



Lean'ing On Six Sigma



Its all about complementing and using each other's strengths. Bringing the two concepts of Lean and Six Sigma together delivers faster results by establishing baseline performance levels. Once Lean techniques eliminate much of the noise from a process, Six Sigma offers a sequential problem-solving procedure that ensures potential causes are not overlooked and viable solutions to chronic problems are discovered. Sanjeev Baitmangalkar, CEO of Stratmann Consulting and Kaizen expert shares his views...

business, yet every company cannot apply them successfully. So, it had to come from a deeper philosophy of understanding people and the human motivation. Our success would depend on our ability to cultivate leadership, teams and culture, develop a strategy, build supplier relationships and build a learning organisation.

Many companies show the lean projects they have undertaken. Some have done good work. But, they are amateurs, as they do not go beyond applying a few lean tools and believe they are lean. They have been at it for many years and have even been helped by different industry organisations and consultants, but have been able to make little progress. They have plenty of wall paper plastered all over depicting their intent about 5S, Kaizen, maps etc. But on the ground it's the same story - lots of inventory sitting and waiting, long and imbalanced lead times, etc. Mere tools alone will never build a successful lean story. Most companies have misunderstood 'lean tools' for 'lean thinking'. Lean thinking involves a far deeper and an all-encompassing cultural transformation that most can't even begin to imagine.

When I took charge of the Bridgeport's joint venture in South East Asia, it took me less than six months to turn this company around using some lean thinking. For a company that had existed for five years with infrastructure and resources including Bridgeport managers;

► **"T**here is nothing like returning to a place, that remains unchanged to find the ways in which you yourself have altered"- writes Nelson Mandela in 'A Long Walk To Freedom'. One's success in life isn't based on the ability to simply change. It is based on one's ability to change faster than one's competitors, customers and business. At the beginning of the 90s, when I began to re-layout the factory on the basis of 'pull' and 'flow', what captivated me was the result of the just-in-time (JIT) techniques. As we worked on pulling and flowing assemblies and parts, the inventory began to disappear, lead-times began to shrink, involvement of people increased and

quality improved. The JIT tools such as quick set-up changes, standardised work, poka-yoke, equipment maintenance and Kanban systems etc. all support in creating flow. I realised that these strategic gains could only be retained by building a lean culture.

To do this, I had to promote a culture of continuous learning. This was possible by committing to continuously invest in my people. It was easy to work on the mapping process, weeding out wastes and enhancing the added value. This process is simple and anyone can understand. The bigger question before me was how to build it into everybody's daily routine? Tools and techniques are no secret weapon for transforming a

► **Bringing about radical changes will only succeed when it becomes number one strategic intent of the organisation.**

the company had never produced a single machine! To change it, all we did was change the thinking.

The easy part of the work was to establish production cells, solve problems, standardise work, develop Kanban system, etc., which had got us appreciable results on inventory, quality, vastly improved cash flow and profitability. But, the big question before me was, does it all end here? We yearned to become totally lean, by eliminating wasted time and resources, building quality into our workplace systems, finding low cost technologies, perfecting our business processes and building a learning culture for continuous improvement. Once this was implemented, we could then leverage the benefits to add greater value to our customers, open new market segments, increase market share and offer better value to the stakeholders and the society at large.



CHANGE IN CULTURE & STRATEGY

Culture and strategy are the double helix in the lean process. They are like the two wings of a plane; you cannot fly using only one. Implementing strategy is the easy part, because it has tools and techniques that can be taught to and understood by the logical minds. Most organisations and consultants out there do just that and like to believe that the organisation has gone lean. Actually, it will be a far cry away even though one may get a few results. Building a culture is changing the way how a company thinks and does things. This is more crucial to an organisation's success because of two reasons. Firstly, foundation must be laid on sound philosophy and secondly, everyday there will be many crossroads, where one has to make decisions, be it issues of delivery, clarity of the order, dispatch clearance, shortage of material, design

