



Organizational Development: The Missing Link in Lean Transformations

Introduction

Lean Manufacturing is an operational strategy oriented toward achieving the shortest possible cycle time by eliminating waste. It is derived from the Toyota Production System and its key thrust is to increase the value-added work by eliminating waste and reducing incidental work. The technique often decreases the time between a customer order and shipment, and it is designed to radically improve profitability, customer satisfaction, throughput time, and employee morale.

The benefits generally are lower costs, higher quality, and shorter lead times. The term "lean manufacturing" is coined to represent half the human effort in the company, half the manufacturing space, half the investment in tools, and half the engineering hours to develop a new product in half the time.

Taking dramatic steps to become agile is necessary to be a manufacturing or distribution contender in the next decade. Organizations must focus on moving information and products quickly through the entire supply chain, distribution, assembly, manufacture, and supply. All physical events must be enacted swiftly, accurately, and effectively. The faster that parts, information and decisions flow through an organization, the faster it can respond to customer needs and orders.

The Issues

Lean Manufacturing is in direct opposition with traditional manufacturing approaches characterized by use of economic order quantities, high capacity utilization, and high inventory. In changing from a traditional environment to one of lean production, cultural issues emerge quickly, as well as resistance to change. A managing change program is needed to accompany the effort.

But becoming a lean, world class company requires overcoming organizational inertia. Often overlooked are outdated cultures, ineffective management skills, untrained workers, bureaucratic red tape, and traditional pay and reward systems that do not fit. In a Lean Manufacturing transition, factories, systems, and organizations have to be streamlined. Lines of communications have to be opened. Barriers between departments have to be dismantled, and you must put an end to the "we've always done it that way" argument. To be successful, employees must be highly involved in assuming new skills and responsibilities. Consider the following:

(1) Organization culture is a major factor in success. Culture is to an organization as personality is to an individual. Said simply, its the "way things are done." Culture greatly influences many facets of daily productivity and improvement: the way employees work, their attitudes toward work and change, their relationships with each other and management. The way change is introduced, embraced and tackled is defined by a company's culture. All of it contributes greatly to a company's health.

Experts estimate that 80 percent of becoming a lean enterprise is culture-related. Without employee support, a company can't make many, if any, changes in the organization. Making any changes sustainable can be an uphill battle without the right company culture. For instance, a company with a bureaucratic and controlling management culture will likely have the most difficult time transforming itself to a Lean culture or a team-based organization.

(2) Traditional pay systems are structured through periodic reviews. The criteria for each employee are loosely defined, often generic in nature and hardly in consonance to a Lean environment. Rewards for taking additional responsibilities are not defined, nor for mastery of skills. There is little incentive for learning additional skills and virtually nothing for cross training, a must in lean manufacturing.



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Individual pay systems pay for the job, and do not differentiate skills or contribution sufficiently. Over time they result in pay outstripping employee contribution, making employees complacent, self-inflated and difficult to work with. Contribution higher than pay, in contrast, results in disillusioned employees with high turnover and drop in performance over time. The challenge in devising a pay system is one where contribution and pay for each employee continuously grows parallel over time.

(3) Traditional performance reward systems are, for the most part, subjectively evaluated. This exposes the workforce to evaluation by opinions, popularity, or politics, thus creating the foundation for unfairness in judging a worker's performance and individual contribution to achieving the organization's goals.

(4) Traditional performance measurement systems frequently work in opposition to lean. Traditional companies measure manufacturing by monthly output (hours), and utilization. There is an old adage in manufacturing "You get what you measure." If a plant manager is measured on plant throughput in hours, then that manager will strive to maximize the hours, building products that are not needed. The same holds true for equipment utilization.

(5) Traditional organization structures, usually functional in design, and bureaucratic in nature, are stifling, often impeding open communications and focusing on the job function, rather than the individual, and what the individual is able to fully contribute to the organization. Natural and functional conflicts create internal adversarial relationships which prevent the sharing of ideas. Instead our organizations should be conducive to velocity, and innovation: on the shop floor, and in the office. To make this happen, our emphasis needs to be around the tasks that need to be performed, and the skills required to perform them.

(6) Most managers fail to include and lead a change process, leaving subordinates with mixed agendas to carry the banner of change. Many managers fail to recognize that any significant change process requires a long-term, structured approach that is consistent in both direction and leadership. Many change managers fail to develop, communicate, and implement tactical plans to guide and monitor their vision for change to Lean Manufacturing.

