

Why the fuss about big data?

CIOS NEED TO STOP THINKING JUST ABOUT VOLUME AND LOOK FOR VALUE

Each of us is drowning in a sea of self and machine-generated data. This all contributes to the global ocean of big data. Simply put, big data is data too large or complex to be effectively handled by standard database technologies found in most organisations.

With the increasing use of public cloud technologies, much of our digital footprint lies outside our own walls. As an individual, your personal contributions include emails, Internet search history, geotagged images you share through social media, retail purchases, loyalty program transactions and road toll payments.

In addition to this data, private, public and government organisations across sectors such as healthcare, research and scientific discovery generate rivers of information that eventually flow into data centres dotted around the globe.

Consider for a moment just one of the latest major scientific endeavours, the Square Kilometre Array (SKA) Telescope, a state-of-the-art radio telescope in development in Australia and South Africa. Once operational, the SKA is expected to produce data equivalent to up to 100 times the traffic of the entire Internet, and will require the processing power of about a hundred million PCs.

For data to be regarded as 'big', conventional thinking is that it should contain three key attributes – volume, velocity and variety. But there is another arguably more important attribute, value, which should also be added to this list.

Data alone is of limited intrinsic value. Only when the disparate array of sources is merged, consolidated, analysed

and interpreted does its potential value emerge. For instance, climate records, geographic and population census data, and other data sources could be used to identify and predict specific diseases.

For astute businesses, realising the potential value of relevant, timely and accurate information stitched together from a range of sources can not only help fuel innovation, but also be a real differentiator in how you manage and service your customers.

KEEPING YOUR PRIVATES PRIVATE

There are a variety of information management challenges for CIOs to heed, however. To comply with relevant privacy legislation, data that is to be externally released for marketing, analysis and reporting should have the individual's personal information removed, a process known as anonymising or de-identifying. But when disparate data from a range of anonymised, independent data sources can be matched using specialised algorithms, it has already been shown re-identifying data is possible.

The risks associated with the possible re-identification of personal information should be high on the agenda for industry regulators, legislators and those concerned about information security and privacy.

THE LAWLESSNESS OF BIG DATA

Using overseas cloud computing providers to store and manage large data sets also introduces the much discussed additional complexity of data residency legislation.

Added to this is governance. Managing and interpreting big data involves merging disparate sources into newly created, consolidated data sets. A number of questions arise over the security of these such as who owns, or has title to them? Who decides what access controls should be applied and in which legal jurisdiction?

We should also never ignore the fact big data presents a rich target of opportunity for cybercriminals. Globally, cybercrime is a multi-billion dollar business with several of the smartest brains employed to crack security systems.

As a CIO, you are uniquely positioned to help your organisation make the most of the value of its own and others' associated data, as understanding organisational taxonomies is at the core of enterprise information technologies. The question is: Is your organisation ready to drink from the fire hydrant of big data? **CIO**

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