



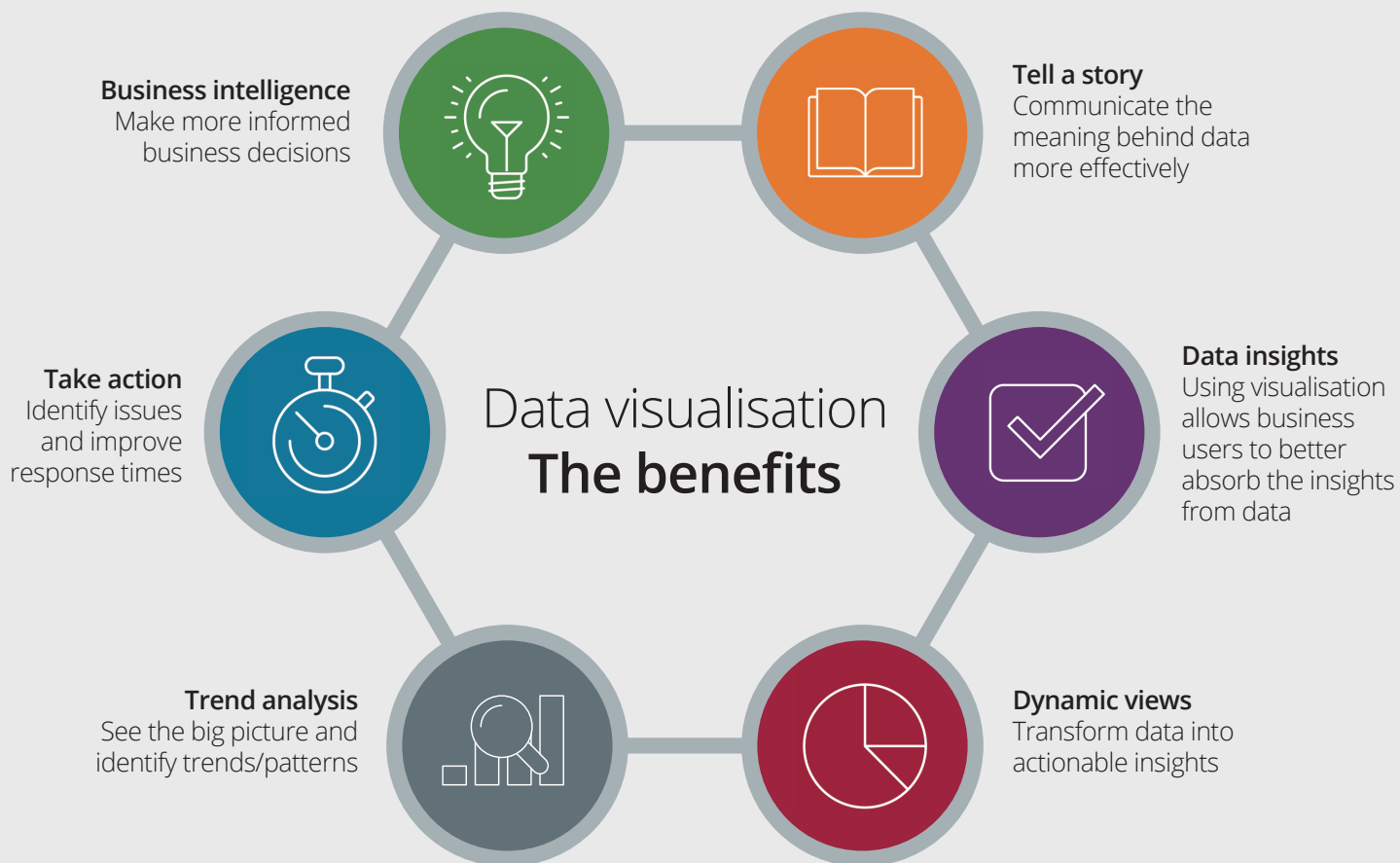
**EQUIFAX**

# Data Visualisation

The importance of data visualisation  
in data democratisation



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Definition: Data democratisation is the ability for information in a digital format to be accessible to the average end user. The goal of data democratisation is to allow non-specialists to be able to gather and analyse data without requiring outside help.

It has been said many times over, in recent years, that data is the new oil and programmers are the new Rockstars. To be able to extend the usefulness of data, it sometimes takes clever people to work on data, to simplify and turn it into a story that a non-data person can pick up and understand instantly.

Did you know that our brains can process an image in just 13 milliseconds. Think about that. That's an incredibly short space of time.

