

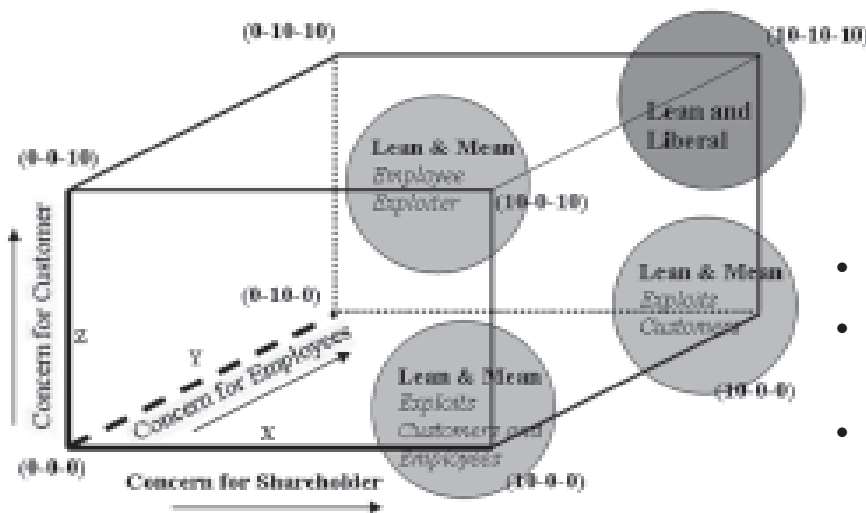
Ethical concepts in Lean Management

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Lean Management is being adopted by an increasing number of our industries to enhance performance. It is indeed, an important and 'simple to use tool' with the involvement of people as teams, developing at the same time an achievement oriented work culture. The lean way is indeed a major initiative to enhance competitiveness. But I do not subscribe to the "Lean and Mean" way as practiced by some but

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recommend strongly the "lean and liberal way". The Lean and Mean emphasize a certain ruthlessness in the practice of lean management, especially in dealing with employees and customers, and keep competitiveness and profit and the well being of shareholders as the major objective. But excellent



- Lean - To eliminate / reduce wastes of resources
- Lean & Mean - Ruthless, consideration for the share holder profit / dividend / growth
- Lean & Liberal - Satisfaction and well-being of all the stakeholders: Customers, Vendors, Employees, Share holders, Society and Environment

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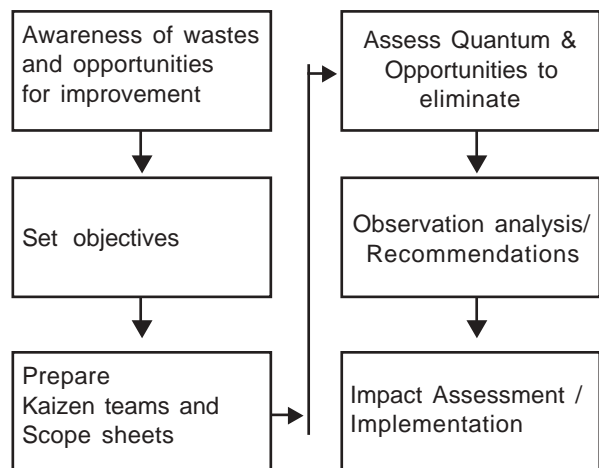
organizations world wide, will have great concern for the well-being of their employees, customers and the society and environment, in addition to the well-being of the owners / shareholders. Only such organizations will be capable of sustained success in Lean Management. So we do not want “Lean and Mean” but we want “Lean and Liberal.” Lean to minimize wastage of resources, be it materials, money, time, plant and machinery, rejection and re-work etc.. and “liberal” for the satisfaction and well-being of all the stake holders ; customers, employees, shareholders and the society. “Lean and Liberal” is the way for sustainable global competitiveness and excellence in performance.

The Lean way:

The lean way is a management concept with zero tolerance for waste. There are hidden wastes in manufacturing as well as service industries, hidden in all the process employed. Such wastes come in many forms such as excess manpower, idle machinery and plants, excess inventory, over production, over processing and inspection, defects, rework, rejection, waste of space, time waste due to waiting, transportation (movement of men, materials, inventory), waste of energy, etc. Such wastes add to the cost of a product or service and do not add any value to the customer. The “Lean way” consist of identification and elimination of such wastes.

It is encouraged by the top (corporate or dimensional management) but operated at grassroots level in the shops, offices and such localized areas work centre wise for small or big but continuous improvements, by small teams of people cutting across all the concerned disciplines; for example production / service, quality, stores, finance, personnel etc. As in the case of “Value Engineering” multidisciplinary cross functional team will work best. Someone from outside the ‘work centre’ being assessed should be included as s/he will provide unbiased eyes and question the existing process and practices more openly. People from within the work centre alone may not be able to do so as they might have become used to the routine ways. They also need to be trained to question / examine the current process and identify wastes.

