

Using Advanced Technologies to Deliver an Uncommon Customer Experience Every Day

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Companies everywhere are experimenting with artificial intelligence (AI), machine learning, and advanced analytics in the belief that these technologies can be used to improve the customer experience. But, right now, many companies are largely focused on leveraging these technologies to automate labor and thereby reduce operating costs. And, whether they realize it or not, that's a risky approach.

It's understandable that AI is commonly and narrowly seen as a way to cut costs by automating manual and knowledge work. Cost-efficiency is a business imperative, now more than ever as radical digitization has allowed competitors to arise suddenly, unexpectedly, and disruptively. But too few companies are thinking about the new jobs they should be creating in customer-facing areas (marketing, sales, services, and so on)—jobs that AI and analytics cannot replace but should support.



That said, AI and analytics are producing big improvements in quality and responsiveness by automating many manual tasks. About 40% of retailers are implementing some form of intelligent automation, according to a National Retail Federation survey, and more than 80% plan to do so by 2021.¹⁶ But improving the customer experience in most industries will require that humans not only stay involved but that they engage with customers in new ways. That's where these new, intelligent technologies can be most useful: enhancing, not replacing, the human face the enterprise turns toward its customers.

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Business' Smart Little Helpers

Companies that successfully take this approach—using advanced intelligent technologies to enhance human capabilities—use a Machine First strategy to transform business processes that impact the customer experience: marketing, sales, and post-sale customer services (such as contact centers). [See Table 1, “Taking a Machine First Approach to the Customer Experience,” Page 33.] These companies have made significant improvements in their customers’ day-to-day experience while increasing revenue and customer retention and lowering costs.

¹⁶ “The coming AI revolution in retail and consumer products,” National Retail Federation in association with IBM, January 2019, accessed April 12, 2019 at: <https://cdn.nrf.com/sites/default/files/2019-01/The%20coming%20AI%20revolution.pdf>.



Take marketing. Leading firms have personalized offers to customers based on who they are, where they are, and what they like based on past purchasing patterns, and even current conditions, such as the weather.

For example, customers that opt-in to Starbucks's coffee shop service are recognized by the company's AI through their smartphones when they enter.¹⁷

The AI provides Starbucks's baristas with the customer's ordering history, allowing the baristas to make more informed and personalized recommendations for what new drink or snack the customer might enjoy that day. In a similar vein, Royal Caribbean International rolled out its Ocean Medallion wearable devices that allow guests to unlock cabin doors, and pay for drinks and food, giving Royal Caribbean's employees more time to respond personally to customer needs

and desires. More recently, the cruise line unveiled a tool that uses AI to create personalized vacation music videos for guests based on photos they submit to an app called SoundSeeker.¹⁸ The AI interprets the mood of the photos, and matches it with music, creating a differentiating offering for vacationers.



In sales, AI-enabled systems can present the customer with products that

would not be obvious to a retailer's merchandizers. For example, Walmart is using AI to tailor its stock based on store location and its analysis of local area consumers' shopping histories. "Machine learning makes sure we have the right assortment," says Gallagher Jeff, Walmart's VP of Operations and Business Analytics. "We have to know what's in this four-foot space [in a store] is right for Detroit, Kansas, Mississippi, New York." And on its website, Walmart shoppers are served product recommendations based on their past purchases, like its chief competitor, Amazon.¹⁹

¹⁷ H. James Wilson and Paul R. Daugherty, "Collaborative Intelligence: Humans and AI are Joining Forces," Harvard Business Review, July-August 2018, accessed April 12, 2019 at: <https://hbr.org/2018/07/collaborative-intelligence-humans-and-ai-are-joining-forces>.

¹⁸ Dean Takahashi, "Royal Caribbean uses AI to create personalized vacation music videos," VentureBeat, August 7, 2018, accessed April 12, 2019 at: <https://venturebeat.com/2018/08/07/royal-caribbean-uses-ai-to-create-personalized-vacation-music-videos/>.

¹⁹ "How Walmart is going all in on artificial intelligence," Clickz.com, January 21, 2019, accessed April 12, 2019 at: <https://www.clickz.com/walmart-artificial-intelligence/224407/>

More remarkably, in China, KFC recently partnered with search engine Baidu to experiment with facial recognition technology at one of its KFC restaurants. The technology analyzes a customer's gender, expression, and other visuals to provide menu recommendations, incorporating data on the customer's previous orders.²⁰

In all these examples, intelligent technologies are being used to improve the customer experience by personalizing it, and in all these examples the people who serve the customers are empowered, not replaced.



In the customer service area, AI and machine learning systems can quickly route the highest-value customers to the most knowledgeable, capable people to resolve customer issues while providing enhanced insight to customer-service agents, shortening the time it takes to resolve problems.

The examples cut across industries. At one energy utility, predictive call routing evaluates a call, directs customers to the right agent, and informs the agent of both the reason for the call and the actions necessary to resolve the issue. Swedish Bank SEB uses a virtual assistant to manage natural language conversations, answering customer questions about how to open an account or make cross-border payments. The assistant (Aida) can ask follow-up questions to solve problems and is programmed to analyze the customer's tone of voice (frustrated or appreciative) to provide better, more personalized service. In the 30% of cases where Aida is unable to address an issue, it automatically turns the call over to a less-burdened, less time-constrained human call center representative.²¹

MetLife also uses AI-enabled voice analytics software to help call center agents better understand the mood of callers. It helps them understand their own mood by providing feedback to let them know when they are

²⁰ Blake Morgan, "10 Customer Experience Implementations of Artificial Intelligence," *Forbes*, February 8, 2018, accessed April 12, 2019 at: <https://www.forbes.com/sites/blakemorgan/2018/02/08/10-customer-experience-implementations-of-artificial-intelligence/#2f9cd94a2721>.

