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Lean Thoughts

Manufacturing Myths

Reset, renew, and reinvigorate manufacturing. That's what we want, but manufacturing has never stayed the same for long. We must visualize what it can become. To do that well we have to avoid "myths" prevalent among those unfamiliar with manufacturing today, and sometimes repeated by those who are. Here are a few.

Anyone can do factory work.

A common bias is that unless hands-on work is like neurosurgery, it's low status. In addition, public perception lingers on that manufacturing consists of demeaning work in dirty, dangerous places. News of industrial accidents and health hazards don't help dispel this myth. Consequently, factory work is not the first occupational choice of many youth. The flip side of this is nostalgia for an imagined time when people turning screwdrivers earned a middle class income. Today more is required, of course, and many community institutions train people in technology, but often, students are encouraged to enroll only if they have aptitude for nothing else.

Manufacturers don't help their cause if, desperate to "compete with China," they pay the lowest wage possible. But status hinges on more than salary. Many factory workers now earn more than airline pilots, but pilots have more status because lives obviously depend on them. That many factory workers bear the same responsibility is hard to picture for people who have never been in a factory, and only a small percentage of the public has.

The pattern is similar in agriculture. Mention farming, and those unfamiliar with it see an image of Farmer John or migrant field workers. Reality is that for the few people in it, farming requires more scientific knowledge and business acumen than ever before. Label work "high-tech" and project a satisfying future for it, and perceptions change. Expertise in high precision machining, for instance, is as cerebrally demanding as many "professions;" plus manufacturers need workers to participate in problem solving —by people that have an affinity for it —more than technical skill doing immediate tasks. Everybody isn't cut out to constantly see and solve problems working in teams.

Manufacturing will soak up unemployment.

Since this has not happened in decades, perhaps it's unreasonable to expect it to happen. In the United States, manufacturing employment peaked in 1979 (at 19.5 million up to 23 million, depending on the data series tracked). Now it's down to about 12.5 million, dropping at a rate of 50,000 per month in late 2009 Bureau of Labor Statistics (BLS) figures. By comparison, U.S. agricultural employment peaked in 1929 at about 10.5 million. Today less than a half million people actually work farms, not counting migrant labour, although many more people live on farms.

This myth arose from rural-to urban migration when mechanization (from manufacturers) increased farm productivity. In the United States, for example, from 1955-1970, about 5 million people left farms. Manufacturing added about the same number, but not all were rural migrants. Most rural migrants entered service industries because manufacturing converted rural economies into urban ones with lots of service businesses. All industrializing economies have a similar experience.

Where Lean Thoughts can become Reality

"Unless you try to do something beyond what you have already mastered, you will never grow."

Ronald. E. Osborn

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of population growth. One manifestation of this is that every old industrial economy has an "immigration problem" akin to that in the United States. Many immigrants do work in manufacturing (no percentage known), but only a fraction of the total. In all developed economies, remittances sent home by marginally employed immigrants constitute anywhere from 5 to 40% of the GNP of the world's poorest countries.

Today, rural-to-urban migration has become a huge, serious global shift. One reason is that industrial agriculture drives people using traditional methods off the land when they can't make it any more. The whole world's manufacturing cannot absorb a billion or so new rural migrants in the next decade, but they are the major component

As shown in Figure 1, manufacturing employment is declining in many places, not just the United States. All developed economies, and many developing ones, are past their peak in manufacturing employment.

In addition, despite everything "going to China," its manufacturing employment hasn't grown very much. Chinese labour productivity rose. For a time inefficient state-owned manufacturers shed people at a greater rate than private manufacturers could add them. Numbers for China are "squirrelly." The official employment population is about 300 million, far short of all the people occupied doing something, but uncounted. Manufacturing employment of "around 90 million" is more than all the old industrial economies combined. One of the few close studies of this is by the Bureau of Labor Statistics is at http://stats.bls.gov/fls/chinareport.pdf.

