

What is this thing called Lean?

The construction industry can learn a lot from manufacturing when it comes to doing things more efficiently



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Construction is not as unique as we may think. While putting up drywall is certainly different from attaching an electronic harness during vehicle production, most business and productivity challenges are the same across the construction and manufacturing industries. In meeting those challenges, AEC businesses can be both student and teacher.

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In the mid-1980's MIT professors and researchers, led by Jim Womack and Dan Jones, completed an exhaustive study of worldwide automotive production. The findings, published in the book *The Machine That Changed The World*, showed that Japanese automotive companies were significantly more productive, faster to market with new products and more profitable than their worldwide competition, including those in the United States. A few years later Womack and Jones authored another book, this one called *Lean Thinking*, which chronicled the successes of a wide variety of companies that had implemented many of the philosophies and techniques of those Japanese manufacturers. From that book the term Lean was coined.

Lean was thus originally an American developed term to describe the philosophies and techniques of the most productive and profitable automotive manufacturers in the world. While both Honda and Toyota have

been successful using similar approaches, the Toyota Production System (TPS) is considered the real foundation of Lean. The word "production" in that phrase is a misnomer, in that the TPS approach extends throughout the entire organization. The phrases Lean Healthcare, Lean Construction and others have surfaced to describe the broad applicability of the approach.

What lean means

Lean is based on three basic tenets: 1) focus on the customer; 2) eliminate waste, and 3) continuously improve. On the surface, it is really pretty simple. Know your market, stop doing things the market doesn't value and won't pay for and keep getting better every single day. As with many things, the devil is in the details—in the how you make it happen. So how do you begin to weave those three basic tenets into the fabric of your organization?

First, the understanding that the customer pays all the bills must become a fundamental influence on business priorities and decision-making. That doesn't mean you do what the customer wants in every situation. It means your company must truly understand customer needs and be good at meeting them. Without that, a basic disconnect between what the market needs and what you are good at providing will preclude your success.

Eliminating waste means stop doing things the customer doesn't value and will not pay for. SouthWest Airlines understands that its customers want safe, affordable and fast transportation. It does not offer meals that increase costs without increasing customer

satisfaction, and its entire operations are designed for fast efficient turnaround at airports, getting the customer in the air as quickly as possible. As SouthWest grows, it reports healthier profits than its struggling competition. So what is your company doing that customers don't want and won't pay for?

Another part of eliminating waste is eliminating defects. Since humans will always make mistakes, that may seem impossible, but it's not. The AEC industry already builds mistake-proofing into many of its products. Door jams that only allow opening one direction, outlets that prevent reversed polarity and panic bars on emergency exits are just a few examples. Now it is time to build that same mistake proofing into AEC company processes. The techniques for doing so are part of the Lean toolbox.

Continuous improvement means what it says. No matter how good your company is, it could be better and must always work on getting there.

The gas crunch of the 1970's and the fast time-to-market of the Japanese automotive manufacturers combined to enable those companies to get a foot in the U. S. door. They have only continued to build share and profits since then. If your company becomes Lean before your competition does, it can give you a lead you may never relinquish. Wait for more proof and you may never catch up. **BXM**

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