²¹ H. James Wilson and Paul R. Daugherty, "Collaborative Intelligence: Humans and AI are Joining Forces," *Harvard Business Review*, July-August 2018, accessed April 12, 2019 at: <https://hbr.org/2018/07/collaborative-intelligence-humans-and-ai-are-joining-forces>.

Table 1. Taking a Machine First Approach to the Customer Experience

Business applications of AI, big data and analytics in the CX	Internal data required	External data required	Examples of implementations
Marketing			
Identifying the best prospects for the sales force to focus on	Customer data; Product/Service and Pricing data	Competitive data; Customer data; Location data	B2B Cloud Company
Sales			
Making personalized offers based on demographics, location, conditions, past buying behavior	Loyalty information; Purchase behavior	Weather data; Location data	Coffee House Chain
Merchandising (making products more visible and accessible to buy) based on local trends	SKU information; Product information; Customer segments	Location; Weather; News	Major Retailer
Customer Service			
Call centers with predictive call routing. Routing high-value customers rapidly to highly knowledgeable service people based on customer history and service need. Accelerates problem resolution	Customer information; Billing information; Energy usage	Customer information	Energy Utility
New Product/Service Development			
Personalized products/services	Personalized video for cruise ship guests	Customer photos, music and video	Royal Caribbean International
Identifying new product/service opportunities	Customer information; Purchase behavior	Customer segment information	Netflix launching of new movies/ TV series based on customer data

sounding tired or terse, enabling them to adjust their tone to provide more productive and humane customer service.²²

Early adopters, of course, are leveraging intelligent technologies in a global and holistic fashion. Netflix, for example, uses AI for programming, predicting

what people will want to see. It has replaced the old model of programming based on audience demographics by crunching enormous volumes of data about what people actually watch, where. In so doing, it has found ways to aggregate niche viewers, thereby maximizing content that was once thought suitable only for small markets.²³



How to Take a Machine First Approach with Smart Technologies

To begin taking a Machine First approach to improving the customer experience while empowering the organization's people, a company must start by assessing its current practices in data collection, data management, and its analytics capabilities. This means analyzing the company's current use of metrics (for example, in the call center) to determine whether you are measuring the right things. *Remember: it is not replacing people; it is capitalizing on AI and analytics-generated insights to redesign the customer experience.*

For example, ethnographic research is still important, and companies must still interview customers to understand how they experience their interactions with the business. These interviews, and the data they provide, should be used in design thinking to explore the customer journey step by step.

²² Tom Simonite, "This Call May Be Monitored for Tone and Emotion," *Wired*, March 19, 2018, accessed April 12, 2019 at: <https://www.wired.com/story/this-call-may-be-monitored-for-tone-and-emotion/>.

²³ Josef Adalian, "Inside the Binge Factory," *New York Magazine*, June 11, 2018, accessed April 12, 2019 at: <https://www.vulture.com/2018/06/how-netflix-swallowed-tv-industry.html>.

Next comes the process of getting customers to opt in, from which companies can begin to amass the huge volumes of data needed to feed smart systems. One valuable vehicle for retrieving this data is loyalty programs, in which customers share their purchasing data with companies in return for discounts, special offers, and other rewards. It is important that this data be of the highest quality, and completely accessible and usable by the company's smart systems.

Once a company understands where and how its customers' experience can be improved, it should employ an agile approach to build minimally viable products and services to market test, launching proof-of-concept projects on a technology platform. The end-user feedback one receives from these projects can be used to refine and improve the products and services. This process will help companies evolve in real-time in a process of continuous innovation and delivery (CI/CD) to ensure the customer experience is refreshed in real time.

Finally, the company must identify the new jobs it needs to create so it can provide a superior, AI- and analytics-enabled customer experience while making sure it meets its customers with a human face. Companies must

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**See “The
Crucial Role
of People
in a World of
Extreme
Automation”
on page 47.**

train people on how to use new systems and tools, and how to collaborate with automated processes. All the smart tools in the world will not help a company if, for example, its call center employees don't know how to use them or ignore them using workarounds. In some cases, these new jobs will require skills an organization does not possess in-house. That means hiring as needed.

Training should not be limited to end-users. Top management also needs to become conversant and knowledgeable about these new technologies to fully understand the competitive advantages they can offer, and the new revenues they can generate, by identifying nascent customer needs for new products while improving customer retention by focusing resources on the highest-value customers. Some executives still resist making the investments in time and money needed to collect and leverage the huge volumes of internal and external digital data needed to optimize the performance of AI, machine learning, and advanced analytics. This resistance is why many established companies in the media, retailing, financial services, and travel sectors have been disrupted and have seen non-traditional competitors and startups make significant inroads in their markets.

Duty now for the future

Almost all companies, to a greater or lesser degree, are experimenting with digital technologies, especially AI, machine learning, and analytics. But not all companies understand that the purpose of their projects should be to expand the capabilities of their workforce so that they in turn can help improve the customer experience in both B2C and B2B businesses. Machines are important and understanding the possibilities of the new technologies is critical, but only people, armed with human insights provided by machines, can provide a customer experience that will resonate with people even as it evolves to keep pace with their ever-changing needs and desires. Helping companies keep up with that rapid pace of change is the true value of these technologies, and that value cannot be overstated.

