

Bill's Building Blocks

Moving the Dial on Supply Chain Productivity

Bet you have had this experience...You sit down with your laptop, iPad, workstation, or iPhone eager to get started on the day's work, when the device signals that a forced upgrade is in progress. So you get a cup of coffee, chat with a co-worker, or walk away in disgust with your personal productivity ruined for the next hour. Centralized downloads are in fact a productivity gain for employers and service providers because they no longer have to pay someone to locate and touch every single user device to download the latest revision. And, upgraded security patches make all our devices less susceptible to hacking and the potential total loss of access to key files. But, what is productivity in a supply chain context?

A productivity gain means more output for less effort. Historically, productivity has come from companies investing in research and development. Today economists are concerned that funding for research and development has fallen off significantly. In 2012 the United States led the world in patent applications; by 2014 China's patent applications exceeded the United States by a large margin. Now China has a national objective to lead the world in applied artificial intelligence research. Economists also see a relationship between the slowing of productivity and stagnant worker wages.

A supply chain productivity gain means more end-to-end throughput for less effort. From an industrial engineering perspective it is much easier to improve productivity when doing the same job repetitively, than when dealing with a flexible, agile supply chain. Standardized procedures, customized tooling, safety capacity, optimized buffer inventories, worker training, demand leveling, and lean six-sigma quality standards are a few examples of the methods used to achieve and maintain high levels of productivity.

But, what happens to productivity when every delivery is a different product for a different customer through a different network of SOURCE, MAKE, and DELIVER trading partners? And, don't forget that RETURN works directly against productivity. Every transaction must be perfect the first time. There is no longer room for variability. While a warehouse robot may be stronger and faster than a human, robotic machines are not nearly as adaptable as humans. Future investment in technologies such as the Internet of Things, on-demand logistics, autonomous vehicles, and machine learning plus investment in employees are drivers to measurable supply chain productivity gains.

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