



Manufacturing differently

We are living in interesting times; the global economy seems to be facing an imminent slowdown and overcapacity in many industries. For manufacturers in Australia, management innovation is essential, writes Hendrik Lourens of the management consultancy Stratflow.

Professor Danny Samson, Director of the Master of Enterprise and Master of Supply Chain Management degrees at the University of Melbourne, published an article a few years ago titled *'Mega-challenges and executive strategies'*. In it he wrote: "In Australia, we face a number of challenges. With the mining boom over and industries such as automotive and many services being offshored in an increasingly high-cost Australian economy, leaders in all sectors have a daunting task in planning and executing long-term paths to prosperity."

Manufacturing as a share of the economy has been declining for many years, and even the recent weakening of the exchange rate has not had much of an effect yet. Anecdotal evidence suggests that it is becoming ever more challenging to obtain the required skills at an acceptable cost. Employee engagement in Australia is seemingly falling off a cliff, from 24% of employees highly engaged in 2013 to only 14% in 2017.

Productivity is not improving, despite the tremendous effort. Managers and employees are tired and suspicious of improvement efforts that often end up in cutting employee numbers.

In his article, Professor Samson recommends a number of strategic interventions to deal with these challenges, the first two of which are:

- Strategy 1: Put the consumer/customer at the centre of the business. Most global markets are in oversupply, so competing for the customer's attention is getting harder, and only those who are fully customer-centric will survive.
- Strategy 2: Pursue Lean operations and waste reduction in every corner of the organisation. Most organisations waste fully one-third of their resources, and big improvements are possible that flow straight to the bottom line.

These seem quite sensible, but manufacturers have been trying these strategies for years with little success. Often the way companies pursue Strategy 2 not only works against Strategy 1, but causes the low productivity and employee engagement that we see in much of the Australian manufacturing industry. In trying to optimise all parts of the operation

using traditional Command-and-Control principles, we destabilise production flow, end up with unhappy customers and make it difficult for employees to be successful and engaged.

We are in desperate need of innovation, but not the kind that involves technology and products. Based on 20 years of experience in running manufacturing companies and consulting to the industry, we at Stratflow believe innovation in manufacturing management is the missing success ingredient. Without innovation here, employees and managers will be working harder and longer with ever-diminishing returns.

Our management paradigm

At Stratflow, we are in agreement with Professor Samson that looking after the client better than your competitors do is crucial. Most manufacturing businesses have a marketing constraint; that is, they can produce more, but the market demand is not sufficient at the required margin.

To increase sales and margin they focus their efforts towards Strategy 2, trying to reduce costs through operational strategy. This typically means trying to have just enough of everything and maximising the efficiency of all the parts. The inevitable outcome is balanced capacity across the manufacturing chain. We now have moving bottlenecks, long lead times and poor due-date performance, firefighting, managers that are under pressure, finger-pointing and

blame-shifting. Customers are unhappy, and sales personnel end up dealing with customer complaints instead of selling.

The belief that reducing costs everywhere is the solution leads managers to plan production with "just enough of everything", using cost accounting principles that are unchanged from the early 1900s – a time when businesses operated in a very different way. In this way, managers hope that they will achieve high efficiency on all the parts and thus achieve the greatest productivity and lowest cost for the system.

This is a fundamental mistake, made worse by the continued (incorrect) application of Command-and-Control ideas first highlighted by FW Taylor over a century ago. Command-and-Control is valuable but takes the ability to fix the system away from workers. Workers become cogs in a machine, replaceable and required only to follow directions.

Changing the paradigm

What we need is a production system that ensures the flow of the right amount of product, at the right time, all at a lower cost and with shorter lead times. Furthermore, we want to unleash the abilities of workers and managers to achieve this without losing command of the situation. How can we do this?

The most powerful management efforts focus on changing the accepted best practice management paradigms. The British occupational psychologist and





management guru John Seddon says: "Forget your people. Real leaders act on the system. Real leaders redesign the system to meet demand. When leaders act on the system, customers cheer, costs fall, and the culture change comes free."

