James Abdey June 13th, 2025

How to master data visualisation for impactful storytelling

In an era of information overload, data visualisation is transforming how researchers communicate complex findings. From Victorian poverty maps to pandemic dashboards, visual storytelling bridges the gap between data and public understanding. **James Abdey** *explores the art and impact of data viz – its tools, principles and power to amplify research reach in today's digital landscape.*

People say a picture paints a thousand words. Data visualisation paints a thousand data points or more.

In an age of shrinking attention spans and information overload, researchers face a key challenge: how do you increase the visibility of your findings and have greater impact? The answer may lie in the power of data visualisation – or *data viz* for those more hipster-inclined. This is the art *and* science of translating complex datasets into compelling visual narratives that resonate with diverse audiences.

An eye-catching visualisation shared on social media has the potential to reach and engage millions. Many people are visual learners, and data visualisation is indispensable for storytelling with data – stories of data fact, not fiction.

Charles Booth's *Maps Descriptive of London Poverty* (1886-1903) pioneered data visualisation by colour-coding London streets according to social class. These revolutionary maps represent early examples of social cartography and data-driven storytelling. Their vivid portrayal of Victorian London's stark economic divides continues to captivate audiences today with the same power they

wielded over a century ago. An interactive version of the maps is available through the Charles Booth's London digital platform.

Charles Booth, "Maps Descriptive of London Poverty" (1886-1903).

Data viz in the news

Data journalism has transformed news reporting in recent years. Interactive visualisations, real-time dashboards and data-driven storytelling now shape public understanding of complex issues from elections to climate change, making journalism more analytical and evidence-based than ever before.

During the dark days of the pandemic, a staple feature beloved by many news outlets was the latest chart reporting recorded cases or, tragically, fatalities. Often, these were simple line charts. But simplicity on the surface often masked iceberg-like complexity underneath it. Linear scale or logarithmic scale? Raw numbers or per 100, or perhaps per 1000? Daily figures or cumulative? Decisions, decisions. There is a delicate balance to achieve objective reporting and aid public understanding of a dynamic and deadly situation.

Epidemiological models visualised through real-time dashboards didn't just inform medical professionals – they became tools for policymakers, journalists and citizens to understand and

respond to the crisis. Research that might have remained within academic circles instead became the foundation for global decision-making.

To plot, or not to plot?

All charts are not created equal. Do you know your histogram from your boxplot? Your scatterplot from your bar chart? The number and type of variables you have dictate which plot types are (and are not) suitable. A violin plot, for example, combines a boxplot with density curves on each side, showing data distribution's shape and spread. Music to our eyes.

Effective visualisations should adhere to certain key principles to enhance comprehension:

- Clarity of purpose
- Audience awareness
- Visual hierarchy
- Accurate representation
- Strategic use of colour and typography

Human brains process visual information significantly faster than text. When researchers present findings through effective visualisation, they're working with, rather than against, our cognitive architecture.

Take the late, great Hans Rosling. The Joy of Stats offers an entertaining, yet educational lesson in the transformative power of animated bubble charts to elevate global development data from abstract statistics about poverty, health and education into dynamic stories that audiences could follow intuitively. The same data presented in traditional tables would have remained largely invisible to public discourse.

Lost in a sea of data

Currents of data can be strong and risk being overwhelming, pulling us under the surface. Lifejackets are fortunately aplenty. An array of data visualisation tools is available to help tame the data waves and bring a data sea of calm.

One such platform is Tableau, which is free for educational use. Its intuitive drag-and-drop interface allows researcher to create engaging, interactive dashboards with ease. Researching climate change? Monthly data from the 1850s? Need to convey a warming planet? No problem. Art and science can combine.

Chart shows the differences from median temperatures (°C) from 1850s to present. Source: Tableau.

Enhancing accessibility and inclusion

Effective data visualisation democratises research by making findings accessible to broader audiences, including those who might struggle with traditional academic formats. Visual representations can overcome language barriers, educational differences and disciplinary boundaries that typically limit research impact.

Interactive visualisations particularly excel at accommodating different learning styles and engagement preferences. Users can explore data at their own pace, focus on aspects most relevant to their interests and discover patterns through exploration rather than passive consumption. This active engagement can lead to deeper understanding and stronger retention of research findings.

Key to this engagement is knowing your audience. Choose hues and palettes carefully for those colourblind. Consider cultural colour associations, technical expertise levels and viewing contexts. What resonates with academics may confuse policymakers, and vibrant dashboards designed for large screens can become illegible on mobile devices.

Data visualisation can democratise research

Effective scholarly communication in the social sciences requires the transformation of knowledge into a readily digestible form. This is especially urgent in an era of unprecedented information and complexity. Our journey from Booth's poverty maps to modern dashboards is testament not only to technological progress, but a fundamental shift in how we can democratise research and bridge the gap between academia and public understanding.

The world faces many pressing challenges. Evidence-based solutions are typically needed. Data visualisation should be embraced as an indispensable tool through which researchers are better able to fulfil our core mission at LSE: *rerum cognoscere causas* – understanding the causes of things – for the betterment of society.

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Dr James Abdey will be speaking at the LSE event "From numbers to narrative: mastering data visualisation for impactful storytelling" on 17 June as part of LSE Festival 2025.

About the author

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Dr James Abdey is an Associate Professor (Education) in the Department of Statistics at the London School of Economics. His research interests include market research techniques, forensic statistics and the interplay of statistics and the law. He is author of the textbook Business Analytics: Applied Modelling and Prediction (SAGE, 2023).

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