

Big Data, what, why and when?

It's becoming hard to open any business or IT publication, without seeing an article about "Big Data". There seems to be another IT 'perfect storm' on the horizon; where the data deluge is being met by massive processing power, and the need for organisations to harness the potential within the data that is available to them.

Analyst firm IDC has this to say about the subject:

"Big Data technologies describe a **new** generation of technologies and architectures, designed to **economically** extract value from very large **volumes** of a wide **variety** of data, by enabling high-**velocity** capture, discovery and/or analysis."

IDC-Digital Universe Study: Extracting Value from Chaos.

What is Big Data?

Large numbers of objects and/or large objects is what Big Data deals with. To try to quantify this a little better; traditional technologies scale to tens of terabytes, but struggle with hundreds of terabytes and are not in any way useful at the petabyte scale.

The main issue with traditional architectures is that they add complexity and management overhead as they scale. Hence today you find people talking about summarising data, or creating data-marts to limit the size of the data they are working with. The issue is that now there is a realisation that condensing data limits the value of the outputs that be obtained.

Why?

In the old economy 'value' was created by turning raw materials into finished goods. Today value is created by taking raw data and turning it into 'ideas'. Big Data, (both structured and unstructured data), can yield insights into solving hard business issues, understanding trends and improving customer relations. Today, the issue is that the current IT infrastructures do not cope with the volume of data and the varying types being created. However, companies created in this digital-world have been able to demonstrate the value that can be derived from this data. Facebook, Google and Amazon, analysing clickstream data to improve user experiences, monitor behaviour to make 'suggestions' and logging activity to target adverts.

There are essentially four key ways in which using big data can create value.

1. Big Data can create value by making information more open and accessible on a more frequent basis.
2. Organisations can create and store more transactional data in digital form and so they are able to also collect more accurate and detailed performance information on all aspects of their business to predict what is going to happen.
3. Big Data provides more granular segmentation of customer behaviour analysis and therefore much more precisely customised service offerings.
4. Big Data can be used to improve the development of the next generation of products and services.

When?

Today forward looking IT leaders are looking towards Big Data as the biggest opportunity for them to add value to their organisations. IT transformation has been focused on reducing operational costs and moving more budget to innovation and new projects. Big Data seems to be the focus for this innovation.

The impact

The use of Big Data will become a key differentiator of competition and growth for individual firms. From the standpoint of competitiveness, agility, customer behaviour awareness, and the potential capture of value, all companies need to take Big Data seriously.

The optimum use of Big Data will underpin new waves of productivity growth and consumer services. While the use of Big Data will matter across sectors, some sectors will be naturally set for greater gains than others, and the smart companies will have already started on this path, however, there are still a few issues that will have to be addressed to capture the full potential of Big Data. Policies related to data privacy, data loss/breach of security, intellectual property, and even liability will need to be addressed in a Big Data world. Organizations need identify the opportunity and put the right talent and technology in place, as well as structuring the business workflows and incentives to optimise the use of Big Data. Access to data is critical—companies will increasingly need to integrate information from multiple data sources, often from third parties.

Be ready for a Big Data World.

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