1 Stories Bring Data to Life

Stories have the ability to convert dry facts and figures into objects of desire, unleashing the true power of data.

Seventeen ingredients from everyday life get spruced up when mixed in a paper bowl to form a snack available in every Mumbai street. Tasteless white puffed rice forms the base of this dish, which gets converted into a colourful mélange of flavours. The first to go in are three diced veggies available in every home, flavoured with three types of chutneys that appeal to all taste buds, enhanced by a hearty sprinkle of four different spices. Three appetizing condiments topped with three crunchy colourful garnishes make this dish come to life in less than two minutes. Each morsel of this *bhel* tingles a spicy–tangy–sweet sensation, transporting us to the gastronomic equivalent of heaven.

* * * *

Most traditional Indian cultures frown upon alcohol consumption, four Indian states have a complete alcohol ban, number of dry days can go up to 30 in some states, and yet every week of 2017 witnessed the launch of a new beer brand on an average, with as many as 52 brands or variants introduced during the year.

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Changing demographics and increasing affluence are shifting the tide in favour of alcohol consumption, driving up the beer market size to 460 billion, making it even bigger than the liquid milk and tea markets in India.[2]

Stories add an X factor to any dry piece of information, transforming them into objects of desire—topics that we want to know about can excite us and often leave a strong impression on us. Even ordinary, daily consumption items get converted into fascinating substances when weaved into the story thread. A quick hunger remedy provided by bhel or bonding over beer might be a regular part of our lives, which never got a second thought until now. My beer and bhel stories are likely to have created enough amusement to remind you of the 17 ingredients of bhel and the 52 new beer brands every time you order these, at least in the near future.

IT'S RAINING DATA!

Businesses today produce tons of data, and every competitor generates identical sets of data. Data storytelling enables us to use this data effectively by giving us the ability to interpret data and convey its meaning in an efficient, productive, actionable and timely manner, thereby also making one's data stand out from the rest.

In 2017, IBM, one of the world's leading manufacturers of computer hardware, middleware and software, reported that we create 2.5 quintillion bytes of data every day and that 90 per cent

[2] Sagar Malviya, 'Nearly 52 New Beer Brands and Their Variants Were Introduced Last Year: The Beer Cafe Data' (2018). Available at: https://economictimes.indiatimes.com/industry/cons-products/liquor/nearly-52-new-beer-brands-and-their-variants-were-introduced-last-year-the-beer-cafe-data/articleshow/62372415.cms (accessed on 25 January 2018).

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of data in the world has been created in the last two years.[3] The last decade saw the rise of 'Big Data', the buzzword which became a part of all data analytics conversations. And while Big Data is not expected to lose its sheen, I do see a clear shift in trend from 'collecting and storing Big Data' to 'using Big Data'. Today, as corporates sit on huge data resources, generating management information system (MIS) reports which did not exist a few years back, the need to 'use' this data is only becoming bigger!

DATA STORYTELLING IS A SOUGHT-AFTER JOB SKILL

Data storytelling is not just the need of the hour but is also considered as a sought-after skill in the present scenario. Google's Chief Economist Dr Hal R. Varian had 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'.[4]

As per LinkedIn, data analysis is the second most in-demand job skill for 2018, having entered and maintained the top two positions since 2014 (top most in demand skill being Cloud and Distributed Computing).[5] With the increasing demand for data storytelling, it is not surprising that for the first time ever, data presentation entered LinkedIn's top skills list in 2017,

[3] Ralph Jacobson, '2.5 Quintillion Bytes of Data Created Every Day. How Does CPG & Retail Manage It?' (2013). Available at: https://www.ibm.com/blogs/insights-on-business/consumer-products/2-5-quintillion-bytes-of-data-created-every-day-how-does-cpg-retail-manage-it/ (accessed on 16 August 2018).

[4] McKinsey & Company, 'Hal Varian on How the Web Challenges Managers' (2009). Available at: https://www.mckinsey.com/industries/high-tech/our-insights/hal-varian-on-how-the-web-challenges-managers (accessed on 16 August 2018).

