

Data Storytelling

Idea In Short

Data storytelling is a powerful approach that combines data analysis with narrative techniques to convey complex information in a compelling and easily understandable manner. This practice involves transforming raw data and analytical insights into engaging stories that resonate with the target audience, whether they are executives, stakeholders, or the general public.

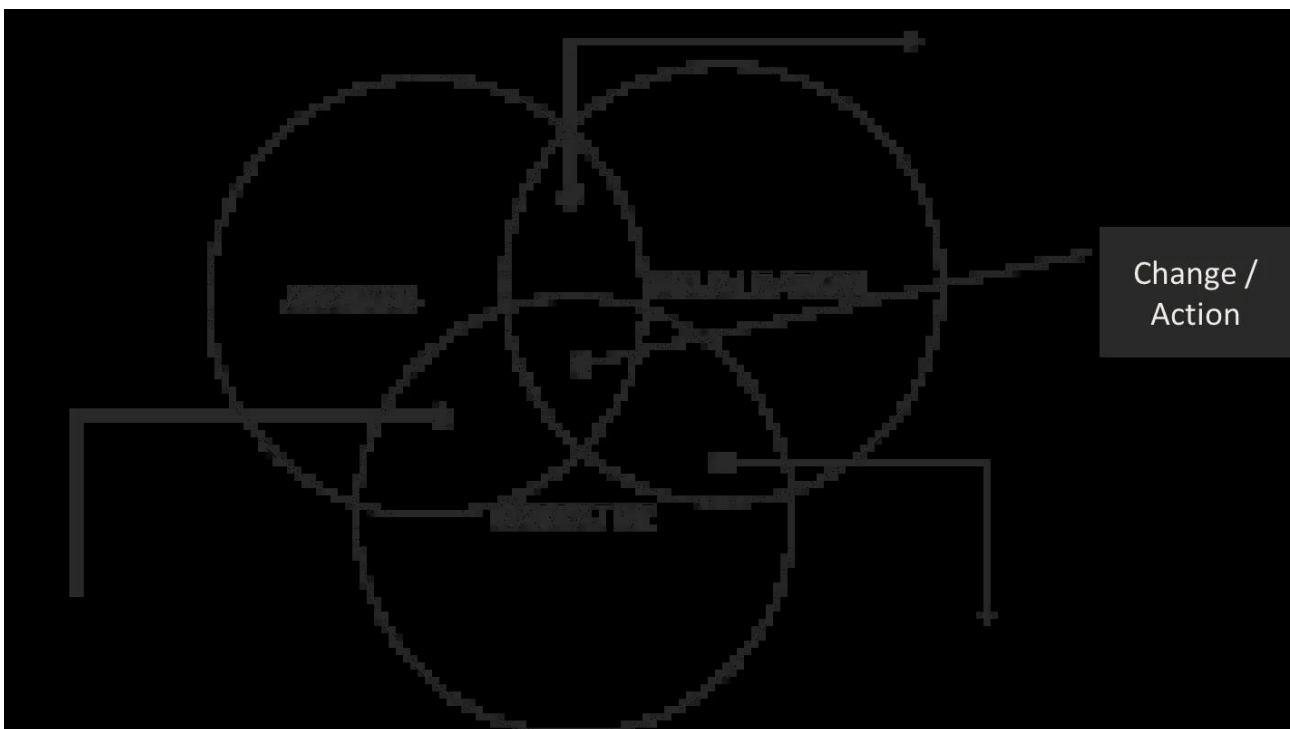
The chances are, your business has already launched Big Data projects and has started collecting all kinds of data. The next elusive step is to extract value from your investments in data projects. Your data may hold tremendous potential, but not an ounce of value can be created unless the data is analyzed, actionable insights extracted and translated into concrete business process action items. During a 2009 interview, Google's Chief Economist Dr. Hal R. Varian stated,

The ability to take data—to be able to understand it, to process it, to extract value from it, to visualize it, to communicate it—that's going to be a hugely important skill in the next decades.

Companies are desperately searching and recruiting data science talents. Recently, LinkedIn reported that data analysis is one of the hottest job categories and it is the only category that consistently ranked in the top 4 across all of the countries they analyzed. However, much of the current hiring emphasis is centered on the data infrastructure and preparation a.k.a. data engineering, rather than on the skills that convert analysis to insights and actions. From my experience, many data scientists with advanced degrees in economics, mathematics, or statistics find effectively communicating their analyses and insights with other business stakeholders and interpreting the significance of their sophisticated analyses within the business context particularly challenging. According to McKinsey,

Organizations need specialists, or "translators," who can analyze, distill, and clearly communicate information of the greatest potential value.

