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Bob Williamson We have heard much about the concepts of lean manufacturing and the lean organization over the past few years. What is now known as lean is based for the most part on the proven models of the Toyota Production System in its plants around the world, including the plants in Indiana and Kentucky.

When lean gets interpreted as downsizing by many of today's business leaders, they make the mistake of reducing headcount in their organizations to make them leaner from a staffing perspective. Well, that is not the intent of lean.

A fundamental characteristic of a lean organization or lean manufacturing is the systematic identification and elimination of waste to reduce manufacturing or operating costs. Targeted forms of wastes are associated with overproduction, transportation, motion, inventory, processing, defects, and waiting.

Unreliable equipment also represents a significant waste--extra inventory to compensate for breakdowns; extra backup equipment; processing delays due to unplanned downtime or inefficient performance; defective materials produced due to breakdowns; waiting for information, parts, and materials to make needed repairs; or waiting caused by inefficient equipment operation. Eliminating equipment-related wastes (or losses) is fundamental in achieving the goals of lean.

If the organization's leadership assumes that lean means fewer people and begins reducing headcount without eliminating, or at least reducing, equipment-related waste, an upward cost spiral begins. With fewer people to respond to equipment problems, or to perform required preventive maintenance, equipment performance levels and reliability suffer even more. This approach can actually increase manufacturing or operating costs rather than reduce them.
Downsizing and lean are not the same! Downsizing, without eliminating waste, is typically not sustainable. Rather, it is a one-time, short-term cost reduction strategy that if left alone will likely lead to increased costs.

So, what are the correct methods for becoming lean in a sustainable manner? Begin by identifying the types, reasons, and root causes of waste that have a direct and immediate impact on business performance. For equipment-related wastes be sure to involve the people closest to the problems--maintenance and reliability (repairs and prevention), operations/production, purchasing/stores (repair parts), and engineering/technical (design and modification). Identify and eliminate the causes of poor performance using formal problem identification and root cause analysis methods.

This takes data. Some organizations have excellent data, which makes this step easier; with very sketchy data, this step is difficult. In the absence of data go with what you know. Baseline the targeted equipment performance measures and then begin collecting data to measure equipment performance and if improvements are actually being made.

Identify action items to correct and eliminate the root causes of poor equipment performance. Look at equipment conditions and data. Look at work processes and procedures used to operate, maintain, and document changes, control quality, communicate, and schedule anything to do with the targeted equipment. Consider the people who directly, and indirectly, affect the performance of the equipment--their qualifications, training, and numbers.

What then are the essential elements of becoming lean in a manner that is sustainable?

- There must be a clear and compelling, and urgent, reason to change.
- Cross-functional leadership must proactively and visibly lead the organization

through the change process.

- Leaders must continually communicate, and role model, the new vision and strategies.

- Leaders must break down barriers to making necessary improvements.
- Leaders must engage the people closest to the top priority problems or opportunities to identify, design, develop, plan, and implement improvements.
- Leaders must leverage the successes and key learnings for making improvements by eliminating waste in other areas.
- Leaders help everyone in the organization understand the connection between the improvement activitires and results with the vision of the organization so the new behaviors become part of the "way we engage our prople and run our business."

Those of us in maintenance and reliability roles can help organizations become lean by targeting equipment-related wastes and keeping our business and labor leaders informed of the results. **MT**

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