production guys, there's a wall between them. S&OP is a tool for coming together and getting an understanding using one set of production numbers and one set of performance metrics."

"The key is to reconcile that back to the lean way of thinking, and the more lean you become, the less S&OP you need. It's very achievable to reduce your inventory by at least 30 per cent. But it's much more than inventory. It's flexibility in what you can offer, and customer satisfaction will go up as quality goes up."

product into the country, and that's what really bit us."

Once bitten, twice shy

Following the merger that led to Cement Australia's formation, the company had consolidated its systems onto one ERP system, with Infor PM (Performance Management) providing "a single view of the truth". But the 2008 challenges brought home that the company needed to make fundamental process changes if it was to achieve accurate forecasting.

"The overall issue wasn't that we were out of capacity — importing is part of our business, it's designed into our practices — it was the fact that forecast accuracy was so poor that it resulted in really poor plans. It was after 2008 that we climbed in and did heart surgery on our processes. We had implemented the Infor PM solution but we ended up not completely redesigning our processes and restructuring the teams and getting real fit processes implemented, and that's where we invested the time and effort in late 2008 and early 2009."

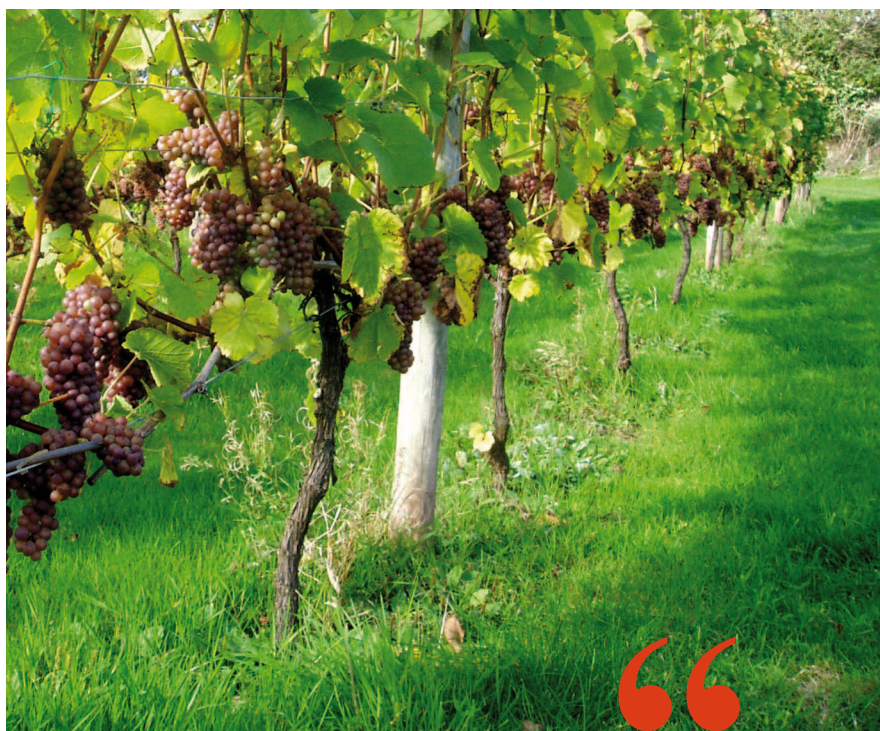
Flexibility the key

Cement Australia had discovered a fundamental feature of sales and operations planning. With S&OP, says Danie Vermeulen, an Auckland-based specialist in lean supply chain management, it's vital not to put the cart before the horse. "All the leading ERP/MRP systems claim S&OP functionality. The risk is if you implement them before you nail down the process, you will work for the system, the system won't work for you."

"For us it's always strategy first, then process, then systems. And your requirements should really dictate the system you buy. Often people buy systems too soon, implement them, then they have to do what the system tells them to."

Vermeulen places less store on forecasting than matching manufacturing output and stock levels to consumption. He acknowledges, however, that's not appropriate in all cases. "If you can get away from forecasting altogether for execution purposes, you'll be much better off. You have to understand flow and pull concepts. "In the old days people talked about just-in-time, which is really what we're still talking about, but with a very clear methodology for understanding calculations for minimum stock and management cycles."

For a manufacturer, Vermeulen says, flexibility is the key, enabling quick product changeovers and short production runs. "Often people run quite long batches because it's too time-consuming and expensive to keep on changing over all the time. Discipline is needed to accelerate changeovers so you do smaller runs and therefore your just-in-time requirements become less demanding on your



supply chain.

“In simple terms, what it means is looking at historical consumption over a long enough time to accommodate seasonality. You do need to cater for the high end of demand so you never run out. “Then you build in a stock holding that will act as a buffer. But the signal for replenishment is actual demand, or consumption.”

Fruit of the vine

French liquor company Pernod Ricard, which makes wine under the Brancott Estate, Stoneleigh and Church Road labels in New Zealand, knows the limitations of forecasting.

Salespeople, whether through innate optimism or wanting to avoid running short of stock, have a tendency to inflate planned orders by as much as 10 per cent. The answer, says Auckland-based sales and operations planning manager Tendai Masamba, is to not take forecasts at face value, but to do a reality check against historical demand.

S&OP is a crucial process for the winemaker, says Masamba, helping ensure finished products get to the right place at the right time, while avoiding a surplus of wine. That’s made all the harder by the long lead times of some of its products. “We have the challenge of knowing whether we have the right resources when orders come through and, at the same time, not wanting to commit

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*Tendai Masamba,
Sales & operations
planning manager,
Pernod Ricard
New Zealand*

too much capital. So it’s a matter of day-to-day, month-to-month balancing.”