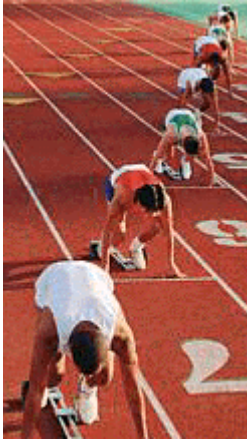
In the absence of addressing these elements, Lean Manufacturing implementations can suffer through lack of worker interest and buy-in to the company initiatives.

The Missing Link

Organizational Development is a process by which behavioral science knowledge and practices are used to help organizations achieve greater effectiveness, including improving quality of work life and productivity. Included in the realm of organizational development are organization culture, values, and norms; employee personality and behavior; motivation, group interactions, performance measurement, education and learning, skills, pay systems, reward systems, and change management.

Today, we think of organizational development as the "glue" that binds the company together in pursuing focused initiatives, such as Lean Manufacturing. Yet we often discover these elements missing in Lean Manufacturing efforts. Implementing Lean Manufacturing without finding a means to motivate workers bogs down the initiative.

But how do you motivate workers to accept and practice the principles of a new manufacturing strategy? Workers are motivated when:



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1. Rewards are perceived tied to performance
2. Rewards that are tied to performance are valued
3. Effective performance is perceived to be achievable
4. Workers experience achievement
5. Workers perceive/experience personal or professional growth
6. Workers are involved in teamwork
7. A worker has control over one's work
8. Recognition is provided
9. Advancement is achievable and experienced
10. A friendly working environment is provided
11. Workers are challenged, and
12. Workers have fun and enjoy what they do

What is suggested here is, if all of the motivational factors can be integrated as part of the initiative, then the organization can be moved forward with much less resistance, creating an enhanced opportunity for success. Critical to moving the organization forward at the shop floor level are six key elements that we shall address here. There are more, but we will focus on the most overlooked:

1. Lean Organization Cultures
2. Lean Pay Systems
3. Lean Performance Reward Systems
4. Lean Performance Measurement Systems, and
5. Lean Workforce Organization
6. Lean Change Management Processes

(1) Lean Organization Cultures

A Lean culture focuses on sustaining change through leadership, empowerment, and communication. The dominant principle of organization has shifted, from management in order to control an enterprise to leadership in order to bring out the best in people and to respond quickly to change. A Lean culture can be defined as containing the following elements:

- (1)A shared vision among all the employees
- (2)A participative leadership style
- (3)Teamwork
- (4)Open two-way vertical and horizontal communications
- (5)Collaboration
- (6)Highly skilled workers
- (7)Empowered workers
- (8)Shared gains

This type of style includes employees in the decision making process. Employing knowledgeable and skillful employees allows them to become part of the team and allows a manager to make better decisions.

(2) Lean Pay Systems

When transitioning the organization to a Lean Manufacturing environment, new skills are required by the workforce for success. Defining those job skills and the associated performance standards is the starting point for an acceptable pay system. The combination of these two lead to the foundation for a Lean pay system. The forms of Lean Workforce Pay in use are Knowledge/Skills-Based pay, and Group-Based Performance pay.



World-class performance requires speed, quality, agility, and endurance. In a highly competitive race for world market domination, there are no silver or bronze medals. You win or you lose. This degree of performance doesn't simply happen. It requires years of commitment, conditioning, and a vision of a gold medal.

With Knowledge/Skill-based pay, the idea is very simple. If you want employees to learn more skills and become more flexible in the jobs they perform, pay them to do it. Skill-based Pay is a method of payment that supports team work and fosters a learning organization. Individuals progress in pay according to the breadth and depth of skills they possess. Workers are paid for the skills they are capable of using, not for the job they are performing at a point in time.

Skill-based pay plans provide a major benefit in that they foster a climate of learning and adaptability. Employees with a broader view of the production process and organization are in a better position to participate in decision-making and make constructive suggestions for significant improvement in productivity and quality. Some characteristics are:

- Skill-based pay systems are different from classification ladders
- They provide incentives for focused technical growth by individual workers
- They reward individual initiative, knowledge and skill, and high individual performance
- They reward desired behaviors that foster new culture, norms, values, skills, performance goals, and cooperative team efforts
- Skill-based pay systems supports lean workforce design by rewarding behavior required to implement work team designs

(3) Lean Performance Reward Systems

Group and organizational-based pay plans encourage cooperation among workers, more than individual plans. In a manufacturing plant, it is generally to everyone's advantage to work well together because all share in the financial rewards of high performance. They are in principle:

