

Fujitsu Market Insights

Big Data

Executive summary

A recent survey conducted by Fujitsu and the Swiss Federal Institute of Technology in Zurich (ETH) reveals that IT decision-makers regard 'Big Data' as important to their businesses. They see 'Big Data' fostering innovation and driving the development of new business models, products and services and will be used by companies to identify new growth opportunities through deeper customer insights. For most companies 'Big Data' is at an early stage of adoption, with only 11% of companies interviewed having implemented 'Big Data'. Data security and know-how related challenges are viewed as the main barriers to adoption and full exploitation of 'Big Data' and its benefits.



Introduction

'Big Data' makes sense of large volumes of data coming from different sources, in different formats, in high volumes.

The data volume and velocity, the different data formats – such as text, audio, and video – and sources – such as files, e-mails, IT logs, web logs, social media and sensor data – constitute both a challenge and an opportunity for organizations. The challenge is how to manage 'Big Data' technically and analytically in order to arrive at actionable insights. The opportunity is to generate new and profitable customer and business insights hidden in 'Big Data'.

Is this the case? Where are organizations with regards to 'Big Data'? Do they consider it relevant? Sadly, beyond anecdotal evidence, adoption is not understood.

In order to find out more Fujitsu teamed up with Prof. v. Wangenheim from the Technology Marketing Group at the Swiss Federal Institute of Technology in Zurich, Europe's leading technology university, to interview IT decision-makers in Europe. This report summarizes the key findings.

'Big Data' in the eye of the beholder

'Big Data' promises much for decision-makers, such as generating customer insights whilst fostering innovation, new business models, and products and services.

Big Data is...



Chart 1: Please tell us if you agree or disagree with the following statements:

'Big Data' is here to stay. It is recognized as becoming increasingly important to business and links to important drivers such as growth opportunities and customer insight.

'Big Data' implementation

Surprisingly, only 11% of respondents have already implemented a 'Big Data' solution in their organization. Roughly one third of the respondents stated they are currently planning to implement a 'Big Data' solution. However, the majority, about 40%, have not yet planned to implement 'Big Data'.

Big Data implementation

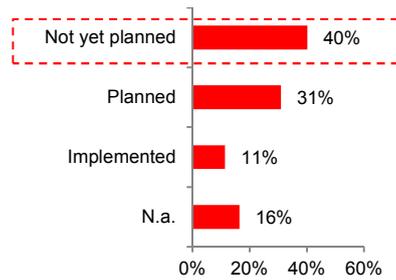


Chart 2: How would you describe the degree of 'Big Data Analytics' implementation in your organization?

'Big Data' barriers

The low take up of 'Big Data' is explained by data and people related barriers, whilst organizational and technological aspects constitute less of a hurdle. Only 3 % of respondents stated there are no issues to be resolved.

For almost 60% of IT decision-makers data security and analytics techniques are key barriers. Data policies and data access challenges are part of this data related barrier.

Potential 'Big Data' issues

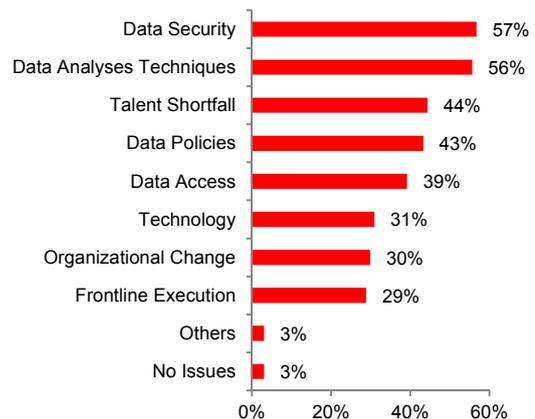


Chart 3: Which of the following potential issues will have to be solved to gain full potential of 'Big Data' Analytics'?

In line with recent marketing trend surveys 'talent shortfall', a lack of well-educated personnel capable of running advanced analytics and data modelling procedures, is the other key barrier.

Together this implies that the technical challenges 'Big Data' imposes on an organization's IT infrastructure are not the real barriers, in reality these are data and people related. To turn data into valuable information requires people who have the right expertise to tap into and analyze 'Big Data'. Obviously this requires the right technology, but apparently IT decision-makers feel confident that the right technology exists.

'Big Data' use, data sources and types

The low share of 'Big Data' implementations is also reflected in the use pattern.

Areas of data analytics

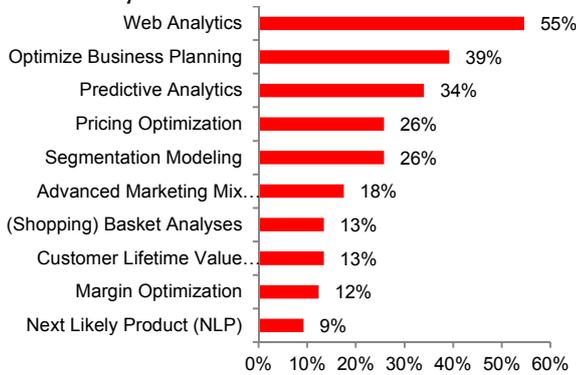


Chart 4: Thinking of your own organization, which of the following "analyses" do you currently perform?

