



## Foreword

One of the most important tasks for any organization is to regulate the flow of products going downstream to customers and the flow of materials arriving from suppliers upstream. Without careful regulation of both flows, it is difficult to stabilize the pace of production within the organization and minimize costs and defects. And it is even more difficult to minimize the amount of finished goods and raw materials that must be kept on hand for timely deliveries to customers.

Despite the substantial progress many organizations have made in improving internal operations by using lean techniques, there has been little attention to transforming their external links to downstream customers and upstream suppliers. Historic practice has been for manufacturers to ship products to customers based on erratic orders for large batches, with manufacturers paying the freight. The invention of economic order quantity (EOQ) calculations was a logical consequence in a world where the true costs of large inventories and long response times were poorly understood. Similarly, manufacturers have usually sent erratic orders to their suppliers, telling them to ship within broad windows and to arrange and pay for transport. More EOQ practices inevitably followed.

The lean approach is very different. The lean producer asks its customers—whether OEMs, distributors, or retailers—to order goods and then to receive them at exactly the pace they are being consumed. Then the lean producer picks up needed items from its suppliers at exactly the rate they are being consumed by its own production.

The biggest problem for the would-be lean producer is to explain to customers and suppliers how all parties can win if traditional practices are reversed. This is a difficult conversation, but lean pioneers are now bravely plowing this ground side-by-side with their most important customers.

At LEI we have long felt the need to remedy instability in information and order flow to create smoothly flowing streams of products from suppliers to customers. But until we found Robert Martichenko and Kevin von Grabe, we did not have authors who could combine a proven approach to this challenge with an understandable process.



Robert and Kevin bring more than 25 years of experience creating lean fulfillment streams, including the greenfield startup of the Toyota Motor Manufacturing facility in Indiana. There they helped design and implement the operational relationship between Toyota's supply base and the plant. They also helped to integrate the flow of materials in all of Toyota's North American plants into a series of cross-docks and transportation routes. This enabled Toyota to implement both level flow and high delivery frequencies as successfully as they had in Japan despite dramatically different geography, transportation systems, and supplier capabilities.

In the pages ahead, Robert and Kevin will reveal their process for introducing lean into your fulfillment stream using the imaginary ABE Corp. as an example. The example will illustrate both the implementation process and the impact on ABE's bottom line.

We know that few readers of this workbook will be leading or working in organizations exactly like ABE. Your industries will be different, there will be unique challenges, and supplier performance will be more variable. But the principles remain the same. So please look for applications rather than exceptions.

We wish you success in turning your current supply chain into a swift, smoothly flowing *lean fulfillment stream* that delivers consistent value to your customers and a healthier business for your company's employees, investors, and partners.

Jim Womack  
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