- Different from merit pay
- Provide incentives for team collaboration toward pre-established goals
- Reward high organizational performance
- They reinforce goal setting by rewarding people for achieving their goals

Gain sharing is a form of group-based performance pay. Gain sharing plans pay bonuses based upon improvements in the operating results of an organization. Gain sharing plans, when designed correctly, can contribute to employee motivation and involvement. The plans tie goals of the workers to the organization's goals. It is to the employee's advantage to co-operate with each other, and when the plan is implemented properly, organizations can expect specific improvements. Typical results reported are enhanced coordination and team-work, cost savings, acceptance of new methods, reductions in overtime, and greater employee satisfaction.

Research findings reveal that results are best when the following are practiced:

- Workers are focused on specific goals
- Bonuses to be achieved are at least \$2000 per year per worker
- The goals are achievable as perceived by the workers
- Objective measurement is deployed and visible

(4) Lean Performance Measurement Systems

One of the critical elements of Organizational Development in Lean Manufacturing initiatives often omitted is the aligning of performance metrics with team-based and individual reward systems. Performance metrics define the expectations. For a Team-based Performance Pay system to work effectively, numerical measurements must be used and visible to everyone on a Visual Team Board. The performance metrics must be uniform across all teams, and must be vertically aligned with plant goals. Since the workforce is organized in teams, similar team performance standards should be prepared, which will define the metrics relevant to the team.



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While preparing the performance standard for the teams, some important points need to be borne in mind. A team performance standard must be related to the overall performance standard. It should focus on what the team can achieve. Measurements must be visible preferably on a team board, trends over a period should be plotted and everyone on the team should be involved in the measurement.

The team performance scorecard should include one very important aspect: the lean transformation task list and it should be displayed. Finally the team performance standard should focus on building the team via frequent feedback.

Just as the team performance scorecard is tied to the operational score card, the individual (team member) score card must be tied to the team's scorecard. Important points include defining what is expected from a world-class employee. The performance standard must focus on what the individual can directly affect, provide him with frequent feedback and it must drive accountability. Typical Lean Performance Metrics are as follows:

- Customer satisfaction
- Output target vs. actual
- Supplier quality defects per million
- Operations quality defects per million
- Days worked safe
- Set-up time target vs. actual
- Changeover time target vs. actual
- Total cycle time order-to-ship
- Process cycle time target vs. actual
- Total manufacturing throughput time
- Receiving cycle time
- Replenishment cycle time
- On-time customer deliveries
- % Value-add time/Total throughput time
- % Warranty Cost per Sales \$
- % Equipment Utilization
- Cost per unit as \$ of Sales
- Days supply raw inventory
- Days supply work in process inventory
- Days supply finished goods inventory
- % Value-add floor space to total
- Inventory accuracy

(5) Lean Workforce Organizations

Multi-functional, flexible team-based organizations have been successful in Lean Manufacturing implementations in the U.S. since the 1980's when we were designing and developing cells and cell teams. The idea of increasing the skills of operators by enabling them to perform multiple functions within a group of pieces of equipment (cells) has improved performance and worker satisfaction. This is why teams are one of the basic building blocks of Lean Manufacturing.

Flexibility adds another dimension to a company's workforce capabilities. Not only can workers in this type of organization perform on different pieces of equipment, but also across departments and plants. This provides resource flexibility to Lean Manufacturing managers, and enables them to manage an operation much more smoothly. In a Lean Manufacturing culture, decisions, previously made by foremen and supervisors, are driven down in the organization to the workforce. Workers are held accountable for their own performance, and have the privilege of determining how to make improvements.



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Employees feel responsible not just for doing a job, but also for making the whole organization work better. The Lean worker is an active problem solver who helps plan how to get things done and then does them. Secondly, Teams work together to improve their performance continually, achieving higher levels of productivity.

In general, workers feel like they make a difference, they are responsible for their results, they are part of the team, they can use their full talents and abilities, they have control over how they do their jobs, and they take initiative. An empowered workplace is one where teams of people work together, collaborating on getting the job done. This is quite different from the traditional competitive workplace, where each individual employee is engaged in a race with others to get things done. In an empowered workplace, people can count on each other, rather than just work on their own.

