

410b Lean beyond Manufacturing - Competitive Advantage for the Process Industries

Norm Stewart

Lean manufacturing has been actively implemented by discrete industries (starting with automotive) for over 15 years. The idea was born in Toyota after WWII and evolved into the popular Toyota Production System (TPS). Toyota, and many other discrete manufacturers have had astounding success at improving quality, reducing costs, and increasing profitability because of adherence to Lean principles. Over 50% of the discrete business now actively practices Lean techniques. With such success, why has Lean been so slow to catch on in the process industries, particularly chemical processing which has some discrete manufacturing characteristics? To understand this, we must first appreciate the nature of Lean processing. The focus of Lean is eliminating waste by instituting a sustainable, continuous improvement process. Much of the initial Lean publicity in the US focused on such techniques as in-process inventory reduction, u-shaped work cells, and one-piece flow. Most of these have little application in the chemical industry and until recently, a minimal amount of material has been available to guide one in the successful launching and sustainment of a lean program in a chemical operation. Over the past few years, Lean techniques that apply to process operations such as standardization, quality improvement, quick batch and product change-overs, process control, TPM, and most importantly, Lean Leadership (all practiced by Toyota) have gained popularity. This presentation outlines the critical factors of the Toyota Production System and why they are important to the chemical industry for a successful Lean implementation. The discussion will begin with the importance of Lean Leadership and the practical benefits to leaders who embrace Lean in order to fundamentally change the chemical process value stream to gain competitive advantage and provide value to their clients.