Harder still is long-term forecasting, trying to peer five years into the future, which affects decisions about planting or pulling particular vines. The consequences of misreading the numbers can be a wine surplus, which could be damaging for Pernod Ricard’s brands, and the industry as a whole, if it pushes down prices. To guard against that eventuality, Masamba says the company treats growth forecasts conservatively, while being prepared to buy additional grapes on the open market if necessary to meet demand. “It’s a matter of creating flexibility around our supplies.”

Although not yet in use in New Zealand, Pernod Ricard in Australia uses Monte Carlo simulation software for comparing forecasts with actual demand, to understand the degree to which forecasts can be relied upon. Pernod Ricard New Zealand doesn’t use a particular S&OP tool, but takes the numbers produced by distributors’ demand planning systems and aggregates them. “In terms of analysis, we’re not doing anything complex, just looking at past patterns and what is likely to happen. Salespeople always think they will meet their targets but in practice they over-compensate by 5 to 10 per cent.”

If the company didn’t make allowance for the sales force’s overconfidence, it would face a “huge” cost, she says. Masamba says just-in-time production is the ideal, but for a business like Pernod Ricard’s, which supplies many markets and is subject to the vagaries of the climate and changing wine fashions, it’s an aspirational goal. However, where it does have relevance for the company is in determining how many bottles and labels to have on hand.

Boomerang system

Vermeulen, who runs the Kaizen Institute, a supply chain consulting and training organisation, says the organisation is in the throes of demonstrating the benefits of lean processes to a global fast-moving consumer goods producer.

“These guys would traditionally make a lot of stuff based on forecast, stack it up in a warehouse and then hope it sells. If it doesn’t sell, they discount it until they get rid of it. What we’re piloting for them is we have a specific number of goods in the finished goods warehouse and we will only make new ones once people buy those. Once they’re consumed, that’s the trigger for making the next batch.”

The next challenge is to reduce batch size so replenishment can happen more frequently. The benefits are improved customer service, inventory goes down and





product freshness increases. “In the perfect world you’ll use your point of sale data, otherwise it’s straight replenishment of what you ship. In the distribution centre, if you sell one item, you get one back — it’s called the boomerang system.

“You sell one and it comes back automatically — you don’t have to forecast it, you don’t have to plan for it, it’s just auto-replenishment, respecting, of course, certain lot sizes or manufacturing quantities of 10, 50 or 1000, say, that you can’t go below. Some things, because of their characteristics, you will never make to order, just keeping them in stock. But the preference is to go to make-to-order as much as possible.”

Concrete results

At Cement Australia, the payback from rejigging the S&OP process was immediate. This time, the unforeseen event was the global financial crisis, which caused the company the reverse of the 2008 stock shortage problem, leaving it with overcapacity.

“It’s as challenging managing a downturn as an upturn because we have these huge plants, and you can’t just turn them off — if you do that there are huge costs. So it was very important in 2009 to be as prudent around managing the overall supply-demand match and ensuring we didn’t have a similar outcome to 2008, and we did it very successfully.”

That year, says van Rensburg, who reports to Cement

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*Danie Vermeulen,
Chief Executive, Kaizen
Institute, Auckland*

Australia’s supply chain general manager, the company beat budget by A\$20 million, despite a 20 per cent fall in demand. Forecast accuracy had improved 40 per cent from one year to the next, and demurrage — the cost of shipping delays — was reduced by A\$2 million.

Further endorsement of the process improvements came when major plant failure hit the company this year. Operations planners had the details at their fingertips to be able to successfully make up the shortfall with imports of 180,000 tonnes of Chinese cement. At any time, planners are working on forecasts six weeks and 18 months ahead, van Rensburg says. “Those processes run on a daily basis. Planners talk to sales and marketing, to logistics, to shipping and the manufacturing plants, ensuring that we have a plan that’s in synch. And once a month we sit down with our whole executive, including CEO Chris Leon, and he’s a very active proponent of sales and operations planning, he really promotes it.”

Having seen the benefits of this level of planning, Cement Australia is eager to do more, by filling remaining holes in its forecasting, and integrating shipping schedules, an initiative it is pursuing with shippers of other bulk commodities. “You can’t run a supply chain without technology and every step you take has a benefits case,” van Rensburg says.

An integrated view

“The Infor PM solution sits in a highly critical area of our supply chain. It has been very effective at giving us that single source of data, that one version of the truth for the whole organisation. And the organisation has become very disciplined, using that as the single source of data, so you don’t have disparate financial forecasts. We still have spreadsheets but they’re all integrated. That’s the great strength — the bean-counters can use the Excel that they love so much but they can link it into PM and get the same version of the volume that the supply chain guys are using, the manufacturing guys are using, so it does give us an easily integrated view of the truth.

“There are still holes in our planning. There are a lot of opportunities still in using more sophisticated technology in that space. The first aim was just to get an integrated view. We have an integrated view of our supply chain with an integrated plan — tick, we’ve done that.

“The next wave is how do we further optimise this plan and manage some of the variability, which is the big challenge of supply chains. If you know about the variability, you can plan for it. If you know your sales forecasts are on average 5 per cent up, you can plan for that. But if you don’t know, you create plans that are unfeasible.” 