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How to Turn Big Data into Improvements that Result in World-Class Operations

Sixty-five percent of manufacturers will digitize their equipment and processes by 2020, according to a Forrester study. This action is part of the larger internet of things (IoT) trend—a term used to describe the gain of digital technologies in the manufacturing space. Literally speaking, IoT is the act of connecting industrial machines, such as those used on Consumer Packaged Good (CPG) brands' packaging lines, to the internet. Through this digital process, companies gain access to mountains of machine data, which provides visibility into packaging line trends in ways companies have never seen before.

Big data is a phrase made up of two small words that, together, have enormous potential. By having access to large quantities of machine data, CPG brands can extract key packaging line insights, patterns and trends to inform business decisions. For example, as consumers and shareholders ask CPG brands to work leaner and greener, their manufacturing facilities must utilize data to set goals and measure achievement of energy and efficiency savings. As a result, big data is becoming the driving force behind company decision-making, and it's critical that manufacturers of CPG brands don't ignore this trend.

Many manufacturers have big data top of mind. According to a Forrester study, 80 percent of business leaders say data-analytics will be extremely important to them in the next two years. Forrester researchers evaluated the stages of digital supply chain adoption across manufacturers within the automotive, retail and CPG industries. Out of the 50 automotive companies surveyed, 53 percent reported that their supply chain is digitally managed or optimized. The retail industry follows the automotive industry — 39 percent of retailers surveyed stated that their systems are digitally managed or optimized. Of the 50 CPG manufacturers included in the study, 34 said that their digital systems and processes were in the “opportunity” or “ad hoc” phase, and only 32 percent of their supply chain was digitally optimized.

The digital manufacturing movement requires CPG brands to jump on the big data bandwagon. The biggest challenge CPG brands face is not how to profitably secure shelf space or penetrate e-commerce, it is figuring out how to leverage big data across their value chain to gain a competitive advantage.

The Digital Manufacturing Movement

Big data provides ability: visibility, traceability and accountability. Suddenly, with thousands of production data points visible, CPG brands can obtain a large picture of their business and identify packaging line variability—whether that variability occurs day-to-day, shift-to-shift, or even manufacturing site-to-manufacturing site with the same applications.

Additionally, big data provides traceability. It serves as a “forensic feature” that can inform the root cause of poorly-manufactured goods. For example, let's say that a CPG brand received returned boxes from a customer because the boxes opened during transit. The CPG

brand can turn to their packaging line data to decipher that the product return was a direct result of the maintenance manager changing the adhesive equipment nozzle size on a given packaging line. Because the nozzle was changed to a smaller size, less adhesive was applied, and thus there was not enough glue to keep the boxes closed. The CPG brand can proactively revert to the nozzle size used prior to the pop opens occurrence to ensure the profit loss of returned product will not happen again.

Lastly, big data provides accountability—creating transparency in daily operations to ensure employees are following standard specifications and processes. There is a direct relationship between manufacturing efficiency and autonomous maintenance cultures. The root of an autonomous maintenance culture is employee accountability. A company culture that empowers line operators to take ownership and follow highly prescribed specifications set by big data insights reduces rework and increases productivity.

The outputs of big data - visibility, traceability and accountability - all help realize material, time and energy savings; reduce waste of finished product; and provide improved quality controls and operational efficiencies that result in minimal downtime and proactive repairs.

How to Turn Your Big Data into Action

It's critical that CPG brands harness big data to uncover intelligence that informs better business decisions. But big data is a big challenge for most manufacturers, as they often find that there's not enough time and resources to collect, analyze and make sense of large quantities of data. Many CPG brands in the "ad hoc" stage of digitizing their supply chain have access to packaging line data, but haven't figured out how to turn the data into meaningful information for their business. In order to break down big data, CPG brands must understand that they need to invest in uncovering, preparing and analyzing big data. Preparing data for analysis is equally as vital as the data analysis itself.

Sifting through thousands of pieces of packaging line data can be time-consuming and overwhelming, that's why H.B. Fuller FullVision® Data-Analytics Service does the data analysis for CPG brands case and carton sealing packaging lines and turns the data into consumable, actionable bites of information for CPG brands. H.B. Fuller expert engineers use proprietary software to analyze data collected from Nordson® ProBlue Liberty ATS or a Problue Melter retrofitted with ATS. From the analysis, H.B. Fuller experts create a detailed, viewer-friendly report that helps CPG brands develop target adhesive specifications and track line performance against industry benchmarks to mitigate operating costs and improve product quality and manufacturing site productivity.

H.B. Fuller engineers are available to help decipher the information in the FullVision data reports and provide actionable, value-added suggestions for implementing improvement opportunities on CPG brands packaging lines.

Conclusion

It is imperative that manufacturers of CPG brands listen to what consumers and shareholders want: responsible companies that have figured out how to leverage big data to help achieve increasingly competitive energy-saving, productivity and efficiency goals. To learn more about how to turn your packaging line data into action, visit www.hbfuller-fullvision.com.

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