
The Conversation: 3 Things to Know About the Direction of Data Analytics

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During the recent [2021 Wharton Annual Analytics Conference](#) at the Wharton School, University of Pennsylvania, leaders in business gathered virtually to discuss the latest business trends in data analytics.

The message across industries was clear: data is a powerful tool that companies large and small are using to make deeper, stronger, more effective decisions with the goal of improving everything from products and innovation, to their relationships with customers.

For analytics conference keynote speaker Jamie Moldafsky, WG'89, chief marketing and communications officer of Nielsen, a global data and analytics research company for the media industry, data has long been a guiding light. "As I look back in my career, there are common threads around the use of data," she said. "It's so critical to success whether you're a general manager or a marketer — focusing on the 'so what,' asking the right questions, listening to the data, and always representing the truth is what makes companies strong."

"It's a very cool time to be in data and analytics, but the responsibility to use our skills as a force for good is a real one." — Jamie Moldafsky, Nielsen

The strategic use of data is growing in strength and importance, supported by the machine learning and models that enable analysis. Here are a few of the most notable 21st century trends:

1?? Over the next decade, every company will be transformed by Artificial Intelligence. Data has been described as the lifeblood of AI (human intelligence exhibited by machines). Systems that use artificial intelligence can analyze data from different sources and offer predictions about what works and what doesn't.

As AI technology gets more sophisticated, so too does the process of data analytics. "Here at Google, AI has been something that we used in a few products to something we're using in every product that's out there," said Rajen Sheth, vice president of Google Cloud AI and industry solutions at Google. "Everything from how you interface with Google Search to how you work with your Android phones to how you work with your Chrome browser all use AI to make the user experience better. Over the last five-to-six years, there has been dramatic transformation in a few key areas with AI...[They are]: Computer Vision and being able to interpret pictures and videos; Conversation: being able to converse with a computer and have it respond to you; Language: natural language understanding has taken big leaps over the last few years and is due for many big leaps over the next few years; and Structured Data: this is probably the most traditional way that people have used AI, taking tabular structure and being able to make predictions based on it. A lot of the new techniques are giving us better and better and better predictions as a result."

2?? Data analytics will improve diversity, equity and inclusion. A fundamental part of data analysis is figuring out the stories behind the numbers to gain more valuable insights and make better decisions. "This is especially important in the media industry," said Moldafsky. "Audiences expect inclusion and demand stories that reflect the diverse experiences of their lives."

She added: "The events of 2020 and 2021, up to and including the resolution of the George Floyd murder, have continued to bring into the public discourse the inequities and the injustices that exist in our society. I believe we have a moral obligation as business leaders and data analytics professionals to use our expertise as agency for positive change. It's a very cool time to be in data and analytics, but the responsibility to use our skills as a force for good is a real one."

This responsibility extends to understanding where biases – thinking strongly either for or against a person or idea – might influence the process of data analytics and the so-called outputs or conclusions people draw.

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During an Analytics Conference roundtable discussion on “The Importance of Cultural and Social Intersections to Data Analytics,” [Stephanie Creary](#), an identity and diversity scholar in Wharton’s management department, addressed bias in the hiring process. For a while, companies decided to rely only upon algorithms and machine learning to make the decisions about who to hire for a new job or who should get a raise in salary. But then lots of research started coming out to say that humans are deciding which data are being used to determine what is fed into the algorithm – so the biases inherent in human thinking, including racial stereotypes, are still influencing data-driven decisions.

“What needs to be done in the short-term and the long-term is for organizations and people who are part of these processes, such as analytics leaders and analytics teams, and people who work on human resources, talent, and diversity, equity and inclusion teams, to begin to work together in order to figure out how we effectively reduce biases in these processes,” said Creary. “It is very hard, we have found, for the analytics people and the people experts to get on the same page, but it is possible.”

3?? **We are experiencing a real-time data revolution.** This is potentially exciting new for all you budding economists out there who like to follow the latest federal economic data, including monthly employment and unemployment rates and Gross Domestic Product, the summary measure of the whole economy.

During the pandemic crisis, policymakers have needed more “of-the-minute” data to guide their decisions, rather than waiting for those monthly statistics. “As we discovered in 2020, we just don’t have time to wait for the high quality, comprehensive but somewhat lagging information that we get from the headline indicators,” noted Alex Arnon, associate director of policy analysis for the [Penn Wharton Budget Model](#), a research-based initiative that provides accurate, accessible and transparent economic analysis of public policy’s fiscal impact. “That is where real-time tracking of the economy comes in...2020 shook things up in a big way and private entities, corporations and other research organizations made a ton of information available to researchers, policy-makers and to the general public.” This information is coming from mobile devices and apps, enterprise services software that handles activities like employee scheduling at companies, payroll and earnings management systems and payment platforms that provide information about credit card transactions.

“Normally, if you wanted information on the labor market in a particular county, you might have to wait a year or two at least before the U.S. Bureau of Labor Statistics would get enough quality information,” said Arnon. “For people like me, this has been a revolution in what is available and how much we can keep an eye on what is going on in the economy from day to day.” He added that the data is less comprehensive and the quality is not as strong, so researchers are proceeding with caution in how they use this new plethora of data to guide policymaking.

Are you driven by data? Then be sure to tune into all the 2021 [Annual Analytics Conference sessions](#) and explore [Analytics at Wharton](#), [Wharton Customer Analytics](#) and [Wharton AI for Business](#) to discover the latest research and trends in data analytics. Before long, [Eric Bradlow](#), vice dean of analytics at Wharton and the K.P. Chao Professor and professor of marketing, statistics, education and economics, will no doubt get his wish: “Let’s make analytics an action word: Let’s *analytics* it!”