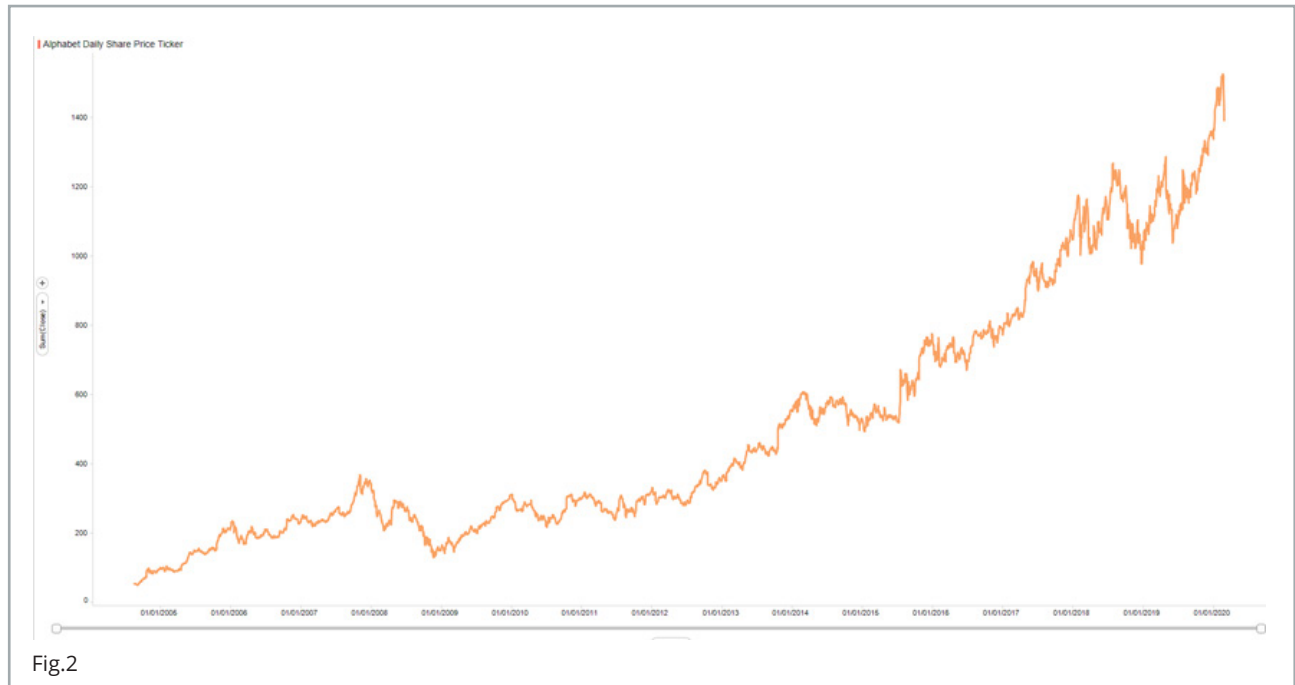
So now imagine you have a table like the one below pictured below. How long do you think it takes for your brain to process that subset of data and then try and identify a trend? What's the story in the data and how can we tell that in different ways, to make it more accessible for the masses? What is even in the data?

Date	Open	High	Low	Close	Adj Close	Volume
19/08/2004	49.813286	51.835709	47.800831	49.982655	49.982655	44871300
20/08/2004	50.316402	54.336334	50.062355	53.95277	53.95277	22942800
23/08/2004	55.168217	56.528118	54.321388	54.495735	54.495735	18342800
24/08/2004	55.4123	55.591629	51.591621	52.239193	52.239193	15319700
25/08/2004	52.284027	53.798351	51.746044	52.802086	52.802086	9232100
26/08/2004	52.279045	53.773445	52.134586	53.753517	53.753517	7128600
27/08/2004	53.848164	54.107193	52.647663	52.876804	52.876804	6241200
30/08/2004	52.443428	52.548038	50.814533	50.814533	50.814533	5221400
31/08/2004	50.958992	51.661362	50.889256	50.993862	50.993862	4941200
01/09/2004	51.158245	51.292744	49.648903	49.93782	49.93782	9181600
02/09/2004	49.409801	50.993862	49.285267	50.565468	50.565468	15190400
03/09/2004	50.286514	50.680038	49.474556	49.818268	49.818268	5176800
07/09/2004	50.316402	50.809555	49.619015	50.600338	50.600338	5875200
08/09/2004	50.181908	51.322632	50.062355	50.958992	50.958992	5009200
09/09/2004	51.073563	51.163227	50.31142	50.963974	50.963974	4080900
10/09/2004	50.610302	53.081039	50.460861	52.468334	52.468334	8740200
13/09/2004	53.11591	54.002586	53.031227	53.549286	53.549286	7881300
14/09/2004	53.524376	55.790882	53.19561	55.536835	55.536835	10880300
15/09/2004	55.07357	56.901718	54.894241	55.790882	55.790882	10763900
16/09/2004	55.960247	57.683788	55.616535	56.772205	56.772205	9310200
17/09/2004	56.996365	58.525631	56.562988	58.525631	58.525631	9517400
20/09/2004	58.256641	60.572956	58.166977	59.457142	59.457142	10679200
21/09/2004	59.681301	59.985161	58.535595	58.699978	58.699978	7263000
22/09/2004	58.480801	59.611561	58.186901	58.968971	58.968971	7617100
23/09/2004	59.198112	61.086033	58.291508	60.184414	60.184414	8576100
24/09/2004	60.24419	61.818291	59.656395	59.691261	59.691261	9166700
27/09/2004	59.556767	60.214302	58.680054	58.909195	58.909195	7099600
28/09/2004	60.423519	63.462128	59.880554	63.193138	63.193138	17009400
29/09/2004	63.113434	67.257904	62.879314	65.295258	65.295258	30661400