In other words, the need for data storytellers is only going to increase in the future¹. With more self-service business intelligence tools, such as Tableau and Microsoft Power BI, the pool of business users generating insights will grow beyond just data analysts and data scientists. Correspondingly, we will witness an unprecedented growth in the number and significance of insights being generated than ever before. Unless businesses improve the communication and collaboration frameworks around these insights, they will experience a poorer insight-to-value conversion rate. If an insight isn't properly understood, is not compelling or actionable, no one will act on it². Often times, data storytelling is equated to building compelling visualizations. However, data storytelling requires a structured approach for organizing and communicating the insights from data³. It requires balance among three core components - data analysis, visualization, and narrative.



Storytelling Venn Diagram

It's important to understand how these different elements combine and work together in data storytelling. When you combine the right visuals and narrative with the right data, you have a data story that can influence and drive change.

Key Elements of Data Storytelling

Data storytelling is a powerful approach that combines three key elements to convey complex information effectively: data, visuals, and narrative. The data provides the factual foundation, offering credibility and strength to the message. Visuals, such as charts and graphs, help make the data more accessible by revealing patterns and trends that might be difficult to discern from raw numbers. The narrative ties everything together, providing context and guiding the audience through the insights in a compelling way. Effective data storytelling also considers the audience, ensuring the story is relevant and tailored to their needs and level of understanding. By structuring the story with a clear beginning, middle, and end, and focusing on a main point or key takeaway, data storytellers can create impactful presentations that drive decision-making and inspire action. The key elements are:

1. Narrative structure
2. Visual representation, and
3. Audience focus

Narrative Structure

A well-crafted data story follows a clear narrative arc, providing context and guiding the audience through the insights. This structure helps make the data more relatable and memorable, often including:

- An introduction that sets the stage and presents the problem or question
- A middle section that reveals key findings and patterns
- A conclusion that summarizes insights and suggests actionable steps

Visual Representation

Data visualization plays a crucial role in storytelling by making complex information easier to understand. Effective visuals might include:

- Charts and graphs that highlight trends and patterns
- Infographics that simplify complex concepts
- Interactive elements that allow exploration of the data

Audience Focus

Successful data storytelling tailors the message to the specific audience, considering their:

- Level of expertise and familiarity with the subject
- Needs and questions they seek to answer
- Preferred communication style and format

Types of data stories

The seven types of data stories are powerful frameworks for presenting data in engaging and meaningful ways. Each type offers a unique approach to conveying insights:

1. **Change Over Time:** This type illustrates how data points evolve across a temporal axis. It's particularly useful for showing trends, patterns, or fluctuations in data over different periods
2. **Drill Down:** Starting with a broad overview, this approach gradually focuses on specific details or factors within the larger dataset. It helps audiences understand how individual components contribute to the overall picture
3. **Zoom Out:** The opposite of drill down, this method begins with a micro view and expands to a macro perspective. It's effective for showing how local trends fit into a broader context
4. **Contrast:** This type compares multiple datasets to highlight differences or similarities. It's an excellent way to make data more memorable by drawing clear distinctions
5. **Intersections:** This approach examines how different data trends converge or diverge, often revealing interesting patterns or relationships between variables
6. **Factors:** By breaking down a complex phenomenon into its constituent parts, this type helps explain how multiple elements contribute to a larger outcome or trend
7. **Outliers:** This focuses on data points that deviate significantly from the overall trend, offering opportunities to explore anomalies or exceptional cases

Best Practices

1. **Keep it simple:** Focus on key insights rather than overwhelming the audience with too much data
2. **Use emotion:** Incorporate relatable examples or anecdotes to create an emotional connection

3. **Highlight human impact:** Show how the data affects people or businesses to make it more relevant
4. **Balance data and narrative:** Ensure that the story supports the data and vice versa
5. **Choose appropriate visuals:** Select visualizations that best represent the data and support the narrative

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Summary

By blending statistical rigor with creative storytelling elements, data storytelling aims to simplify complex concepts, highlight key trends, and provide context to numerical information. It goes beyond mere data visualization by crafting a narrative arc that guides the audience through the data, emphasizing its significance and potential impact. Effective data storytelling leverages various tools and techniques, including visual representations, contextual explanations, and narrative structures, to make data-driven insights more accessible and actionable. This approach is particularly valuable in today's data-rich environment, where the ability to communicate insights effectively can drive informed decision-making, inspire action, and create lasting impact across various industries and domains.