Manufacturing employment has held up better in Germany than in other high-cost economies. German manufacturers know that they can only compete using advanced technology and high quality, a conclusion similar to that reached in Japan, Italy, and other economies. There the healthiest manufacturing companies maintain a specialized technical edge. "Lean" factories with a high-cost base can't compete for commodity production with equally lean operations that have a low-cost base.

Being lean gives us a unique advantage.
"Lean talk," if not performance, is now mainstream.

In any industry, all competitors are apt to be on a lean journey. Because they were so far ahead, Toyota and similar pioneers enjoyed a unique advantage for years, but the gap is no longer as big, and it is not permanent survival insurance.

In the auto industry, some version of lean in factories long ago became a requirement for a supplier to stay in business. During the recent automotive market bust, many of them went bankrupt. Being lean in factories conferred no immunity from the consequences of other foolishness, or from customers shutting their pocketbooks. Honda and Toyota are surviving the bust better than most, and for more reasons than lean production. The obvious one is more lines of vehicles that people now want to buy. They tried not to drive their suppliers bankrupt. The problem solving culture that should accompany lean penetrated much deeper into their organizations. Their systems for new product development created better quality vehicles in less time at lower cost. And they did not make a habit of using margin-eating rebates to hold market volume.

...to be "great," lean and quality thinking must permeate the total company culture.

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Lean production will make the company profitable.
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This myth assumes that a company competes in commodity markets. But even where production cost is a dominant competitive factor, it is only one category of cost. To escape this, most companies in high-cost regions avoid commodity competition. To do that well, they have to become very good in many facets of performance, not just one. Automotive companies are often regarded as being in commodity competition because sticker price is important. However, as noted, the dominant automotive companies are excellent in more than production.

In this kind of competition, cost is important, but not the only reason for lean production; quality and quick response are two more reasons. This helps cement customer loyalty earned through better technology, product performance, and service. This kind of manufacturer may be regarded less as a manufacturer than as a technology company or as a service company —or both —and an all-around excellent performer. Advantages accrue from careful attention to customer needs and to technological possibilities, resulting in well-designed products and services.
A product has to be designed for customer use, but unless it is also designed for manufacturability, it can't be produced well. If not designed for maintenance, it can't be maintained, and so on. Follow this reasoning, and companies competitive in high-cost regions cannot have serious weaknesses in any areas of operations —including field service and representation.

Lessons from this myth: Each company in a high-cost region needs a strategy capitalizing on close proximity to customers. Shop floor lean is good training, but to be "great," lean and quality thinking must permeate the total company culture.

If we had a level playing field, we would be competitive.
Companies constantly lobby governments seeking redress for everything from foreign exchange rates to regulatory policy. Indeed, political junkies see business a zoo of lobbyists jockeying for competitive advantage. It's easy to believe that our own company's situation is worse than any competitor —usually a myth —and worse, that somebody else has to fix it; we've done the best we can do. When executives use this as an excuse, they want a level playing field that tilts in their favour, so it's easy to make money with mediocre performance. They begin to invent their own myths.

Yes, serious inequities exist, competitors sometimes engage in underhanded maneuvers, and customers are not always fair. The business world has its ugly side. However, in the 1950s, when Toyota began developing the practices that eventually made it everyone's production benchmark, hardly anyone would have said that they had a level playing field. As the U.S. auto industry declined, it (including the UAW) regularly complained about their unfair load versus foreign competitors.

Trend-setting companies spend little time trying to preserve what they have from inroads by competitors. They constantly try to reinvent themselves, and if possible, their industry. Benchmarking is helpful, but merely matching the competition is not good enough. Become imaginative and work to ultimate performance goals. Success doing this creates achievements never attained before. (Break though innovation and zero waste are ultimate goals.) When a company becomes a benchmarkee more than a bench marker, competitors may whine that something is unfair. Invite them in for a workshop. That's the real mark of success.
Source: Robert Hall, ***Target****, www.ame.org*

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