Big Data: A Revolution That Will Transform How We Live, Work, and Think

By Viktor Mayer-Schonberger and Kenneth Cukier

In today’s digital age, there is an explosion of data everywhere. Google processes more than 24 petabytes of data per day. Data bytes are being generated every minute—from the mobile call to a loved one at the end of the day to buying groceries for the month. How are these data bytes being used?

Some of the leading companies in the world and entrepreneurial start-ups are making good use of these data. They are being used to arrive at shocking and seemingly innocuous conclusions like “a car painted orange is highly likely to be in good shape for a used car deal” or when airline ticket prices are going to be favorable to the buyer.

Big data is considered to be the next hype cycle. It is claimed to be the biggest development since the Internet, promising to turn the world upside down. Big Data: A Revolution That Will Transform How We Live, Work, and Think explains the concept of big data, the impact it has made, the changes in mind-set it will require and the flipside of its incorrect application.

Written by Viktor Mayer-Schonberger and Kenneth Cukier, Big Data: A Revolution That Will Transform How We Live, Work, and Think is shortlisted for the Financial Times and Goldman Sachs Business Book of the Year Award. It is full of examples, stories and anecdotes, which make it a very interesting read. It is a business book demonstrating the value IT can bring to the business.

Until now, business has been blinded by a couple of limitations while making decisions: nonavailability of data and a lack of processing/computation power to process large amounts of data. With increasing digitization, declining costs of computational power and development of tools capable of organizing large amounts of data, an altogether new insight is available for decision making.

With the insight provided by big data, companies can make many business decisions such as what should be stocked next to a torch when a hurricane is forecasted in a big market and health authorities can be alerted about possible outbreaks of diseases in a particular geography.

The application and power of the concept is unlimited. Election results in a democratic country can be forecasted. Expenditure patterns of any individual or section of individuals can be predicted. Vehicle traffic on a road can be anticipated and, in an agriculture economy, big data can estimate rainfall by manipulating numerous data points.

However, some old concepts will have to be shelved to make effective use of big data. Correlation is just one such concept. Our mind is tuned to establish the causal effect. This fixation with causality needs to be reduced because in a big data world, why is not important so long as what is established. For example, one would not be able to establish why orange cars are in better shape than other cars.

These amazing predictions, forecasts and insights are based on the analysis of vast amounts of data. That said, these data were not shared or intended to be used for these purposes. Thus, the concept of big data gives rise to the issue of data privacy. One’s digital life has given to the outside world a window into one’s life, and the power of big data is correlating this view of a person’s life with many other data points, of which one is not even aware, resulting in possible views of one’s innermost thoughts, which one may not want to share. This risk needs to be considered and the control environment needs to adapt to it.

There are other perils to big data as well, which are elaborated on in Big Data: A Revolution That Will Transform How We Live, Work, and Think.

EDITOR’S NOTE
Big Data: A Revolution That Will Transform How We Live, Work, and Think is available from the ISACA Bookstore. For more information, see the ISACA Bookstore Supplement in this Journal, visit www.isaca.org/bookstore, email bookstore@isaca.org or telephone +1.847.660.5650.