Fig.1

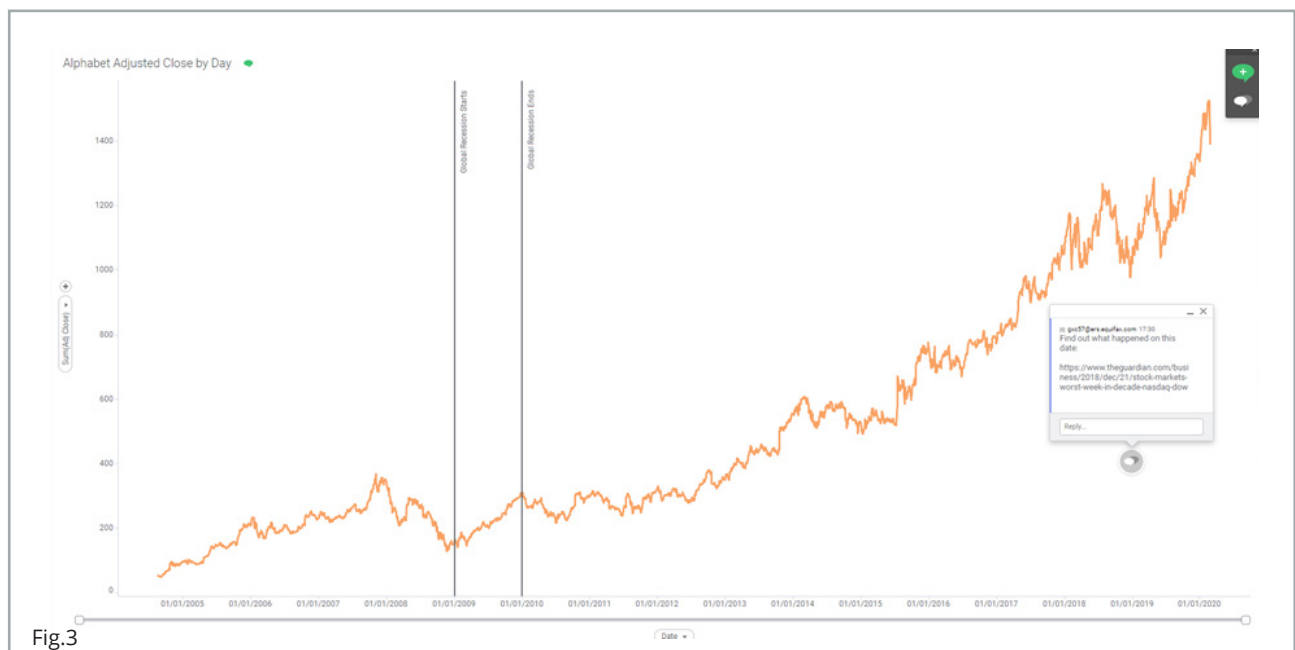
The table (Fig.1) on page 3 shows a subset of the maximum amount of exportable data relating to the daily Alphabet (Google's parent company) share price. It starts back in 2004 and is right up to the last close available. How might we change how that's presented to make it instantly obvious the trajectory of the share price?

A starting point may be to produce a time-series line chart based on the closing price, as below:



You can use sliders to allow a user to narrow the amount of dates being returned, so an end user could jump into the story. How else might one make it more user-friendly?

Well, we could provide some context around the data, by adding additional visuals in, for example, to show the Great Recession, as below. You might also add in some of the acquisitions and divestments a company made, or appointments made to key roles to provide some operating context to the data. You could add context such as market volatility on the 21st December 2018.