Web analytics, business planning and predictive analyst are the principal areas of use. More sophisticated data analytical procedures, which require machine learning based approaches that thrive on 'Big Data', are less prevalent.

Traditional data sources and data types complete this rather 'pre Big Data' picture. Most respondents rely on traditional CRM, ERP, and financial data. Webserver and e-shop log files are the only non-traditional data source that is already used by a large share of organizations. Characteristic unstructured 'Big Data' types are used by very few organizations. Not surprisingly, the share of unstructured data is much higher within the few organizations that have already implemented 'Big Data' projects. It is interesting to note that social media related data sources such as Twitter, Facebook, fora, and blogs are analyzed by the 'Big Data' implementers.

Data sources used

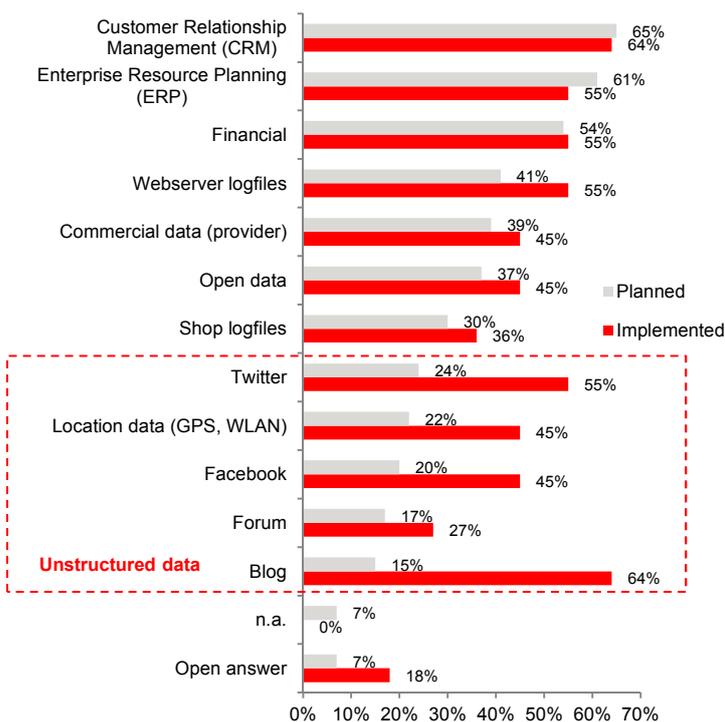


Chart 5: Which of the following sources do you plan to analyze/are you analyzing at the moment?

Not surprisingly structured data, data in databases in tabular formats, are the main data type considered for analysis. Again of interest is the difference between 'Big Data' implementers and those organizations planning to implement. Unstructured data, specifically in the form of text, is considered twice as often by 'Big Data' implementers. Data not readily analyzable, like video and audio, still play a niche role. Again, also here the difference between 'Big Data' implementers and planners is noteworthy.

Data types

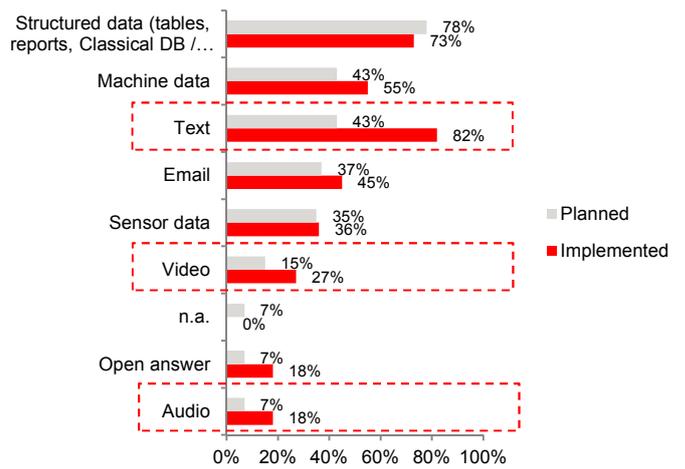


Chart 6: And which of the following data types do you plan to analyze?

The underlying technologies used for data analyses are broadly a reflection of the typical data sources and types. Naturally 'Big Data' implementers show a much higher penetration of 'Big Data' technologies such as Hadoop and semantic text mining, with adoption rates 50-100% higher compared to 'planners'. The comparatively large share of both 'implementers' and 'planners' regarding in-memory technologies suggest that efficiency gains due to speeding-up analytical processes are likely to be a main driver for adopting this technology.

