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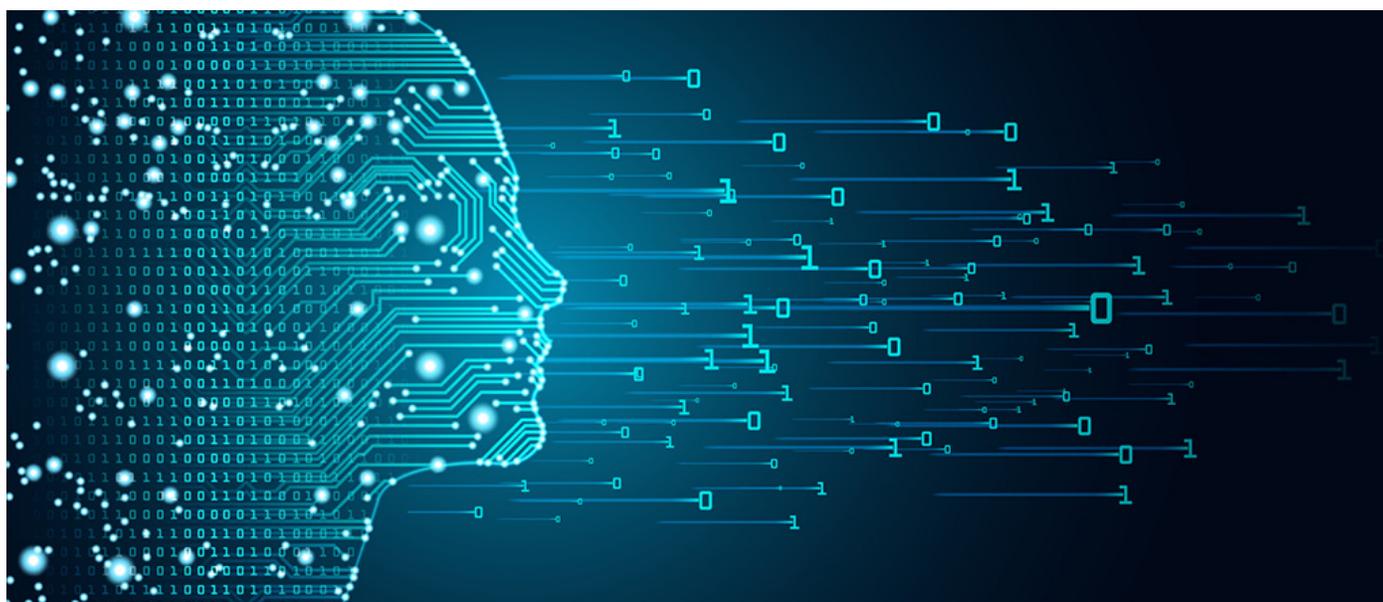
Marketing the Future: How Data Analytics Is Changing

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Data analytics helps marketers learn about their customers with target precision, from the movies they watch on Netflix to their favorite scoop of chocolate ice cream.

Data is ubiquitous, essential and beneficial — except when it's not.

Experts warn that data analytics is at an inflection point. Growing concerns about security risks, privacy, bias and regulation are bumping up against all the benefits offered by machine learning and artificial intelligence. Layer those concerns on top of worries about the coronavirus pandemic and how it has rapidly changed consumer behavior, and the challenges become clear.

"What we're seeing is a lot of chaos in terms of what is the right answer. And what we're seeing is a change in strategy," said Neil Hoyne, chief measurement strategist at Google and a senior fellow at Wharton Customer Analytics.

Hoyne said he's in constant conversation with companies that are trying to figure out the future of data analysis. Google and other internet providers recently announced plans to phase out third-party cookies, which will strip marketers of a wealth of fine-grained information collected by tracking consumers across the web. Proactive companies are already pivoting, so they can be ready for a post-cookie, post-pandemic world.

"The companies that are going to win are the ones who are using data, not guessing," said Hoyne, who spoke along with other industry and academic experts during a Nov. 17 virtual symposium, "The Use of Analytics and AI in a Post-pandemic World." The event was hosted by the nonprofit Marketing Science Institute, along with Wharton Customer Analytics and AI for Business at The Wharton School.

