

Video: How Production Performance Affects Logistics

When evaluating a facility's production performance and supply chain capabilities, there is a common misconception that a facility's overall performance will be more positively affected by changes made to the supply chain, than by affecting change in a production line or cell.

This thought, while seemingly sound, is actually incorrect for a number of reasons. The supply chain within an organization does account for a great deal of resources and time, but ultimately, improvements to the production process have the biggest impact on a facility's ability to produce efficiently.

It's important to understand how production performance and supply chain logistics interact with each other, to better provide improvements to both of these areas.

Take for example the operations of a neighborhood grocery store. Often, these stores have inefficient checkout stands, resulting in longer waiting lines. A checkout-stand transaction that may take only 3-minutes is slowed down by a 15-minute wait.

To improve on this issue, the temptation may be to focus on the organization of the waiting lines. The analogy of queuing lines and checkout stands can be understood in the context of supply chain and logistics. Note that this also illustrates the separation of the supply chain and production.

Strategies that target improvements to the queue may improve the customer experience and reduce the average waiting time by 15%, but do not address the core issue which is centered on processing groceries. By improving checkout stand transactions, it becomes possible to reduce the average waiting time to only 5 minutes.

This addresses the issue at the production level. Originally, the checkout procedure involved one clerk

pulling items, reading the item numbers, and then inputting those numbers into the scanning system. This is an inefficient system.

Instead, the best improvement is to make investment decisions that keep the supply of goods flowing past the clerk, such as a modern conveyor and scanning system.

The original problem, long queues, ends up being more about the process at the checkout stand than the queue itself. Any row of checkout stands, on average, must be able to process customers' items faster than they arrive, or the line will grow indefinitely.

By changing the organization of the waiting lines, it is possible to reduce the overall waiting time by around 15%. However, by increasing the throughput of the checkout stand by 25% using a conveyor and scanning system, it is possible to yield a 40% reduction in wait time.

This analogy might be imperfect, but it is still accurately reflects how production, supply chain, and logistics are involved with each other. Although logistics accounts for much of the lead-time involved with manufacturing, it is ultimately improvements to production that provide the most benefit.

This is not to imply that improvements in logistics are negligible, however. They are important, and they need to be pursued in conjunction and coordinated with improvements in production. By doing this, you will be able to more accurately and quickly make Lean improvements to the organization as a whole. [u](#)