



Lean manufacturing

Why are not more companies lean?

In the hundreds of companies that he has either worked with or trained in, has brought him in contact with brilliant managers passionate about their work and eager to lead the lean project in their organisations. One of the questions that is in everyone's mind is why most companies do not succeed in becoming true lean enterprises? The author, using a case from his experience, seeks to explain why, and also the importance and role of culture, strategy, leadership and sensei...

Sanjeev Baitmangalkar

"The secret of joy in work is contained in one word - excellence. To know how to do something well is to enjoy it."
- Pearl S Buck

Back in the mid seventies, when I was asked to re-layout our factory on the concepts of Group Technology, I was excited doing it as a trainee. I saw the remarkable difference it made compared to the historic layout that existed then. Later, at the beginning of the nineties when I began to re-layout our factory on the basis of 'pull' and 'flow', I was captivated by the results of such techniques. As I worked on pulling and flowing assemblies and parts, something not seen before began to happen – inventory began to disappear, lead-times and setup times began to shrink, involvement of people increased, and quality began to improve.

Building a culture

The various supporting tools such as quick change over, standardised work,

poka-yoke, equipment maintenance, kanban system, etc were necessary to create flow. I quickly realised that this was merely the strategy whereas more importantly I needed to build the culture that could sustain its gains.

To do this, I had to promote a culture of continuous improvement by committing to continuously invest in my people. I knew it was easy to work on mapping our processes, weeding out lots of wastes and enhancing our value-added ratio. This is the process that is simple and everyone could understand. And as we did it more than once we began to see that it improved the quality as well. The bigger question before me was how to build it into everybody's daily habits.

I visit many companies. Some of them like to show off their favourite lean projects

they have undertaken. And mind you, they have done some good work. But these rank amateurs do not go beyond applying a few lean tools and tend to believe they are lean. Many have told me during my seminars that their companies have been at it for many years and have even been helped by different industry or consulting organisations, but have gone nowhere. While I see frustration in their minds, I am not surprised at all, for long ago I learnt that mere tools alone will never build a lean enterprise. So where does the problem lie? I think most companies have mistaken 'lean tools' for 'lean thinking'. Lean thinking involves a far deeper and all-encompassing cultural transformation that most can't even begin to imagine.

Among the examples I use when I speak on the subject of lean manufacturing is one of Mysore Kirloskar, not because I was part of it, but because it is such a fantastic case to learn from; the difference in the two kinds of thinking – the perils of discrete thinking versus the benefits of lean. The simpler part was to establish production cells, solving the problems, standardising work, kanban system, etc. This 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 hungered to become absolutely lean, by eliminating wasted time and resource, building quality into our workplace systems, finding low-cost technologies, perfecting our business processes, and building a learning culture for continuous improvement. We could then leverage the benefits to add far greater value to our customers, open up new market segments, increase our market share, and add greater value to our stakeholders and the society at large.

There are two things here: one is the strategy and the other is culture. Implementing strategy is the easy part as it involves tools and techniques that can be taught to and understood by people. Most organisations and consultants out there do just that and you may believe that you have gone lean. Actually you will not. Building the culture is changing the way of how



The first team to visit us from Toyota Group - they came, they saw and were conquered

you think and do things. Why is this more decisive to your success? Because everyday you will come to many intersections on your journey; intersections where you have to make decisions – be it delivery issues, shortage of material, design changes, quality issues, cycle times, absenteeism, equipment

“ We have been practicing few tools like 5S and TPM. I am a trainer in these areas in my company. I thought we were doing lean manufacturing. But after listening to Sanjeev Baitmangalkar I have learnt that there is something else far more important and critical in the process than just application of lean tools; and that is building the lean thinking and lean culture.

I shall now try to do that ”

R Duraisamy, director-Manufacturing,
Autoliv India and vice chairman,
QCFI Bangalore Chapter

problems etc – and how you think and decide will determine whether you will ever go lean. If there is a vehement desire in all managements and CEOs to belong to that elite club of lean manufacturers, then why do most fail? It's because there is a third important dimension and that is leadership. Transformation is lead from the top (front) and not subcontracted to the middle. Bringing about such radical changes will only succeed when it becomes the number one strategic intent of organisations. "It's not that some people have the will power



Flow is the key to achieving best quality at the lowest cost with high safety and moral

and others do not. It's that some people are ready to change and others are not," said psychiatrist James Gordon.