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The symposium touched on a wide range of topics under the umbrella of data analytics while keeping sharp focus on what's ahead in the evolving world of artificial intelligence.

"In trying to design the program today, we couldn't ignore the obvious, which is 2020 has been the year of disruption and risks — and, hopefully, successful management of those risks," said AI for Business Faculty Director Kartik Hosanagar, who is also a Wharton professor of operations, information and decisions.

The Risks and Rewards of Data

Much attention has been paid to all the impressive ways that AI and machine learning help companies by automating services, predicting patterns and making recommendations that lead to greater sales and engagement. A third of Amazon's sales come from its recommendation algorithm, for example, while YouTube's algorithm drives 70% of the content watched on its platform.

But, Hosanagar said, the risks associated with AI need equal attention and priority from managers.

AI can create social, reputational and regulatory risks, even for companies well-versed in technology. Amazon scrapped a recruiting software with a gender bias; Twitter shut down a Microsoft chatbot that "learned" how to post racists tweets; and Facebook was sued by the U.S.

Department of Housing and Urban Development, which alleged the platform's targeted advertising violates the Fair Housing Act by restricting who views housing ads.

"These are not small risks for the companies," said Hosanagar, who strongly recommended business leaders create interdisciplinary teams to continuously monitor and evaluate data for bias.

Bias can be unwittingly baked into algorithms by the humans who create them. Symposium speaker Kalinda Ukanwa, a marketing professor at the University of Southern California's Marshall School of Business, offered a powerful example to illustrate the problem. "Rebecca" applies for a loan with an online bank that uses AI to determine the loan. She is rejected, despite having good credit. But if she enters the same information with one difference — her gender — she is approved.

While the online bank may see an initial surge in business because of the ease of use, it may suffer long-term reputational effects. Months after Rebecca's bad experience, she may tell her friend, "Jim," not to bother applying for a loan at that bank because she didn't get approved.

"Algorithm bias can be profitable in the short run, but unprofitable in the long run due to word of mouth reducing consumer demand," Ukanwa said.

Still, she emphasized the value in data analytics. When it works well, it takes the guesswork out of decision-making and can lead to more equitable outcomes. But AI must be vigilantly monitored and tweaked. Sometimes, there's an easy solution. In the bank loan example, simply dropping the gender input would have prevented the bias.

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Raghuram Iyengar, Wharton marketing professor and faculty director for Wharton Customer Analytics, also cautioned marketers to consider how they deploy data analytics. Is it really needed to solve a problem? "I talk about this sometimes in my class: You don't need a bazooka to get a fly," he said.

Pushed by Pandemic Uncertainty

The current COVID-19 pandemic has disrupted business in unexpected ways, rendering obsolete some of the data analytics that were useful before consumers radically shifted their consumption patterns. Google's Hoyne said smart companies are responding by moving from precision measurement to prediction. Instead of capturing more data, they are exploring what they can do with the data they already have. They also are shifting from third-party, cookie-based data to first-party data to establish more direct relationships with their customers.

He said companies are less interested in the historical tracking of consumer data because the past doesn't matter now. And rising concern about privacy and regulation has companies examining how to make their data more transparent to customers, as well as more reliable and relevant.

These are incremental changes, not a major overhaul. "They just want to be a little bit better," Hoyne said, calling that approach "refreshing" because it's more sustainable for companies.

Barkha Saxena, chief data officer for social commerce site Poshmark, held up her firm as an example of flexibility in uncertain times. Data has always driven decisions at Poshmark, and the company has taken an integrated approach that allows it to be nimble during market changes. She shared a framework that could help other companies do the same: evaluate the data, execute the plan, learn what worked and what didn't, then repeat.

"This is pretty much how you turn the data into an operating tool," Saxena said.

She also encouraged a team mindset around data. It shouldn't be sequestered in one department but shared across business functions.

"We have the foundation of very centralized, reliable and easy-to-access data, but then it's delivered to all the teams," she said. "It allows for the data to be accessible to all the business users at the time of the decision."