So, we can understand the relationship between data points far more quickly in visual form than in data tables, is this a new phenomenon to make decision making easier and faster? Absolutely not!

The diagram shown here (Fig.4) was developed by Florence Nightingale during the Crimean War, hundreds of years before we advanced into software that can illustrate what is happening in data.

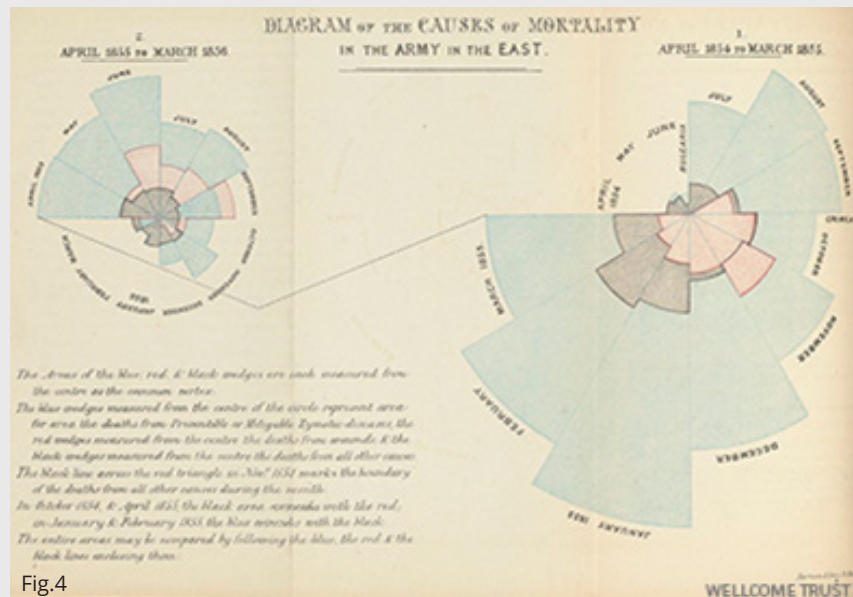


Fig.4

In the years since, there have been multiple famous data visualisations that have been used to democratise data to the previously uninformed, perhaps one of the best examples of this was Dr Hans Rosling during his famous talk about GDP per capita and its impacts on Life Expectancy.

You can check out this outstanding [piece of storytelling here](#).

Since the late 1990s, I've been involved in data visualisation, learning first from [W Edwards Deming's](#) work on process improvement, moving into leading

Business Intelligence functions in Banking for the better part of twenty years. Over that time, I've seen the increased need to bring data to life, to speed up and dramatically improve decision making.

Let's take a couple of specific examples that use Open Data (data available to all), that illustrate how that might work in practice. In 2017, Equifax held its annual Global Hackathon where teams of up to four people devised a problem statement and solved that problem inside of three days. A team was formed in the UK that I was lucky to be a part of and we wanted to look into the area of crime data. We took seven years worth of reported crime data from the UK Police and triangulated the coordinates of where the crime took place, in order to show an Index of crime (High, Medium, Low). Starting at a macro view, using UK Regions, we then added a zoom feature to take it down to Postcode Sector level (eg LS1 4). This showed that, unsurprisingly, crime is higher in city centres than it is in the suburbs.

Compare this with the [24 pages produced by the Office for National Statistics \(ONS\)](#) and you can see why this drastically improves one's ability to discern what's happening in milliseconds.

