

Data Analytics trends for 2020



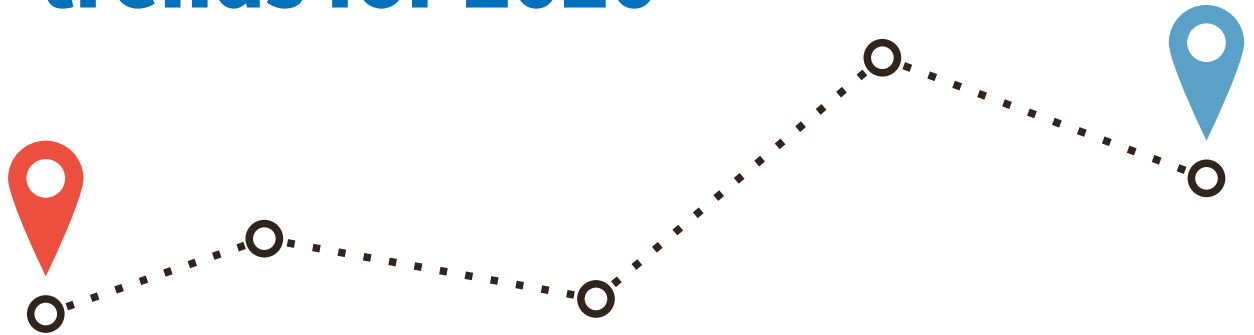
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Introduction

Ready for 2020 – somehow two of the same numbers stacked together make it already sound more exciting right, or maybe that’s just me. Talking of numbers, what has this next year got in store for companies who want to use data to drive their businesses forward.

Firstly, let’s check in on the last decade; data literally exploded and the footprint it left behind gave those who had the vision the chance to use it to either transform their existing businesses or in some cases (us included) build a business. Worth noting though that 90% of all data that has been created, is in the last 3 years. Netflix claim to save \$1bn a year using data to retain customers but conversely 91% of companies feel they are losing revenue because they don’t have a proper handle on their data.

We are all now users of the cloud, spreadsheets have been upgraded to data visualisations and automation is now King!

So, what’s in store for 2020 – well, with a decade of experience under our belt, our BI and Analytics trends for this year, should be a strong indicator for what to expect.

Keith Varty

Commercial Director
Jarmany

1 Data Quality Management (DQM)

So, it goes without saying that there isn't much point analysing data that isn't right, yet this is exactly the trap that many organisations fall into. They are too quick to move to analytics and instead need to focus on the integrity of the data – not doing the DQM phase leads to arguments about what the number is rather than what to do about it. In fact, the Business Application Research Centre state that DQM is the biggest trend of 2020 and Gartner estimate that poor data quality is estimated to cost organisations an average of \$15m per year.

In our experience the mismanagement of data is often because of the following reasons:

- There is a lack of understanding of what data is available and the quality of it
- The data isn't processed regularly and in time for the demands of the business
- The right people with the right skills aren't processing it
- There is bias in the way the data is being interpreted
- The right data management and automation tools aren't being used (if at all)

2 Predictive Analytics

Predictive analytics uses historical data to predict future events, trends and outcomes and to determine these outcomes it uses statistical algorithms and/or machine learning techniques. Predictive analytics tries to see what the effect of future decisions will be in order to adjust the decisions before they are made.

Industries harness predictive analytics in different ways:

- Airlines use it to decide how many tickets to sell at each price for a flight.
- Hotels try to predict the number of guests they can expect on any given night in order to adjust prices to maximize occupancy and increase revenue.
- Marketers determine customer responses or purchases and set up cross-sell opportunities.

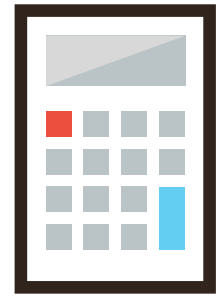
- Bankers use it to generate a credit scores – the number generated by a predictive model that incorporates all the data relevant to a person's creditworthiness.

We use Azure Machine Learning and Python to deliver predictive analytics and this provides rapid increases in accuracy and speed over its manual alternative. And we do this for some of the biggest companies in the world.



'Gartner estimate that poor data quality is estimated to cost organisations an average of \$15m per year'





3 Augmented Analytics

Said by Gartner to be the number 1 trend in data analytics for 2020, augmented analytics takes knowledge and context into providing a solution using AI to deliver an action.

Ultimately, it's about empowering everybody to be able to use the outputs of analytics without the need for specific mathematics and computer science skills. That said it does

require an increase in data literacy across the organisation which should be a great opportunity for everybody.

We typically sit in existing sales, operations, project and marketing teams and act as the data advocates and influencers alongside our day job.

4 The impact of IoT on Data Analytics

By 2020 there are set to be over 30bn devices connected to the Internet ranging from kitchen toasters, smart cars, thermostats, home security, refrigerators, wireless speakers and whole manufacturing plants.

However, given the 'big data' footprint these devices and systems leave behind and the varying nature of the data sets, their future success lies in proving their value which is why data analytics is critical. This will mean an increase in the work and demand for data scientists who are fast becoming a highly valuable commodity. However, Gartner projects that through 2020, 'a lack of data science specialists will inhibit 75% of organizations from achieving the full potential of IoT' and as staff with the necessary skills will

be scarce or expensive, organizations will 'seek ways to use them more effectively or will find alternatives to human involvement, perhaps using machine learning rather than human data analysis.'