LEAN FLOW SHEET



LEAN DYNAMICS

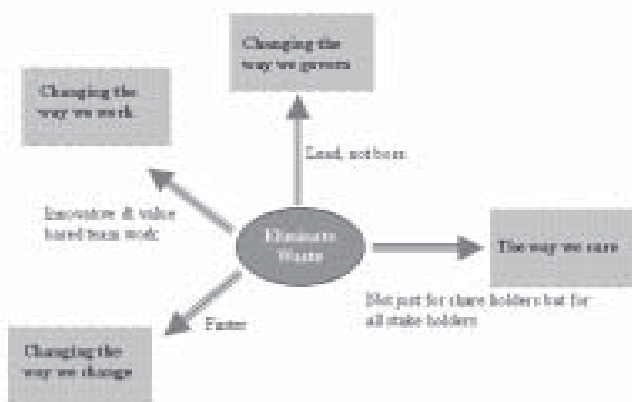


While the “Lean” is implemented “work centre” wise, the plan must cover the entire organization including manufacturing / service activities and all other support & service activities, such as HR, marketing, sales, finance, purchase, customer supports, all of which will impact the organizational performance. Wastes exist in all such departments also.

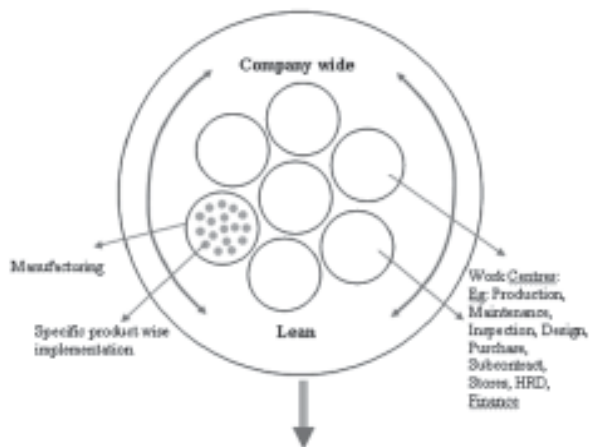
Training and orientation / preparation of executives from all departments, for example HR, finance, commerce, production, quality control,

maintenance etc., are important in addition to training at the grassroots level. The executives should be trained to identify the opportunities and potential for cost saving, customer delight, employee welfare etc. and leadership required for lean management. There is a need for change, the way we govern / manage, the way we plan and work and the way we change.

CHANGE FOR LEAN



**COMPANY WIDE
PRODUCT / SERVICE SPECIFIC
CONTINUOUS IMPROVEMENT**



- *Multidisciplinary cross functional team with some outsiders - unbiased*
- *Training and orientation of team members*
- *Training and commitment of seniors / top executives*
- *Product / service focused small, but continuous improvements*
- *Cover entire organization (manufacturing / service and administrative)*

Hidden Wastes :

Excess Inventory will only add costs to the operation as overheads do not add value to the product. While bulk orders for long term requirements may be resorted to save procurement costs, staggered delivery on demand to meet “Just in Time” requirements or to maintain approved stock levels based on optimized production schedules should be agreed and maintained with vendors.

Over Production is producing more than what is needed to supply. This will produce wastes in the form of excess work in progress and finished goods and the company will suffer financially. Also there is associated time wastes for the production of excess quantities, and storage space waste to store the excess production.

Defect Rejection / Rework: lead to wastes of materials, time, and negatively impact customer confidence. These wastes can be reduced by proper technology, standard operating procedure and process controls. Cause and effect or fish-bone diagrams are used to analyze the cause and take corrective action.

Waste of Space: can be reduced by proper layouts, removing clutter and unwanted materials, and by modern stores and JIT inventory.

Motion Waste: is avoidable movement of materials, **work in progress**, product and people. Workers walk to canteen and back, stores and back, or with semi finished goods from work centre to work centre, etc. Also products during their manufacturing cycle are moved from work centre to work centre sometimes, far apart from one another for undergoing various operations such as cutting, deburring machining, heat treatment, plating, NDT etc. These may add up to several kilometers. This is minimized by mapping physical flow of work process and materials and relay out of machines / work centres or by adapting group technologies, cellular manufacturing etc.

Waiting Time Waste: Occurs when machine and work process wait for materials or WIP from previous work centre, tools and standard items from stores etc or due to machine breakdown when the work and materials are ready etc. Time waste also occurs due to excessive movement of work person and materials **during** the manufacturing process cycle.

Waste due to redundant operations and poor technology occurs when processes are not optimized. This will lead to longer lead times and waste of labor. Application of modern IT enabled technologies, concurrent engineering product life cycle management, CNC machining centre, and flexible manufacturing systems, automation in manufacturing and inspection etc. are used to enable high productivity, reducing lead time and redundant operations waste.

