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### **The Birth of Lean Sigma**

The manufacturing community has been pursuing the concept of continuous improvement in one form or another throughout its history. From basic quality principles like Demmings to the more recent Six Sigma, various concepts have been adopted. Simultaneously, principles of lean manufacturing have been applied to improve business.

Often, manufacturing companies pursue multiple improvement initiatives, which leads to confusion in priorities and a shortage in resources. Efforts to implement these initiatives have often been divided, thus depriving companies of the complete benefits. Some companies have merged the principles of lean and Six Sigma to minimize this division of efforts and resources, leading to a new approach called Lean Sigma.

#### **The Core Principles**

The principles of lean help to identify the non-value added activities of production or support services in a company. Lean principles enable a company to reduce overall lead times (from concept to cash) and give it the competitive advantage to respond to market changes. Lean initiatives are often implemented through the Kaizen concept, where cross-functional teams are guided by business improvement objectives. Six Sigma's goal is 3.4 defects for one million opportunities. It aims to reduce variations in processes by identifying the variables and choosing those that deliver the most consistent output to meet the varying demands of customers. Both concepts use process mapping, flow charts, check sheets, histograms and performance run charts, cause and effect methodology and are highly customer focused.

#### **What is Lean Sigma?**

Lean Sigma competently integrates two complementary approaches, lean and Six Sigma, to achieve operational excellence in any business. The main principle of Lean Sigma is to incorporate the tools and measurement of Six Sigma during a company's conversion to lean manufacturing, utilizing the Kaizen methodology. The precision of Six Sigma combined with the speed and agility of lean results in streamlined and balanced production lines and produces excellent improvement solutions in the never-ending quest for better, cheaper and faster business processes.

Lean Sigma works to achieve optimum value flow through the aggressive identification and elimination of non-value added activities. Cycle times are reduced and defects are eliminated. Travel distances, inventories, set up times, equipment downtime, material waste, rework, etc. are attacked. The focus is on the value delivered from a customer's perspective.

To ensure success, Lean Sigma should be implemented company-wide with a top-down approach. Companies must identify the challenges and train people involved in the various processes in the principles of Lean Sigma.

#### **Summary**



## TenStep Supplemental Paper

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By combining two disciplines to form a power process for achieving business excellence, Lean Sigma can help companies to provide customer-focused products and services at higher quality levels faster and at lower prices. It enables companies to evolve into flexible manufacturers of highly customized products in a globally competitive market. Many world-class manufacturers are now considering the competitive benefits of Lean Sigma.