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ANALYTICS

How P&G and American Express Are Approaching AI

by Thomas H. Davenport and Randy Bean

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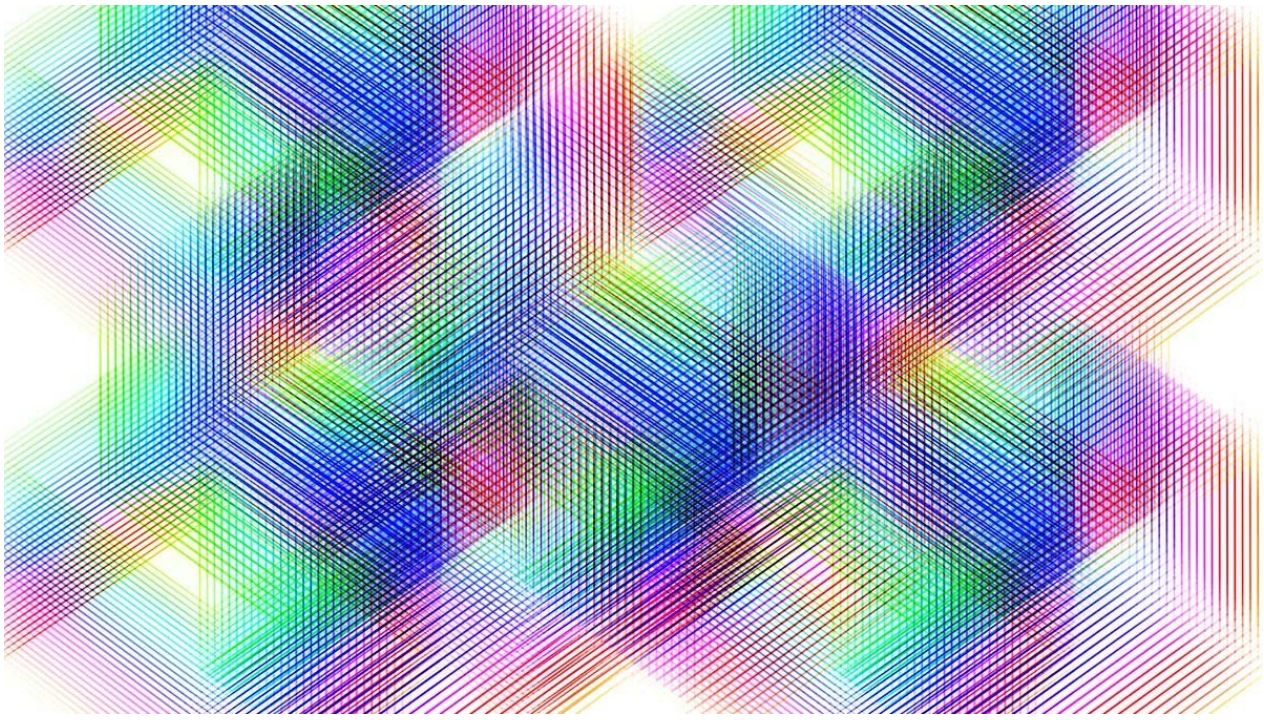

There is a tendency with any new technology to believe that it requires new management approaches, new organizational structures, and entirely new personnel. That impression is widespread with cognitive technologies — which comprises a range of approaches in artificial intelligence (AI), machine learning, and deep learning. Some have argued for the creation of "chief cognitive officer" roles, and certainly many firms are rushing to hire experts with deep learning expertise. "New and different" is the ethos of the day.

But we believe that successful firms can treat cognitive technologies as an opportunity to evolve or grow from previous work. For firms that have been producing results with big data analytics, machine learning isn't too much of a stretch. If firms had previous experience with expert systems, they are familiar with some of the necessary organizational and process changes arising from contemporary cognitive tools. These firms are likely to have already established the organizational structures needed to nurture and spread new technologies and business approaches. And they have well-honed approaches for developing the requisite new skills in employees.

Two good examples of combining well-established practices with cognitive technology to achieve business success are American Express and Procter & Gamble. Both firms are actively undertaking cognitive technology initiatives. Both are well into their second centuries; they wouldn't still be here if they weren't able to accommodate change well and introduce new technology effectively. We spoke with top executives at each of these firms about the rise of cognitive in their organizations. Ash Gupta is President of Global Credit Risk and Information Management at American Express, and Guy Peri is Chief Data Officer and Vice President of Information Technology at P&G. Both executives have longstanding track records of success at their respective organizations, having seen business and technology change come and go for 20 years or more.

Both organizations have a considerable history with artificial intelligence. Gupta at American Express reminded us of the Authorizer's Assistant, which was one of the more successful rule-based expert systems of the late 1980s. As described in a popular Harvard Business Review article on that generation of technology, the system made recommendations to human authorizers whether to approve large purchase transactions by cardholders.

