

Data analytics in a time of crisis: How businesses can navigate the coming months

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Analytics have been front and center of the COVID-19 outbreak. A majority of the public policy decisions have been based on models developed by epidemiologists to forecast the spread of viral infections amongst populations. Donnie Hale, a lecturer in Poole College of Management's department of business management, shares the critical role analytics has played in this pandemic—and will play in the coming

months.

One of the unfortunate realities we are seeing in the Coronavirus projections is that viral spread tends to follow an exponential growth function early on, but its long-term growth is limited by population size and any immunities developed within the population. That means that seemingly low levels of infection will quickly grow to impact large percentages of the population.

The disconnect between current reality and looming catastrophe has made it difficult to navigate public policy and perception. It is hard to get people to act now based on what models predict may happen in the future. However, social distancing has become the norm and it appears to be winning, as recent evidence suggests that the growth curve is, indeed, "flattening."

So what's next for the pandemic—and for our economy—and how can analytics help businesses navigate the coming months?

Data Analytics and the Pandemic

Epidemiological models will continue to be updated with new information as it is collected. The dynamics of viral spread are well understood, but the particular parameters—such as the rate of infection or immunity—and impact of [public policy](#) for any viral outbreak have to be refined as the outbreak is happening.

Over time, as more data is collected, the uncertainty associated with these parameters and policy impacts will continue to decrease—meaning predictions will get better and better over time. However, [business leaders](#) and policymakers will still need to navigate the tension between current reality (infection rates decreasing) and short-term consequences (removing [social distancing](#) too early will only cause infections to spike

again).

Data Analytics and the Economy

This is an unprecedented scenario for our country and our world. According to Forbes, the previous high for weekly unemployment claims in the United States was 695,000 in 1982. In recent weeks, we have seen unemployment claims of more than 3 million and 6 million respectively. That makes it hard to extrapolate from past experiences to forecast what is likely to happen over the coming months.

In addition, it is hard to forecast what the outbreak will do to consumer tastes and preferences. For example, will consumers shy away from public experiences, or will there be renewed demand for in-person gatherings and meetings? Will the move to service delivery stick, or will consumers return to their previous buying patterns? There are very few analogs to draw from in our collective history.

Does the lack of historic data mean that business analytics is useless? Quite the contrary; it means that business leaders need to leverage analytics to develop solutions and think creatively about the path forward.

I would suggest the following for business leaders:

1. Use analytics to fully understand the drivers of demand, profitability and performance across the entirety of their organizations.
2. Pay close attention to the epidemiological models with their timing and consequences to develop "what if" scenarios.
3. Integrate an analytically rigorous understanding of their business dynamics with the "what if" scenarios to game the potential consequences of the remaining outbreak.

4. Leverage the gamed scenarios to mitigate short-term risks and think creatively about the best way to position their organization for a post-COVID-19 world.

Provided by North Carolina State University

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