[5] Rachel Bowley, 'LinkedIn Data Reveals the Most Promising Jobs and In-Demand Skills of 2018' (2018). Available at: https://blog.linkedin.com/2018/january/11/linkedin-data-reveals-the-most-promising-jobs-and-in-demand-skills-2018 (accessed on 11 January 2018).

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at the number eight position, and successively moved to number seven in 2018. In fact, as per a business newspaper, *The Economic Times*, the top skill required to retain your job in 2018 is to 'tell a data story'.[6]

THE SIGNIFICANCE OF DATA-DRIVEN DECISION-MAKING

The Financial Services Authority (FSA) report on the failure of the Royal Bank of Scotland (RBS) concluded that 'multiple poor decisions' were at the heart of its problems. Inadequate due diligence for the ABN AMRO acquisition was among the six major reasons why RBS needed a bailout. The lack of visibility on the significant risks involved in the transaction made it a gamble.

* * * *

For over 100 years, Kodak was synonymous with photographs, but one bad decision to stay away from the digital trend and its failure to foresee a shift in market trend due to this technological innovation led to its ultimate demise. By the time Kodak entered into the digital market, other competitors had already captured significant market share.

Businesses, big or small, across all industries, make a multitude of decisions on a daily basis that affect the bottom line and shape the future of their company. Decisions on strategies, customers and markets, operations and management are ideally based on data that the business has access to. Data, however, is only as good as the decisions it enables one to make. And with the data overload, it becomes harder and harder to separate the chaff from the grain to

[6] Devashish Chakravarty, 'Top 5 Skills That Are Required to Retain a Job in 2018' (2018). Available at: https://economictimes.indiatimes.com/wealth/earn/top-5-skills-that-are-required-to-retain-a-job-in-2018/articleshow/62094864.cms (accessed on 13 January 2018).

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find the true meaning and insights which can support effective decision-making, thus compelling the need for data storytelling.

And while organizations worldwide use some form of data to guide them in their operational and financing decision-making, it is still not being done in the most efficient and effective way. I have often found that organizational decision-makers face two key challenges:

1. A host of the data being generated by business doesn't reach the decision-makers at all.
2. Most presentations only report data as it is. The insights, the meaning and story are often lacking.

When insights generated from data are fed into right channels, organizations can see a marked change in their performance across all spheres. But data by itself does not lead to decision-making. The data has to be sliced and diced to derive some meaning, which then needs to be communicated to decision-makers. To enable quick and efficient decisions, to set you apart from your competition, somebody needs to find and convey this meaning behind data.

> *The key competitive differentiator in today's data-driven world is the ability to use this data to make effective business decisions.*

SCIENCE MAKES STORIES POWERFUL

Yes, you read it right—science makes stories powerful. While storytelling can be termed as an art, the reason behind the often awe-inspiring or mesmerizing reactions obtained by a story is actually quite scientific, as stated in Figure 1.1.

> *The power of a story is unleashed by its ability to fire up an activity within the human brain.*