(6) Lean Change Management Processes

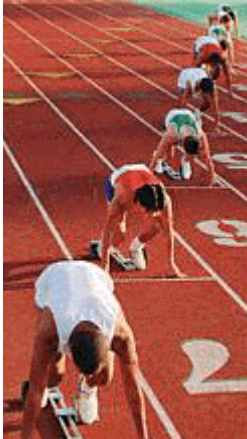
The most important asset of any company are its human resources. To stay competitive, companies need to be in a constant state of refinement. We've learned from the last ten years that change does not successfully occur if the people who are to be affected by change are not involved. People are the organization, and can help define the change effort, which must be integrated throughout the organization. The following are best practices in managing lean change:

1. Create a sense of urgency and communicate it to the whole organization
2. Develop and communicate a vision and Master Plan for the new Lean factory and organization that everyone can relate to
3. Create a Lean Steering Committee to oversee the Lean Initiative
4. Assign a program Director and local "champion", with the sole responsibility to implement the Lean Initiative
5. Analyze the organization's readiness for change and
6. Develop and communicate a vision and Master Plan for the new Lean factory and organization that everyone can relate to
7. Educate and train managers, staff and workers
8. Develop and implement Lean performance metrics
9. Get everyone highly involved in determining how it can be accomplished to gain authorship, ownership, and buy-in
10. Develop a detailed Lean implementation plan
11. Provide adequate resources to accomplish the vision
12. Align the culture, performance reward systems, pay system, performance measurement systems, and workforce organization with the Lean vision
13. Empower action and remove obstacles to success
14. Develop a pilot and make it a success
15. Celebrate and broadcast the success
16. Extend a series of Lean successes across the factory and organization until all is accomplished
17. Don't back-off
18. Be relentless; Imbed the changes in formal policies, procedures, processes, work standards, job descriptions, and skill classifications

Summary

Often omitted from Lean Manufacturing implementations are the Organizational Development aspects that provide the "glue" to holding everything together. Including a change management process, that aligns the culture, performance reward systems, pay system, performance measurement systems, and workforce organization greatly enhances the chances of a successful implementation for achieving world-class performance in the 21st century through Lean Manufacturing transformation.

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Pragmatic Applications

Learn from the successes and failures of others and don't attempt to reinvent the wheel of Lean Manufacturing implementation practice.

There are time-proven approaches that can enhance the success of the Lean implementation. Here are a few:

High Employee Involvement

Get as many employees to participate heavily as practicable in defining how to get the work accomplished. The workers know their work and what they need to compress time. If they do not, use an outsider who does. Get as many employees as practicable involved in the implementation phase. This will foster ownership and buy-in.

A Comprehensive and Systematic Approach

Use a comprehensive and systematic master plan that addresses all parts of a Lean Manufacturing implementation.

Adequate Resources

Provide adequate technical and administrative resources to allow employees breathing room. Perform cost/benefit analyses so that you know how much the entire implementation is going to cost and identify the results that will be achieved.

Extensive Education & Training at all Levels

Provide adequate training for most employees, including upper and middle management.

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Richard G. Ligus is President of Rockford Consulting Group, Ltd., located in Rockford, IL., with over 30 years experience in manufacturing, procurement, transportation and distribution. He specializes in developing and implementing manufacturing, distribution, and supply chain strategies. Rich is an author and a speaker, and has developed seminars with the American Management Association. He is certified by both the Institute of Management Consultants and the National Bureau of Certified Consultants.

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About Us

Rockford Consulting Group is located in Rockford, IL, a city with a substantial manufacturing and machine tool history. An Illinois corporation, our company specializes in supply chain management, focusing in manufacturing and distribution operations management consulting. As companies search for ways to react to intense competitive pressures, we offer a unique group of integrated, dynamic state-of-the-art services to help clients develop world-class performance capability.

We facilitate the development and execution of supply chain, manufacturing, procurement, logistics, information systems, distribution, and organizational strategies that reduce delivery time, reduce cycle times, reduce costs, streamline information flow, streamline the organization structure, reduce manufacturing time, quicken the decision making process, and build a cohesive management team.

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Through our affiliate offices, we serve North America, Central America, South America, Middle East, Southern Africa, and China, with over 1000 specialists worldwide.

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- Organization Design
- Organization Culture Assessment/ Transformation
- Change Management
- Leadership Style Assessment/Development
- Leadership Collaboration Clinics
- Lean Workforce Organization Development
- Self-Directed Team Development/Facilitation
- Performance-based Reward System Development/Facilitation
- Pay-for-Skills System Design/Facilitation
- Performance Metric Development
- Benchmarking
- Top Management Facilitation
- Team Building
- Workforce Classification Design
- Project Management



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