Implementing a decision

At Mysore Kirloskar, my managing director took the decision to implement 'Lean Manufacturing System' at the Hubli plant and then supported it completely. I led the implementation at ground zero and it was my responsibility to succeed. In case of all issues the buck stopped with me. Although there must have been numerous attempts to derail our transformational efforts coming from lateral pressures, I must credit him for understanding those critical junctures and allowing us to take decisions that would benefit the company in the long term even if we had to make sacrifices in the short term. At every junction we had two choices: one which we could cover up the situation with discrete thinking, and the other to stop the process that was producing any variation, get down to the spot and solve the problem at the grass root level even if it took time. Every time we chose the latter we multiplied our success and vastly improved our results. "I think a hero is an ordinary individual who finds strength to persevere and endure in spite of overwhelming obstacles," said actor Christopher Reeves.

Success is not the result of spontaneous combustion; you must set yourself on fire. "You can be anything you want to be, if only you believe with sufficient conviction

and act in accordance with your faith; for whatever the mind can conceive and believe, the mind can achieve," wrote Napoleon Hill. The performance results measured over a three-year time frame were as follows:

- 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
- Profits increased well over fifteen times
- Excellent cash flow, no bank borrowings
- 40 per cent reduction in floor space utilisation
- 25per cent reduction in man power
- Highly motivated work force, and more

Devising a habit

One thing I never did was benchmark for comparison. I constantly monitored over two dozen key performance measurements on a daily and weekly basis. I looked at which way the graphs were headed. I would intervene to increase the slope when and where required. We set our own standards for improvement by challenging ourselves and then it became a way of habit to surprise ourselves. In the process we learnt the Aristotle principle, "It is possible to fail in many ways ... while to succeed is possible only in one way."

For a company that was among the few who pioneered the just-in-time concept in India in the early 90's these results appear astounding. Yet when I compare it to the results that Toyota produces, we were rank amateurs. I provided the leadership

and built the lean thinking culture but, I think we would have produced even far greater results in lesser time if we had the privilege of being assisted by a Sensei. “How should we choose a Sensei?” I have been asked. There are many theoreticians and single tool experts floating around. I think you should look for someone who has led successfully and transformed one or more discrete companies to become lean from the CEO’s chair. Only such a person would have succeeded working also on areas of philosophy and culture (besides tools), which would have given his company those phenomenal results.

The resistance to change is more in the senior levels and less with the workmen. We overcame this resistance by concurrently talking to everyone, honestly explaining our purpose, we had no hidden agenda. We initiated changes through concurrent actions at all levels. The workmen were involved in the mapping process. We helped them draw the revision to our layouts. We helped them implement the changes. They were now involved and fired up. Motivation level soared. We helped them form ‘Quality Circles’ and taught them their roles and responsibilities. The number of problems they identified and solved was amazing.

Initiating a system

We allowed competitions and encouraged them in a positive way. The biggest reward the winners got was having a cup of tea with me, never anything monetary. 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 on any subject of relevance. This helped cross-functional learning and also their self-development. In the initial phases, I would personally invest four to five hours a day in teaching and honing the system. From managers to shop floor workers performing value-added work, we challenged the people to use their initiative and creativity to experiment and learn. When I say this, many managers shirk,



Identifying root causes of problems and preventing them from occurring is the focus of continuous learning

but if you want those results you will have to make similar commitment as I did. “Always remember your own resolution to succeed is more important than any one thing,” Abraham Lincoln.

Many do not understand this easily, particularly if they come from the practices set out of American or German industrial systems, especially those white-collared desk workers in their ivory towers and those who are physically disconnected by location from their value stream. For them the first thought is about deliverables and then they only understand it when tabulated in a quarterly format. They have no notion about how much time it could take to map a value stream and successfully implement its future state. Neither do they have any clue on how many such mapping exercises have to be done before we have a winning solution. But they sit in discussions and make decisions on subjects that have neither been in their experience nor a subject they can comprehend.

Think lean

This is also a reason why many companies do not embark on the lean journey. What do they do then? Fiddle around with tools such as 5S, Kaizen, TPM, Six Sigma, etc and like to 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 the 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 it is your commitment. Commitment is not what you say, it is what you do. "Commitment is the enemy of resistance, for it is the serious promise to press on, to get up, no matter how many times you are knocked down," said noted international business speaker and writer David McNally. I wish you well on your journey, and hope you will commit yourself to just doing it. Shrinivas G Shirgurkar, managing director of ACE Designers once told me: "We have to overcome our internal resistance to accept external help." And I think he

was speaking of the human attitude at large. Understand this, "what do you get by merely dabbling with the idea without producing those results?" Especially if you think you have been working at it for some years. Is the struggle more important to you than your results? Don't blame the environment, hold yourself responsible. Make the commitment, get some help and leapfrog forward. Just remember that if you're not working at your game to the utmost of your ability, there will be someone out there somewhere with equal ability who is. And one day you'll play each other, and he'll have the advantage. I hope you will "just do it."

"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. **MMT**



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