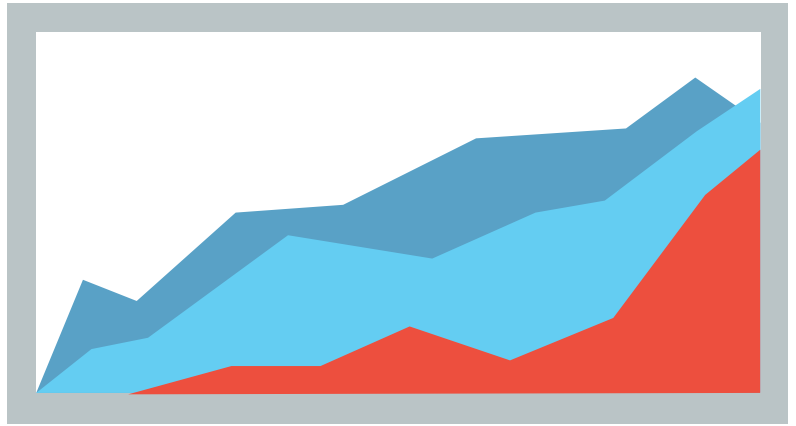
We predict therefore that IoT will eventually evolve from being a hardware challenge to a data one. So, start by ensuring you have the capability to manage and interpret the data so you can do something meaningful with it.



75%

'a lack of data science specialists will inhibit 75% of organizations from achieving the full potential of IoT'





5 Data Visualisation

Visualisation tools are of course already widely used and last year saw some significant acquisitions in this area with Google buying Looker for \$2.6bn and Salesforce picking up Tableau for what was the biggest acquisition in its history, an eye watering \$15.7bn.

The use of visualisation tools is being driven by widening appetite from organisations to discover data and extract insights. It requires understanding the relationship between data in the form of data preparation, visual analysis and guided advanced analytics. Business users value these tools because they:

- Are easy to use
- Are agile and flexible
- Reduce time to get insight
- Allow easy handling of a high volume and variety of data

And since we as human beings process visual data better, the use of these tools is set to grow significantly as organisations mature in their use of data.

But again, don't expect widespread adoption without the necessary training and having more information often creates more questions. We can help you ensure you and your colleagues are on top of these dashboards, are able to interrogate the insights in them and don't revert to using existing excel formats or worse being spoon fed data solutions in presentations.

\$15.7
Billion

Salesforce picking up Tableau for what was the biggest acquisition in its history



6 Being data driven

Implementing a data driven culture across the business is now seen as imperative if organisations are going to transform digitally. The process of collecting data based on measurable goals or KPIs, analysing patterns and facts from these insights and utilising them to develop strategies and activities to drive a business is fundamental to its growth.

Data that is stored in the cloud, is reliable, timely and presented in a visually rich and easy to understand environment is key to driving widescale adoption. The agility that a data-driven culture will provide an organisation with is immeasurable, as an example, the ability to respond to changes in market dynamics will be easy to detect and quicker to respond to.

7 AI

Hype surrounding AI has peaked and troughed over the years as the abilities of the technology get overestimated and then re-evaluated. By the end of 2019, the smartest computers could still only excel at a narrow albeit not insignificant selection of tasks:

- Identifying human faces
- Answering general questions
- Actioning specific tasks
- Translating text into practically every language
- Spotting tumours
- Driving cars

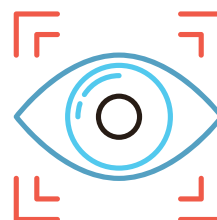


There is simply too much data available today and companies need to find solutions that will ensure they get competitive advantage. By empowering every employee to work with data (instead of being trapped in silos) and to base their decisions on what information they can derive from it, organisations have a chance to thrive in this highly competitive digital environment, no matter the industry – add training of people and the right structure with data roles throughout the org.

Democratising an understanding of how to use data is therefore our last trend of 2020.

“The field has come a very long way in the past decade, but we are very much aware that we still have far to go in scientific and technological advances to make machines truly intelligent,” says Edward Grefenstette from Facebook .

Our view is that the immediate potential of AI is in its ability to improve the speed and accuracy of vital processes and tasks.



Consider the following...

- You wake up, refreshed, as your phone alarm goes off at 7:06am, having analysed your previous night's sleep to work out the best point to interrupt your sleep cycle.
- You ask your voice assistant for an overview of the news, and it reads out a curated selection based on your interests.
- As you leave, your daughter is practising for an upcoming exam with the help of an AI education app on her smartphone, which provides her with personalised content based on her strengths and weaknesses in previous lessons.
- On your way to work, your car dashboard displays the latest traffic information, and estimates the length of your journey to the office, based on current traffic conditions and data from previous journeys.
- On arrival, you check your emails, which have been automatically sifted into relevant categories for you.
- You have other things to worry about though, as you head to a hospital appointment. However, after a chest x-ray, you are surprised when the doctor sits you down immediately afterwards, explaining that you look to have a mild lung infection— you had expected it to take weeks before the results came back.
- On your way back, your car detects signs that you are feeling slightly agitated, and chooses some music you have previously found relaxing

- After dinner, you and your partner watch a film suggested by your TV, which somehow strikes just the right note for both of your normally divergent tastes
- After dozing off, your house, predicting you are asleep by now, turns off the bathroom light and turns on the washing machine, ready for another day.

Now that's quite a day right, but it works to demonstrate what AI driven processes could look like.

In a business context give some thought to how AI can have an impact on a similar list of regular activities – that is likely to be where you will get the quickest and frankly biggest wins. We can help you to map these out.

And so, what next

We hope this report has proved informative and provides some practical insight for the year ahead. The adoption of best practise in analytics will give you competitive advantage and if you're not doing it you can bet your competitors are, or soon will be.

We are of course on hand to help in any way so please get in touch if you think you are going to need some support in the coming year, we'd obviously love to help.

