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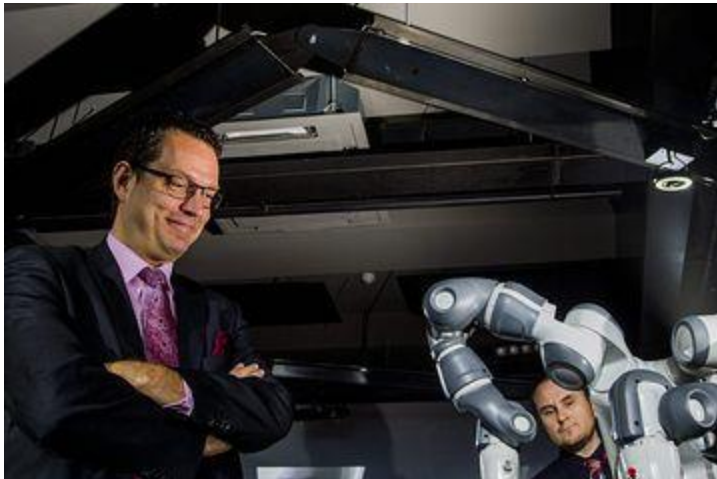
# Automation Is So Yesterday

By Thomas H. Davenport

An old friend (Jim Short of the Center for Large-Scale Data Systems Research Center in San Diego) suggested to me in a holiday email that “automation is an Industrial Age concept.” In between large holiday meals I gave some thought to that idea, and decided that he is right.

“Automation” means employing machine labor and intelligence to perform a process or produce a product. It also generally means that the process or product involved is repetitive and structured. At least at the moment and for a good while, even the smartest machines have to be programmed in advance. As Mike Rhodin, the head of the IBM Corp.’s Watson business unit, pointed out, “Watson doesn’t have the ability to think on its own.” Nor does any other smart machine or robot.

Advance programming means that the need for a product or process has to be predicted, and the overhead of programming means that changing the process or product is difficult and time-consuming. The implication is that automation is good for businesses where there isn’t much change, or in which products don’t vary much over time. In other words, we’re talking about business in the 1950s or thereabouts.



BFFs: Swedish ambassador to Hungary Niclas Trouve plays a game of dominoes with the two-armed robot named YuMi, Nov. 5, 2015. Tibor Illyes/European Pressphoto Agency

Successful businesses in the 21st century are generally those that respond rapidly to change. They introduce new products quickly. They deal with unexpected events. Humans are good at these types of change, and machines—even the smartest ones—generally aren’t.

Take, for example, the widely-cited announcement by [Foxconn Technology Group](#) CEO Terry Gou in 2011 that he would deploy a million robots in the company's electronics assembly business within three years. Foxconn assembles, among other things, [Apple](#) Inc.'s iPhones and iPads, and Mr. Gou believed that a million robots could replace a million workers in putting them together. But thus far Foxconn has only about 50,000 robots installed, and the company still employs a million humans. As [Daiwa analyst Kaile Huang is quoted](#) in a Wall Street Journal blog: "But it is not cost-effective to have a fully-automated production line given the short product cycle of smartphones. Flexibility of workers is still crucial in a fast changing market."

That same flexibility will also be necessary in many service and administrative processes. The companies that employ entirely automated solutions to perform these processes will probably be those that are most shunned by customers. You know the situation today; many of us frantically press "0" on our phones or yell "agent" into the voice recognition system to try to get a human to help solve our problems. More automation will make those companies who do employ humans more differentiated.

Competitively, automation is a fast route to a dead end. Standardized products and processes will initially be cheaper, but then other firms will adopt the same approaches. Everyone's prices will drop, as will profit margins. Companies won't have enough margin to create innovative new products or processes. The strategic appeal of consistent, low-cost machines will initially seem very seductive, but it will become much less so over time.

Of course, none of this means that humans shouldn't worry about smart machines taking their jobs. Some of that will happen, and it will most likely impact the people who are already suffering in our economy—those with the least education and experience.

But many human jobs will persist because smart leaders will realize that augmentation—combining smart humans with smart machines—is a better strategy than automation. Organizations that care about innovation, agile response to change, and high-quality customer service will realize the value that humans bring to such essential attributes of contemporary business. We're beyond the Industrial Age, and we should move beyond automation as a way to improve our businesses.

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