Disruption And The Growing Role Of Big Data

Big Data disrupts businesses by arming companies with volumes of data that hold information about consumer behavioral patterns and—with proper insight—lead to innovation.

Swift advances in technology have manifested in the creation of startups that are changing the way business is traditionally done, and many people are now aware of the concept of disruptive innovation. Formerly mighty brands such as Kodak used to dominate the camera and film industries to the point that its name was hacked by our vocabulary (in Filipino slang, "kodakan" once meant "picture taking"). Digital photography, however, upended this seemingly staunch dynasty with innovation, and despite getting a head start in it by creating one of the first digital cameras in 1975, Kodak couldn't keep up and lost its core business.

Disruption happens when a new technology or way of doing things proves to be more convenient to the end-user than the old system. Photography enthusiasts realized that they didn't have a need for prints anymore when digital photography became widespread, and so Kodak's film business floundered. Disruption can also happen when more possibilities are accommodated by a new system, such as how the app development ecosystem promoted the use of smartphones by cheaply producing an enormous variety of apps that gave users endless functionality.

Old processes and business models are disrupted when a new concept is introduced (ie. Facebook) or a more viable way to transact is discovered (ie. Uber). Blue-chip companies are more vigilant than ever because now they understand that those agile enough are the ones who will survive in the future.

The biggest of disruptors is Big Data

Big Data is becoming a disruptor for all types of business because it harvests nuggets of insights in massive quantities of data, allowing data scientists to discover information that could possibly lead to breakthroughs—whether in their respective fields or in others. Dealing with Big Data provides businesses with more information about patterns of user behavior, which allows them to formulate new ideas, products or services that can potentially run with the market.

"With information at the core of most modern disruptions, there are new opportunities to attack industries from different angles," wrote Maxwell Wessel, member of the Forum for Growth and Innovation. He added that disruption starts "where the source of data is," and when a system is built on information—much like how startups operate—it can take on an incumbent industry.

Big Data helps ensure that innovations keep rolling

Airbnb and Uber have both been disruptors in their respective industries in their promotion of a sharing economy. Airbnb's social features have suddenly made it easier for people to book cheaper accommodations, within price points they can afford, and hotels are suddenly scrambling to compete with guest rooms and apartments. Meanwhile, Uber initially aimed to disrupt the limousine rental market, but its easy-to-use app soon made it an irresistible alternative to taxis as well once the company had cheaper vehicle alternatives with UberX.

Big Data not only helps these companies operate continuously, but it has also helped them find ways to make their services more efficient. In order to assist its hosts in setting prices for their listings, Airbnb uses algorithms to process data such as neighborhood boundaries, prices of similar rentals, inclusion of breakfast, and an enormous amount of other seemingly minor details to determine the best price for a particular property. The company has even released the machine-learning platform it used, called Aerosolve, as an open-source tool so that others could have a go at using it to create even more sophisticated applications.

Uber also uses algorithms, in this case to determine surge pricing for the control of supply and demand of its vehicles. Although less forthcoming than Airbnb about how they work, Uber does make use of a system that was deemed "fair" by a study that reverse-engineered their algorithms. Millions of Uber users can get home from dense areas during rush hour because of

the way surge pricing entices activated drivers to stay on the road, ensuring the app's continued popularity.

Big Data arms companies with information and innovation

The more information you have, the more innovation you can make. And, in terms of agility, the more information you have, the faster you'll be able to adapt to innovations that are already happening.

"The data analytics space used to be about gathering tons of data, then a human analyzing what happened and predict what might happen next. But we're now moving into where an entire value chain is programmable, software driven. With deep learning and algorithms, stuff is getting automated, happening instantaneously," observed Roger Gurnani, Verizon's Executive Vice President & Chief Information and Technology Architect, at the Forbes CIO Summit.

"The best thing about Big Data is we can look at more than just transactions. All these new data sources are available to us and with the right partners, the business and technology teams can get together," said Ron Bodkin, Founder & President of Think Big, at the same event. Learning how consumers behave by examining large data sets and connecting the dots opens new possibilities for innovations in customer service, which is sure to drive more business.

Big Data provides answers to questions of where users want to take their experience next, allowing companies to adjust and find ways to serve them better. By patiently extracting its value, data scientists can make discoveries on long-term solutions that will allow companies to stay in the game throughout other disruptions.