Techniques for Lean

Organizations practicing ‘Lean way’ use several technologies for lean management to eliminate / reduce wastes. Combination of tools used in each case will depend on the type of wastes and the experience of the advisor / consultant and the team. Briefly the techniques consist of work place organization (the 5 S system), Time Management, Total Productivity and Maintenance Management, Cellular Layouts, Value Stream Mapping, Standard Operation Procedures, Just In Time Inventories, Kanbans, Visual Controls, Line Balancing, Mistake Proofing & Total Quality Management, Quality Circles, Suggestion Forums, Quick Change Overs and Flexible Manufacturing Systems etc. Many of the techniques compliment each other and are used in combination. I propose not to discuss details of these, as such details are available in several publications. I shall take up a few case studies and illustrate the lean management implementation and benefits based on my experience in some high tech engineering industries.

MATRIX OF WASTES → & LEAN TECHNIQUES ↓	<i>Inventories</i>	<i>Over Production</i>	<i>Rework/ Rejection</i>	<i>Waiting Time</i>	<i>Motion / Transportation</i>	<i>Motion / Transportation</i>	<i>Surplus manpower</i>
<i>VRS / Lay off</i>							
<i>Training & Redeployment</i>							
<i>Work place organization (5S)</i>							
<i>Time Management TPM Cellular Layouts</i>							
<i>VSM</i>							
<i>SOP</i>							
<i>JIT</i>							
<i>Kanbans</i>							
<i>Visual Controls</i>							
<i>Line Balancing</i>							
<i>TQM, QC</i>							
<i>IT Enabled process</i>							
<i>Quick Change overs</i>							
<i>Value Analysis</i>							

Ethics and values in Lean Management :

‘Lean Management’ as a concept has come from the industrially advanced countries. This is so with many other management processes, tools and techniques, for example TQM, TPM, Value Analysis, Concurrent Engineering, Product life cycle management etc. Many of these are complimentary to each other. An important value we must have is “humility” to learn and practice the “lean way”, in accordance with own heritage philosophy :

'Aa no bhadrah kratavo Yantu vishvatah.'

Let noble thoughts come to us from everywhere.

Fortunately 'Lean ways' are simple, not complex and involved low technology, common sense and innovative thinking. Lean ways are embedded in our values and manifested as simple habits in our day to day life and can be nurtured and applied in the work place. Lean is not for competitive survival of the fittest with a ruthlessness, but for co-operation, team work and well-being of all the stake holders. Focus on individuals, self interests, rights and privileges is shifted to responsibility and accountability. Profit and competitiveness are synergized with customer satisfaction, employee welfare and value addition to society. The 'lean team' move from static to innovative and creative thinking replacing red tape and routine, with mission oriented action plans to fulfill objectives.

'Lean' is implemented by people, the lean ways, tools are techniques form the technology which is one part, the other being 'people'. Quality of implementation will depend on the quality of mind with embedded ethics, values and wisdom.

Our heritage values exhort that 'work is worship'. Work adding value & service to society, animals, environment, is indeed worship of the creator. The better we do our work, the better is our worship.

In 'Lean way' there is no end of the task, there are only milestone of achievement of set objective. Kaizen is for continuous improvement. There is no finish line there is no stoppage of work. Members of the lean team are "*Karmayogies*" as Bhagawan Krishna. He told Arjuna in Bhagavad Gita

*"Na me partha astikartavyam Trishu lokeshu kinchana
Nanavaptamaptavyam Varta eva cha karmani
Partha I have no pending works in all the worlds,
Nothing to attain and nothing to do, but I always work."*

Once I conducted a seminar on 'Lean Management' for our MBA Students. Many experts

made presentations for the benefit of the students. One of the experts summarized that lean way is developing respect.

- Respect for time, punctuality, delivery schedules, reduced waste of time.
- Respect for materials, control inventory, store properly, world class materials, handling facility, avoiding waste of materials.
- Respect for Work place, good layout, avoid clutter, every thing tools, parts etc. in place, organized files, documents etc.
- Respect for machines, use safely, maintain impeccably, do not overload, clean and shine.
- Respect for process, establish standard operation process, remove redundant (non value adding) process, innovate and improve
- Respect for Customers
- Respect for organization, its mission and objectives.
- Respect for environment. Respect for share holders, Value creation, profit and growth.

In conclusion the core value of ethics in Lean Management can be defined as establishing benefits for the organisation, sharing of the benefits with all the stake holdres (the customers, employees, vendors, subordinates, share holders and the society), transparency in overall benefits and preserving the environment and socio-cultural heritage.

*Sarve bhavantu sukhinah: Sarve santu niramayah:
Sarve bhadrani pasyantu ma kascit duhkhabhag bhavet
Lokassamastah Sukhino Bhavantu
Om Shanthi Shanthi Shanti*