P&G also built and employed a number of rule-based expert systems. In addition to Peri, the current CDO, we also spoke with Franz Dill, a retired P&G IT manager who focused on AI during the 80s and 90s. He said that the most well-known expert system they developed was one that blended Folgers coffee (no longer a P&G brand). This system, Dill noted, saved P&G in excess of $20 million dollars a year in green coffee costs. The company also built an expert system that helped advertisers at P&G to use, modify, and reuse the company's advertising assets.

Both American Express and P&G are companies that have explored artificial intelligence over the years, and while the technology may have changed, the established yet innovative approaches that these firms take to incorporating new technologies and capabilities continues to evolve. Their fundamentally sound innovation practices provide a foundation for evolution. The attributes of their respective approaches to cognitive technology include:

Build on your strengths. Both companies have long had a strong focus on analytics, and a focus on big data in recent years. Both firms view cognitive technology as an extension of that analytical focus, not an entirely new domain. They know that many cognitive techniques are based on statistics, and that the same analysts and data scientists who generate traditional statistics can also be trained to work with machine learning and other forms of AI. Gupta and Peri are responsible for cognitive technologies as well as big data and analytics at their respective firms.

Focus on the talent. Both American Express and P&G have long been known for their talent management approaches, and their work with analysts and data scientists is no exception. American Express has built up an organization of 1,500 data scientists (primarily in India and the United States), a growing number of whom are undertaking cognitive work. P&G's staff of analysts and data scientists is somewhat smaller (several hundred or so), but well over the average for firms in its

industry. P&G has a culture that emphasizes entry-level hiring and promotion from within, but in the data science and machine learning domain it made an exception and hired several people who already possessed the necessary skills.

Do most of the work yourself. Both American Express and P&G have a philosophy of building their own capabilities in cognitive technology. They both work with vendors, of course, but have a strong focus on open source tools for internal development. They believe it is both more effective and cost-efficient to develop in-house skills (as they did to a large extent with the previous generation of AI tools).

Address applications that benefit you and the customer. Both firms have a long history of customer focus. Both are addressing cognitive applications that benefit customers and bring operational business value to their own organizations. For example, American Express is focusing efforts on credit fraud reduction, which delivers both customer value and internal business benefits. By developing learning about the customer's context (such as their current location), the company doesn't need to bother customers with needless fraud alerts. P&G is addressing consumer needs with, for example, the cognitive technology-based Olay Skin Advisor app, which allows women to take selfies, have their skin age analyzed, and receive recommendations for the most appropriate Olay products. P&G also focuses on such applications as AI-based "bots" for customer service payment processing (which can also be used for IT support and operations), and machine learning for optimizing marketing spend, supply chain, and trade promotion (which benefits both P&G and its retailer customers).

Augmentation, not automation. Neither organization has the goal of eliminating large numbers of jobs with cognitive technology. Gupta observes "all of the data analyses that cognitive technologies can perform will help the business grow and ultimately require more people." P&G's use cases for cognitive technology are also

not based on reducing employees. Both firms believe strongly that humans and machines will work closely in a relationship of augmentation rather than automation.

We've both followed these companies for a long time—dating back to their early work with expert systems. We're not surprised that they are among the early adopters of cognitive technology among large corporations, and also not surprised that they are weaving evolution and innovation to achieve business success. Their measured embrace of cognitive technology is just one more reason why American Express and Procter & Gamble continue to deliver an improved experience to their customers, decade after decade.

Thomas H. Davenport is the President's Distinguished Professor in Management and Information Technology at Babson College, a research fellow at the MIT Initiative on the Digital Economy, and a senior adviser at Deloitte Analytics. Author of over a dozen management books, his latest is *Only Humans Need Apply: Winners and Losers in the Age of Smart Machines.*

Randy Bean is CEO and managing partner of consultancy NewVantage Partners. You can follow him at @RandyBeanNVP.

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James Madison a month ago

As one who studied AI in college, it's fascinating to see AI become cool again for about the third time in a quarter century. I agree with the core theme of this article--it's not that far off as an organizational competency if you already have the ability to do expert systems, natural language processing, entity analytics, machine learning, and deep learning using your existing data science staff. In fact, I find that when you ask many people *not* in these spaces to define AI, they actually define one of these spaces. I'd like to raise the bar. To me, AI circa 2017 is this: 1) Get your machine learning to near real time. Any decent organization should be able to do ML on annual, quarterly, or monthly refit cycles. Push that to weekly, hourly, near-real-time, and you're getting somewhere. 2) Get this real-time ML to act on behalf of the key entities of your organization. This is primarily customer of course, but may be others like B2B partners, intermediaries, etc. But the key is that the ML must get its reward from serving some very well defined entity that is important to your business. 3) Hook both of those into your event fabric so that the ML agent can both fire and consume events that allow it to take action on behalf of your entities. Your machines need to be taking meaningful actions on behalf of your entities without any human involvement. Do those three things, and that's cutting edge AI circa 2017. But if you're just routing your emails based on sentiment, or telling people "customers like you also bought", you're not doing AI.

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