

TWI: The Second Coming

By [Dwayne A. Butcher](#)

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Have you heard? It's back. After a 60-year absence in the United States, the Training Within Industry (TWI) program has been resurrected. Not just in the U.S., but around the globe! If you're not yet familiar with TWI, let me take you back to WWII, and then forward to today.

TWI's birth

During WWII, the U.S. shipped "the boys" to fight the war leaving behind an unskilled workforce to replace them. The U.S. government recognized this as a problem. How do you build the war machine with a green workforce? Enter the United States Department of War (USDOW).

The USDOW created the TWI program to get the industrial workforce up to speed quickly. Interestingly, it was not created "from scratch." The modules were built on the foundations of Charles Allen's 4-point method and Frank and Lillian Gilbreth's work. Foundations that have stood the test of time.

TWI involved three training programs that provided supervisors with specific skills. The programs were delivered in two-hour modules over five days in order to keep production moving. The programs were:

- Job Instruction (JI): This module taught supervisors how to teach their workers to do a job. JI was a methodical process that broke down jobs into Important Steps, Key Points, and Reasons for the Key Points. It made for a consistent, rapid, and effective way to teach people complex jobs. Here's an [example](#) of a Job Breakdown Sheet.
- Job Methods (JM): This module taught supervisors to objectively and methodically analyze jobs and processes and then suggest improvements. The aim was to, and I quote the stated intention, "Produce

greater quantities of quality products in less time by making the best use of the manpower, machines, and materials that are now available."

- Job Relations (JR): This module taught supervisors to "treat people as individuals," emphasizing fair treatment. Remember, these were supervisors who had likely never held positions of authority and weren't skilled in dealing with personnel issues.

Bottom line... it worked! Some have credited TWI for helping the Allies win the war. We took an unskilled workforce, many of them "home makers," and turned them into a producing-machine. We simply out-produced the enemy.

The war ended and "the boys" came home to their former jobs for which they didn't need training. They were already skilled at their jobs. The TWI service was shut down. Well, sort of...

During the U.S. occupation of Japan, TWI was introduced to Japanese industry, including Toyota. It worked there, too. Deming, Juran, and others got worthy credit for their influence on Japanese industry, but in a 1993 California Management Review article, Robinson and Schroeder wrote, "the U.S. TWI programs, installed in Japan by the occupation authorities after World War II, may well have been even more influential (than the work of the aforementioned)"

That was then. This is now.

Nice history lesson, but why are we hearing of companies, 60 years later, turning again to TWI? The rebirth is occurring primarily in the "lean" community. *Sidebar for those not in the lean community...* Lean is a term coined by Womack and Jones in their book [The Machine That Changed the World](#). It was used to describe Toyota's business philosophy, which is to *eliminate any resource*

not used for the express purpose of providing value to the customer (aka. waste). Lean is about waste elimination. Now, back to the story. The lean community looks to Toyota as the holy grail of lean, with many books being written about the company. In recent years research by practitioners and academics uncovered – surprise, surprise – Toyota *still* uses elements of TWI.

So these researchers started asking, “Does TWI have anything to do with the unique business model that’s been developed over these decades?” The answer came back, *yes!*

Why are *they* lean, and we’re not?

Many companies are working to be lean, but most fail to achieve Toyota’s level of success. TWI provides Toyota with some key advantages over those lean-seeking companies not using the program. TWI is not THE magic bullet, but it may at least be an enchanted slug.

Toyota has an uncanny ability to see workers make daily improvements in production. Sound like Job Methods? They no longer use JM in name, but research by Jim Huntzinger in [The Root of Lean, TWI: The Origin of Kaizen](#) explains how JM morphed into Toyota’s *kaizen* program (Japanese for continuous improvement). Frontline workers are encouraged to improve their jobs all day, every day.

And what about sustaining gains made by *kaizen*? Most companies fail at lean because of “backsliding.” Gains are made, but workers revert to old habits. Not Toyota. They make improvements, train workers on the new standards using Job Instruction, and maintain those standards through JI’s built-in accountability.

And again, while Job Relations is no longer used in name, it did have significant impact on Toyota’s culture. JR was replaced by a similar, but Toyota-specific program. The principles are still there.

A maturing movement... at the right time!

Companies around the United States and the world are again implementing TWI. They are cutting training costs, improving quality, improving efficiency, decreasing injuries, enhancing morale, and realizing many other bottom-line boosting results.

And some say, “just in time!” With most every sector of business facing a retiring workforce, TWI provides a proven mechanism for transferring skills to a replacement workforce. And in a struggling economy, many companies face a smaller workforce. Workers must take on new roles and are quickly, thoroughly, and safely brought up to speed with JI. And in a time when more needs to be done with less, along with a sagging morale, the skills provided by TWI are the right answer at the right time.

To see just how far and wide TWI has reached, Google “training within industry.” You’ll find blogs, books, links to the original manuals, industry articles, workshops, and much more. You’ll likely run across the annual [TWI Summit](#), which has become to the annual gathering place for TWI practitioners as well as those seeking to learn more. In fact, it was at the 2008 TWI Summit that Dr. Alan Robinson emphatically uttered these words, “TWI is *still* ahead of its time.”

Long ago, TWI proved valuable to the United States and the world. And in TWI’s second coming, it’s proving valuable all over again!

About the Author

Dwayne Butcher is one of the two principals of Lean Frontiers, LLC. Conferences produced by [Lean Frontiers](#) include the TWI Summit, the Lean Accounting Summit, the Lean HR Summit, the Lean Sales & Marketing Summit, and the Lean Logistics Summit. Each event is aimed at an organizational silo and is designed to help those in these silos to understand their role in supporting the lean business model.