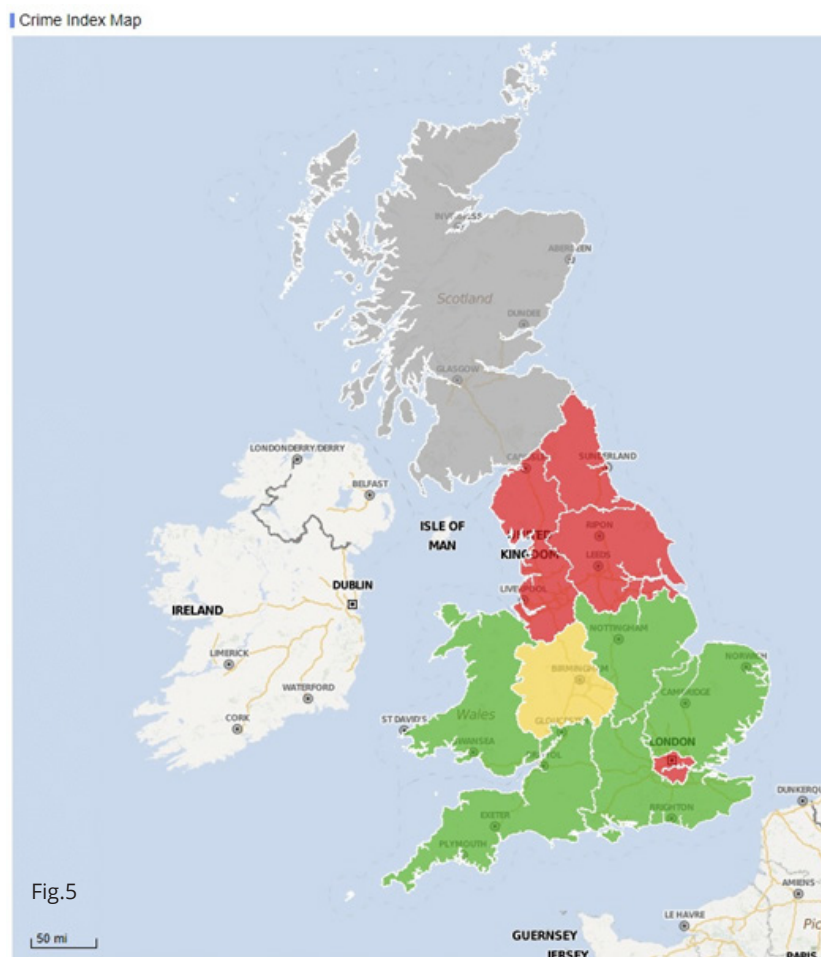
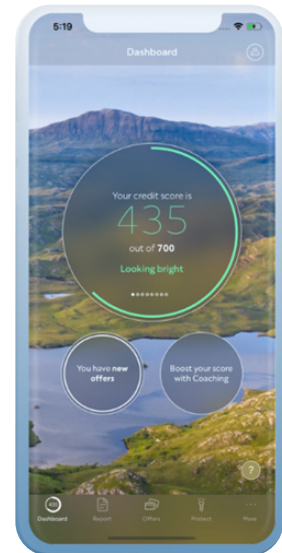
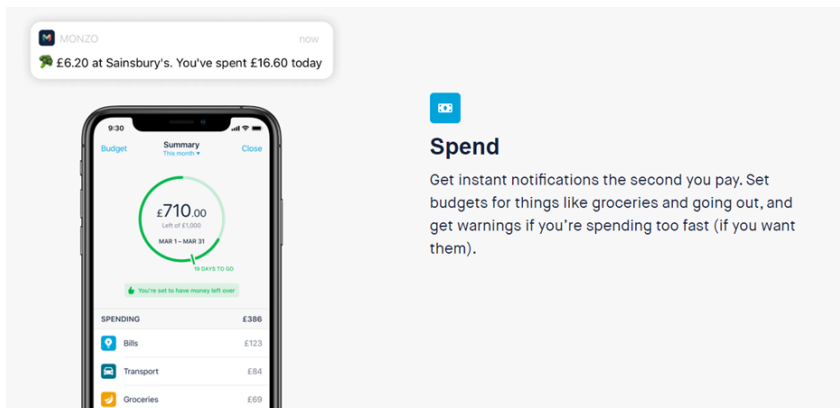


Fig.5

What does this mean for the future? The present and the future are already all about delivering complex messages in simpler ways for the brain to understand. Where might I see examples of these? Well, they're creeping in to all areas of life, just look at things like:

## Finance

FinTechs & Credit Reference Agencies are going out of their way to help make your finances easier to work with, here are a couple of examples from Monzo and ClearScore.



## Fitness

With the advent of smartphones and smartwatches, we're able to capture more data than ever before on how we move, sleep, take on board water and exercise, to name a few things. This data is presented back on apps in a polished way, so you know where you have done well and where you could improve.

## Driving

The advent of electric transport will undoubtedly lead to an advance in the information presented to the passenger via dashboards, indeed the Prius I test drove 7 years ago beamed data on to the windscreen so I didn't have to look down.







As time progresses on the digital journey, more data will need to be distilled into clear, understandable stories using the benefits of data visualisation. As part of that journey, we at Equifax are pioneering brand new visualisation tools that bring the power of our data to life, enabling our clients to better understand and treat their customers even more fairly and allow them to treat individuals with billions of data points, as unique consumers with differing needs. These apps and data visualisation tools can be found on our Equifax Ignite Marketplace, and you can find out more by [visiting our Ignite pages](#).

Contact us to find out more about visualising data with Ignite apps:  
Email: [EUMarketing@equifax.com](mailto:EUMarketing@equifax.com)



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