At Stratflow we have developed the Productivity Platform, based on principles of Theory of Constraints (TOC) and Dialogic Organisational Development, to make this possible.

The Productivity Platform makes the overall goal of the system clear – it identifies and communicates the role of each person and department in achieving that (by getting work to flow faster through bottleneck areas) and changes the management paradigm to one where we manage the overall system for greatest effectiveness and efficiency. The increased clarity of purpose, advance warning of problems, alignment and trust enables production flow to increase by 20% to 30%, using the same resources. This enables employees and managers to not only decrease lead time and increase volume, but also to ensure that the right product is available at the right time.

The Productivity Platform creates a platform where managers and employees can safely practice the new way of managing, without getting rid of the beneficial characteristics of Command-and-Control and Hierarchy. It reduces the levers to control to the absolute minimum and unshackles employees to do what needs to be done for the good of the whole. In this manner, the information overload that impedes many management teams is substantially reduced. It creates an environment where employees have a purpose, can achieve mastery and have more autonomy.

With a newly created optimised flow capability, it is now possible to satisfy the customer's significant need more effectively

than any competitor. This need is typically for shorter lead times, full availability of items, or significantly improved due-date performance. The example below sets out a situation where optimised flow was used in synergy with a marketing strategy to simultaneously satisfy Professor Samson's strategies. Productivity and employee engagement dramatically improved.

Case study: Polyester panel roof sheeting business

A roof sheeting business was about to be closed down due to years of declining performance. Sales had been falling for five years. Lead times were six to seven weeks, but as long as ten weeks on some items. Customers were desperately unhappy; their lead time preference was often less than three weeks.

Interdepartmental relationships were poor; the one thing everyone agreed on was that the Production Department was underperforming. Production morale and engagement was poor. The production planner had a nervous breakdown trying to manage orders under these conflicting requirements.

Intervention: After establishing the Productivity Platform and improving production flow, the sales quotation process was changed. The Theory of Constraints buffer replenishment system enabled all-round availability on selected Make to Stock (MTS) items; stock and capacity buffers ensured Make to Order (MTO) reliability. Marketing capitalised on the improved capability by offering industrial customers reliable two-week lead times, and for commercial customers availability and higher stock turns.

Results: Customers loved the new market offering; employee engagement improved noticeably; the planner became a different person. Lead times of six to 10 weeks were

reduced down to two weeks; no stockouts occurred and there were almost no late deliveries. Sales personnel and customers started supporting the business again. Margins quickly increased by 20%.

Three years later, margins had increased by 66%, a compound annual growth rate of 19%. Sales volume had increased by 69%.

Conclusion

We believe that the obstacle to engaging workers and improving productivity is widespread "optimise everything" mental models in combination with excessive Command-and-Control activities. This leads to a focus on the performance of individual departments and employees at the expense of overall system performance.

In this manner, managers destabilise the flow of work and overload their cognitive abilities, since everything becomes important and in need of constant attention and adjustment. Work becomes difficult for them and their subordinates. The Theory of Constraints holds that expending time and resources on non-bottlenecks areas is unproductive and prevents breakthrough results from being achieved.

Manufacturing Differently is about embracing technology and process to enable humans, not the other way round. Automation, data-driven supply chain and outsourcing can boost productivity and innovation. However, if you lead with classical management theory and treat people as replaceable cogs in a machine, the outcome will be troubled relationships with your employees, unhappy customers and lower margin.

By implementing a Productivity Platform we unshackle employees and managers from the worst consequences of Command-and-Control and improve psychological safety, trust and unity of purpose. The resultant reduction in lead time, improved due-date performance and lower costs make it possible to offer highly competitive terms to the market and to grow market share and margin. Now Strategy 1 and 2 can be executed synergistically, to the benefit of client and manufacturer. The joy that managers and workers experience from becoming successful ensures that we get culture change without the need for a culture change program.

Hendrik Lourens is a Sydney-based management consultant and owner of Stratflow. He has turned around manufacturers and improved the safety & productivity of mining and construction companies as well as published in various journals on efficiency and innovation.
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