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**Why is Big Data Big Business?**

Organizations are guided by the large scale collection and dissemination of information. The business world is undergoing a revolution generated by big data. In 2001, data analyst Doug Laney coined the term “the 3 V’s” to describe the defining properties of big data – Volume, Velocity, and Variety. “Volume” refers to the amount or scale of data; “Velocity” refers to the speed of data processing; and “Variety” refers to the immense diversity of data – from “likes” on Facebook, to emails, to credit transactions.

While the term “big data” is a relatively new term, the collection and storage of large amounts of information for targeted analysis existed long before the age of technology. The US was once the largest contributor to global data, but emerging markets are increasing at a rapid pace, and the vast amounts of data created and stored is almost unimaginable. Big data is big. According to the International Data Corporation, the amount of information stored worldwide in 2012 exceeded 2.8 zettabytes – an increase of 48 percent from the previous year. By 2020, the amount of data is expected to grow 50 times larger.

However, the vast amounts of data that businesses collect matters little unless organizations can process and understand the information. Data is only useful when organizations can derive value from it, and data analytics is the process of understanding information, making connections and extracting insights. Big data is big business when the facts gained from analysis offer insights to spur decision making. Simply collecting and storing data matters little unless the data can drive meaningful action. It’s imperative that today’s businesses align their big data programs to their business objectives to stay competitive by becoming more efficient, proactive and predicative.

**Who Uses Big Data?**

**Retail and Manufacturing**

The way businesses buy and sell continues to evolve at breakneck speeds. In the sectors of retail and manufacturing, collecting and analyzing data directly affects the innovation of products and services. The proliferation of e-commerce and social media has become a dynamic source of information of customer behavior, gaining insights that drive products and services. Retail businesses analyze data to predict future trends, forecast demand, optimize competitive pricing, and design marketing strategies. For instance, some retailers have found the demand for books increases in the winter months, so some online retailers increase the amount of book recommendations on social media and even target regions where temps are dropping.

The largest retailer in the world, Walmart, is creating the “world’s largest private cloud” that can track millions of daily transactions, allowing the retailer to respond to market changes in real time. Demand for products by geographical area can also be leveraged, preparing goods and readying shipping before an order is even made.

**Healthcare**

While big data is utilized in healthcare as it is in retail and manufacturing, to improve profits and cut waste, it’s also being implemented to predict epidemics, improve quality of life and avoid preventable deaths. According to big data and analytics expert [Bernard Marr](http://www.forbes.com/sites/bernardmarr/2015/04/21/how-big-data-is-changing-healthcare/#45915d8032d9), rapidly changing treatment deliveries in healthcare are now driven by data: “The drive now is to understand as much about a patient as possible, as early in their life as possible – hopefully picking up warning signs of serious illness at an early enough stage that treatment is far more simple (and less expensive) than if it had not been spotted until later.”

Marr explains that partnerships between health and data professionals now have the ability to identify future health problems before they happen. Collecting data from various sources for a more comprehensive picture can help medical professionals to recognize problems before they occur, giving doctors more information and therefore better insight into individualized patient care.

**Education**

The use of data in the education sector has exploded in recent years, with all segments of education mining data to improve services. Local school districts use data for everything from planning bus routes to tracking discipline and academic achievement. Schools use data to gauge lunchroom preferences and improve classroom cleanliness. Teachers can even analyze data to learn what types of classroom instruction are most effective.

On a larger scale, data collected from Massively Online Open Courses (MOOCs), which delivers education to millions via the web, is providing enormous insights into academic success. Data gathered from millions of MOOC students around the world can be analyzed to understand how people learn – and why learners fail.

**Government**

As local and state government agencies apply analytics to their data, they can make substantial improvements in everything from managing utilities, overseeing agencies, refining public services, and even preventing crime. This directly affects the quality of life for all citizens.

**Finance**

Even though financial institutions utilize banking data to improve customer satisfaction, it’s also being implemented to reduce risk and fraud while meeting regulatory guidelines. Securities and investment services are two of the fastest growing sectors in finance of big data use. One of the major causes of the last recession was the lack of transparency. Financial deals were based on relationships and personal opinion, not real facts and figures. Big data allows investors a more transparent view of markets and conditions and lessens the possibility of fraud. The banking industry more than any other sector has the responsibility to protect individual’s privacy and manage risk, and big data is leading the way.

**How Does Big Data Affect Business?**

The analysis of data can aid an organization in a myriad of ways. While businesses can look to data to refine their internal processes, they can also gain insights that can

* Reduce costs
* Reduce time
* Spur new product development
* Prevent fraud
* Gain business advantage on competitors
* Expedite decision making

The potential for businesses to collect and analyze targeted data will continue to increase across all sectors of industry as the amount of data continues to grow. This information will affect business and marketing strategies as organizations learn what products customers want, who will buy them and what they are willing to pay.

**What is the future of big data for business or global economy?**

As new data mining technology continues to be developed, organizations must educate themselves on how to interpret and understand the insights to best utilize the information. The era of big data will fundamentally alter many organizations, leading them toward information-driven business models. As the collection and analysis of big data continues to increase, it will significantly impact not only business and industry, but society and economies across the globe.

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