SUPPLY CHAIN INSIGHTS

THE PREDICTIVE ENTERPRISE: HARNESSING THE POWER OF SUPPLY CHAIN DATA

Companies are flooded with data. More data has been created in the last two years than in all of human history, due in large part to the convergence of the Internet of People with the Internet of Things.

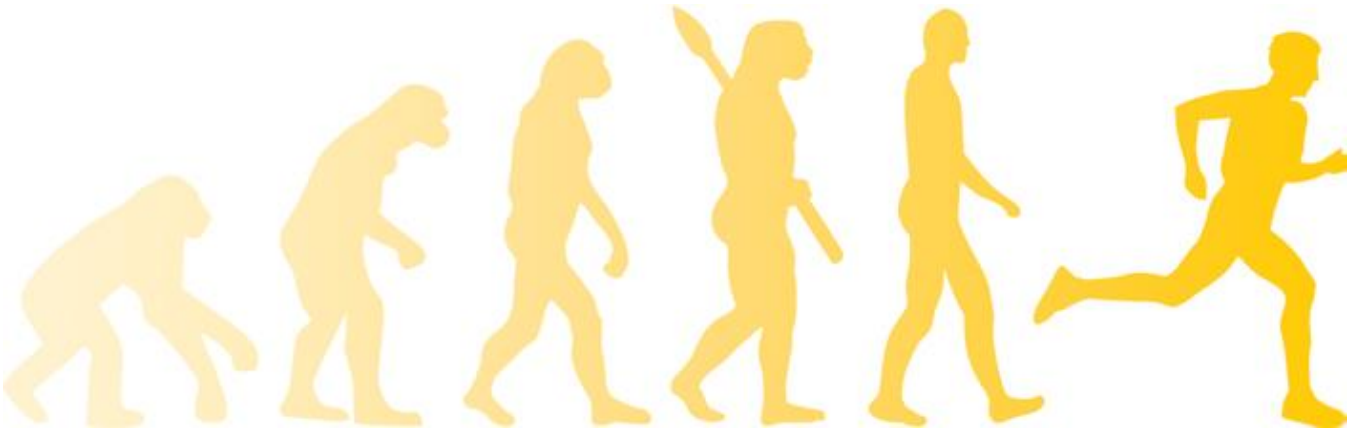
Market research firm IDC notes that in 2014 the digital universe equaled 1.7 megabytes a minute for every person on Earth. Between now and 2020 the digital universe will grow by a factor of 10 – from 4.4 trillion gigabytes to 44 trillion gigabytes.

Most businesses, however, do not tap this potential treasure-trove of information effectively, despite the fact that they recognize the potential value of doing so. This is particularly true when it comes to supply chain data. According to a recent Accenture survey, 97 percent of executives report that they understand how big data analytics can benefit their supply chain; but only 17 percent say they have implemented analytics in one or more supply chain functions.

Thanks to advances in analytics and data management capabilities, this status quo is starting to change. Companies are no longer relegated to running their business by "looking in the rearview mirror" – i.e. managing based on weeks- or months-old information. New information tools for– data mining, pattern by recognition, business analytics and business intelligence – are coalescing into an emerging field of supply chain data science that has the potential to push supply chains away from merely reactive operations, to proactive and ultimately predictive operating models. Predictive supply chains, in turn, enable the predictive enterprise.

This predictive enterprise is the new face of competitive advantage, and global companies such as Caterpillar fully understand this. In his 2015 published address to shareholders, Doug Oberhelman, Chairman and CEO of Caterpillar Inc. commented: "The next generation of data analytics will save our customers time and money moving to a 'predict and fix' model… All across our company, we are driving down operating costs and increasing uptime for our customers by turning big data into valuable, actionable information."

Business is only at the beginning of this journey toward the predictive enterprise. According to a Deloitte and the Material Handling Institute (MHI) study, which canvassed 400 supply chain professionals from across industry



verticals, less than 25 percent of respondents have adopted predictive analytics to date, although that number is expected to climb to 70 percent over the next three to five years. While only 24 percent of surveyed companies currently use these types of systems, 38 percent cited them as a source of competitive advantage.

The key to the future – of everything

"Data is the key to the future - of everything," stresses Jesse Laver, Vice President, Global Sector Development, Technology, for DHL. The great opportunity of the predictive supply chain, Laver goes on to explains, lies in using the analytical output to inform the strategic direction of the entire enterprise. The supply chain touches or affects every area of the global organization and is steward to a wealth of information. It is the keeper of current and past performance and, with the help of new tools and smart analysts, may well be a determiner of future success. Combine supply chain "feeds" with other information streams –such as social media and global risk analytics– and you get a smarter enterprise.

"We need to be able to look not just at real-time sales, but also at industry trends, and even what's going on in the news for "X" celebrity who wears a red headset to an event," Laver says. "We need to follow and mine social media for that celebrity, because now everyone wants a new headset in red, and we need to immediately adjust our production and distribution to capture that opportunity."

"Using big data analytics… moves us beyond being reactive and allows industries to predict and prevent," adds Craig Williams, Vice President, Quality, Johnson Controls Power Solutions in an Accenture report on the I Industrial Internet. "Ultimately, we want to be able to leverage predictive analytics to prevent and solve problems, while continuously improving processes." [1]

The long journey: Crawl, walk, run

Achieving this predictive operating model is not easy. "Companies have to go through stages on this journey," says Richard Sharpe, CEO of software solutions company, Competitive Insights. Sharpe refers to this as the "crawl, walk, run" continuum.

The first phases on this continuum – "crawl and walk" - are in place today at many global companies. Collectively, these two stages are known as the descriptive supply chain, whereby organizations use descriptive information and analytics systems to capture and present data in a way that helps managers understand what is happening.

These tools have been very effective in helping companies cut costs and eliminate waste in their supply chains. But, as a the Deloitte/MHI research indicates, these "incremental improvements are leading to diminishing returns. According to George Prest, CEO of MHI, "Companies that continue to rely on traditional supply chain models will struggle to remain competitive." [2]

Consequently, leading corporations are aggressively pursuing the "run" stage – the predictive supply chain. These firms are layering analytic techniques and tools onto their existing descriptive information architecture. With these tools, organizations can reduce inventory, start to sense and shape demand, streamline networks, improve agility and responsiveness, and generally get out ahead of not just their supply chain, but of their business as a whole.

"The reality of this new kind of supply chain is now within reach," says Gary Keatings, Head of Solutions Design for DHL. "For example," Keatings explains, "from supply chain data, we can calculate the current cost to serve for each product line, each market, etc., and can adjust the supply chain strategy accordingly. We become a supply chain intelligence provider to our customer, and help them optimize global business in a way that is not happening today. As a supply chain intelligence partner, we can help our customers run their entire business better to improve the bottom line. That is powerful."

As Sharpe of Competitive Insights concludes, "This is not about having a better supply chain, this is about having a smarter enterprise. The end game objective is far bigger than just operational improvement. Ultimately, it's about creating profit, growth and value on a sustained basis."

1. "Industrial Internet Insights Report," Accenture, 2015, 11.
2. "The 2015 MHI Annual Industry Report Supply chain innovation—Making the impossible possible," Deloitte-MHI, 2015, 4