DEFYING 'LEAN' PERIOD

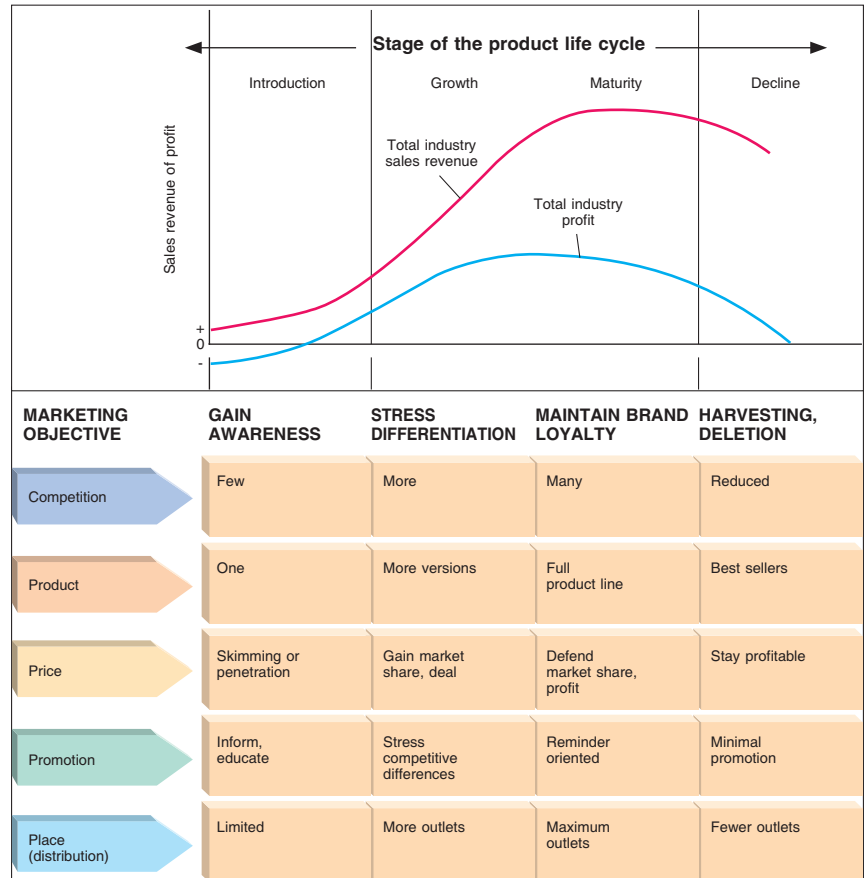
A recession or a lean period does not mean that it is the time for entrepreneurs to shelve their ideas and wait and watch. In contrast, it is a great time to start a business and seize opportunity. In the history of businesses, a number of entrepreneurs accepted recessions as a time of opportunity and most of them grabbed extraordinary success.

SUCCESS KNOWS NO RECESSION--Let's consider some success stories that started during different recessionary phases of economy: Walt and Roy Disney started **Walt Disney Company** during the recession of 1923-24; William (Bill) Hewlett and David (Dave) Packard started **Hewlett-Packard Company** in a garage during the Great Depression (in 1938); Larry Page and Sergey Brin started **Google** in 1998 at a friend's garage while the US economy was reeling under effects of dot com bust (1995-2001); Jerry Yang and David Filo started **Yahoo!** in 1995; and finally, 16 of the 30 corporations that make up the Dow Jones industrial average, they all started their businesses during different recessions.

changes, quality problems, escalating costs etc. How one thinks and decides in those moments of time will determine whether the organisation will ever become lean.

If there is a vehement desire amongst

the top management to belong to that elite league of lean manufacturers, then why do most fall short? Author and consultant James Womack said on his visit to Mumbai that he isn't at all impressed with the work on lean





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The problems are never with the workforce. They are always with the management. And the greatest management barrier in India is simply that most managers don't know what is possible. Indian managers could be changing their own working lives, the lives of their workforce, the prospects for their companies and the standard of living for the whole country if they only understood the basic lean principles. Some Indian managers seem to like theory in the conference room more than practice on the 'gemba', the place where value in engineering, sales, production, purchasing or any other activity is actually created ”

- James Womack

manufacturing by Indian companies and that says it all. It's also because there is an important dimension of leadership. There appears a great desire for lean results, but at the same time, there is reluctance to change. These changes in the thinking have to start at the top. Transformation is to lead from the top and not be sub-contracted to the middle. It is the change in thinking and doing things. The culture is built from the top. One cannot expect discrete thinking only at the top and expect lean results.

Some organisations tend to treat the transformation process as something to be done during their slack times. Some companies cite various reasons that prevent them from commencing their lean journey. One must remember that giving it lip service will get the organisation nowhere. They look like a cow waiting for the grass to grow. The need is to change the thinking right from the top. Bringing about such radical changes will only succeed when it becomes number one strategic intent of an organisation. It's like what psychiatrist James Gordon said, "It's not that some people have the will power and others don't. It's that some people are ready to change and others are not."