'Big Data' technologies

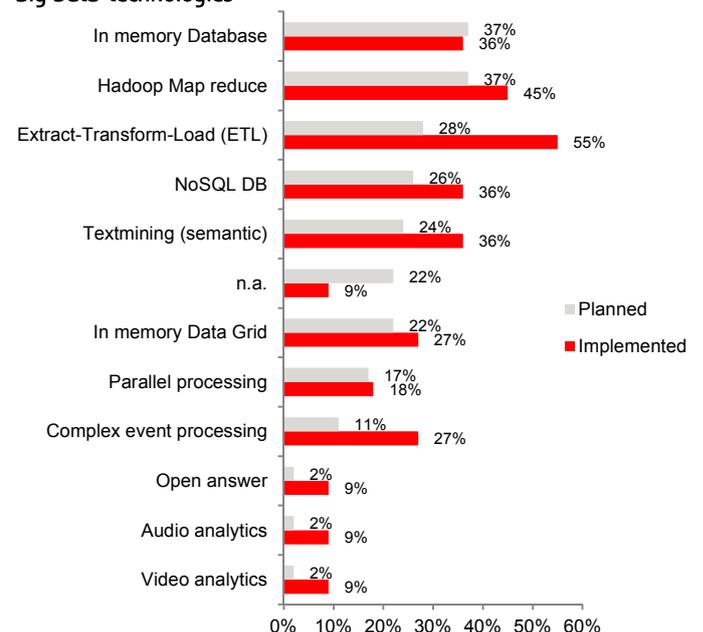


Chart 7: Which of the following underlying technology(ies) do you intent to apply/are you using for your 'Big Data Analytics' solution?

Who initiates 'Big Data' projects?

In line with the 'Big Data' benefits findings, the main beneficiaries are the main drivers, specifically marketing. However, a difference exists between implementers and planners. Organizations that have already implemented 'Big Data' projects reported that mainly the marketing function was the initiator with 60% of responses, while planners reported this function only 28% of times. For planners the IT function was the main function with 41%, although the range of initiating functions is broader than is the case with the implementers.

'Big Data' project initiation by function

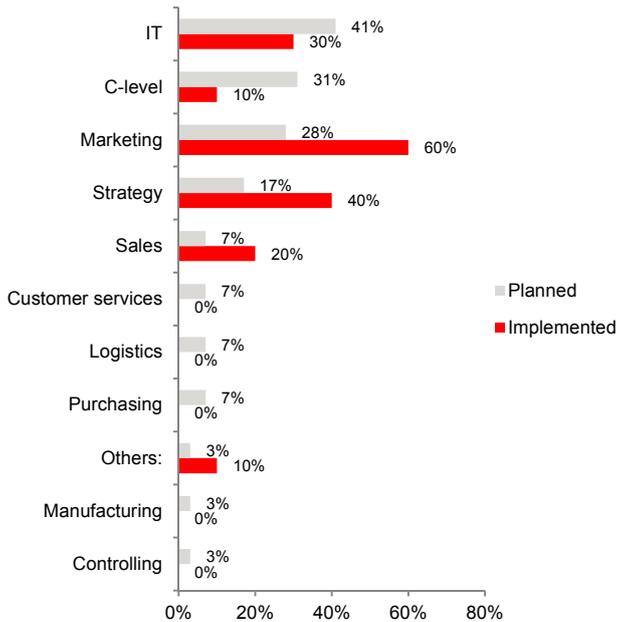


Chart 8: In which business unit was the project initiated?

Although the survey results do not provide a direct explanation of this functional difference between 'Big Data' implementers and planners it is likely that this difference is simply a reflection of the way innovations diffuse through organizations. Functions like IT or general management often initiate new technologies (IT) or strategic directions (general management) which, when implemented, are further driven by the functions benefitting the most from its application and use. In the case of 'Big Data' this is marketing, sales, and strategy. An alternative explanation is that the difference reflects an actual shift. More recently initiated 'Big Data' projects are generally triggered more by IT and general management. If such a shift really exists, it is unclear why.

Conclusions

'Big Data', although perceived as a lasting, valuable trend, is at an early stage of organizational adoption. Data and human resource related barriers need to be addressed before the benefits of 'Big Data' can materialize. The technology and the analytical techniques are readily available. But without the right data, including data and security policies, and the right people capable of analyzing and synthesizing 'Big Data' and turning data into relevant and actionable information, the promises of 'Big Data' will just be, a promise.

Research highlights

- European IT decision-makers regard 'Big Data' as an important and lasting topic
- Only 11% of all respondents have implemented 'Big Data' projects in their organizations
- 40% of all respondents have not yet planned 'Big Data' projects
- Barriers to adoption are mainly data and people related, not technology related

Research information

Research in brief



- Undertaken in cooperation with the Technology Marketing Group at the Swiss Federal Institute of Technology in Zurich
- Face to face and online interviews
- Random sample of IT decision-makers collected at European IT events and through social media, late 2013 to early 2014
- N=97
- Regional focus: Europe



To explore these topics further with our experts, please contact:

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