LEAN LEADERSHIP

Success is not the result of spontaneous combustion; one must set oneself on fire. Our performance results measured over three years at a company were:

- 94 per cent reduction in order to delivery times
- 87 per cent reduction in product build lead times
- 96 per cent reduction in major component manufacturing lead times
- 99 per cent improvement in quality
- 143 per cent improvement in output
- 500 per cent increase in sales (during recession and debilitated market times)

- 1,170 per cent improvement in inventory turn ratio to sales
- 1,100 per cent improvement in market share
- 29 per cent permanent price reduction (not discount) given to customers for all products
- 435 per cent improvement in ERE to sales ratio
- 40 per cent reduction in floor space utilisation
- 25 per cent reduction in manpower
- Profits increased well over fifteen times
- Excellent cash flow, not dependent on bank borrowings
- Highly motivated work force ... and more ...

TRANSFORMATION IN RESISTANCE, POLITICS & MANAGEMENT

I have found that the resistance to change is more at the senior levels and less with the workmen. One can overcome this resistance by concurrently talking to everyone and honestly explaining the

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purpose. One can initiate changes through concurrent actions at all levels. That is to say the workmen can be involved right from the mapping process. They can participate in drawing the revisions of the layouts. You can help them in implementing the changes. So, they are now involved and motivated. You can also help them form quality circles and teach them their roles and responsibilities. Thus, one can define and document new ways of approach to solve problems and behavioural expectations when at cross roads or overcoming hurdles.

We allowed competitions and encouraged them in a positive way. The managers led their value streams from the front and facilitated these processes. The supervisors and managers would gather in the evenings four days a week and one or two would speak about problems solved or on a subject of relevance. This helped cross-functional learning and also boosted their self-development skills. From managers to shop floor workers performing value added work, we challenged the people to use their initiative and creativity to experiment and learn. And, it's out of this learning that we produced those results.

Many do not understand this easily, particularly those who come from the practices set out of American or European industrial systems especially, the white collared desk workers in their ivory towers and those who are physically disconnected from their value stream. Their standard line of attack seems to be on reducing manpower, merging different business units and make believe they have cut down administrative costs to some extent. The solution they need is usually entirely different. For them, the first thought is about deliverables and they only understand it when tabulated in a quarterly format. They have no concept about how much time it could take to map a value stream and successfully implement its future state. Neither do they have any clue nor do they understand that huge costs are hidden in the wastes their business process generates. But they sit for discussions and make decisions on subjects that have neither been in their comprehension nor experience.

BEYOND TOOLS

This is also a reason why many companies hesitate to embark on the lean journey or where intentions don't see daylight.



They fiddle around with tools such as 5S, Kaizen, TPM, Six Sigma etc. and believe that they are on the lean journey. They embrace the tools but do not know what holds them together in a system. Typically, managements adopt a few of them and even struggle to go beyond their amateurish application to create a system. Most find it easy to work in the process area without adapting long term thinking, growing people and partners and building in continuous learning. So, they will dabble because the improvements they make will not have the heart and intelligence behind them to make them sustainable throughout the company. And, their performance will

continue to lag behind those who adopt the culture of true continuous learning.

All it takes to do is commitment. Commitment is not lip speak, it is demonstrated through actions. "Commitment is the enemy of resistance, it is the serious promise to press on, to get up, no matter how many times you are knocked down," says noted author David McNally. SG Shirgurkar, Managing Director of ACE Designers, once said, "We have to overcome our internal resistance to accepting external help."

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Just-in time techniques (JIT) was first used by the Ford Motor Company as described explicitly by Henry Ford's 'My Life and Work' (1923). The technique was subsequently adopted and publicised by Toyota Motor Corporation of Japan as part of its Toyota Production System (TPS).

Just remember that if you're not working at your game to the utmost of your ability, there will be someone out there with equal ability. And, one day you'll play each other and he'll have the advantage. "Change has a considerable psychological impact on the human mind. To the fearful, it is threatening because it means that things may get worse. To the hopeful, it is encouraging because things may get better. To the confident, it is inspiring because the challenge exists to make things better," said King Whitney Jr President Personnel Laboratory Inc. It can be hoped that more companies in India will take to lean manufacturing and deliver better value to customers.

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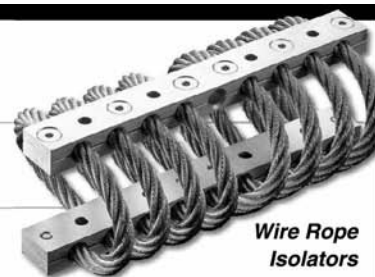


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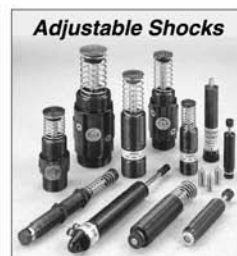


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