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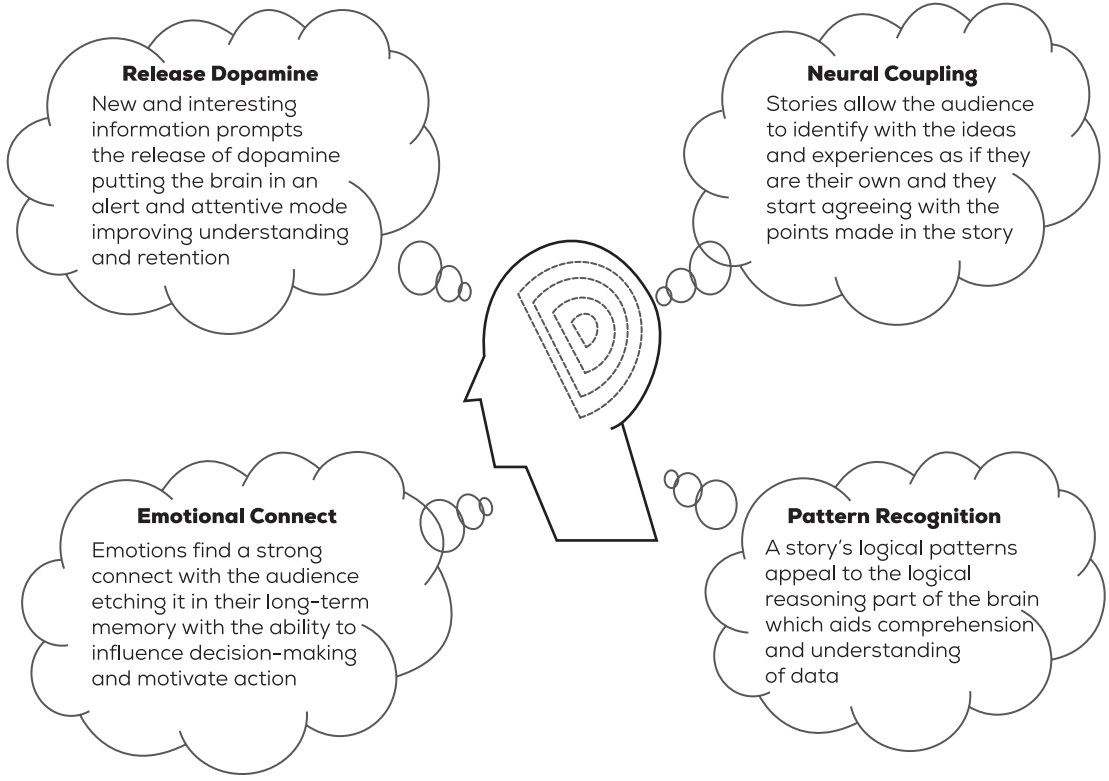
Figure 1.1 Scientific Impact of Storytelling



Stories have the power to influence our brain's functioning and elicit desired responses. Given ahead are the four broad points that show what makes them the go-to tool for all forms of communication, especially when communicating with data:

1. **Grabs attention:** The first impact of a story is felt through a dopamine rush which impacts the brain's learning process and memory. Dopamine is a neurotransmitter—a chemical messenger, which passes information from one neuron to the next. A spike in dopamine released by the body is commonly associated with anticipatory desire and motivation. 'When dopamine levels rise, you subconsciously want more of the good feeling it gives you, so you're driven to concentrate on whatever you're doing to keep getting it', says Lucy Jo Palladino, a psychologist and the author of *Find Your Focus Zone*.[7]

   Dry facts and figures become interesting when moulded into a story, leading to a dopamine rush which grabs audience attention and enhances their learning mechanism.

2. **Audience buy-in:** Experiencing a story alters the audience's neurochemical processes which puts them in the storyteller's shoes. When the brain receives a story, its neurons fire in the same patterns as the storyteller's brain. Known as 'neural coupling', it creates coherence and alignment between the storyteller's brain and the audience. They start thinking from the storyteller's perspective and start agreeing with the points being made.

[7] CNN, 'Fuzzy Brain? Improve Your Attention Span' (2008). Available at: http://edition.cnn.com/2008/HEALTH/11/14/rs.increase.your.attention.span/ (accessed on 9 December 2008).

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Incorporating data storytelling helps overcome the big challenge of getting an audience buy-in on complex analytics and conclusions being presented.

3. **Emotional connect:** Studies[8] have shown that our emotional state at the time of an event occurring can affect our ability to memorize its details, suggesting that emotionally charged situations can lead us to create longer-lasting memories of the event. Emotions also have a positive influence on recalling such memories as they lure us into reliving the same feelings. Data when converted into stories generates emotions (more on this is discussed in Chapter 6), which park such data events in the audience's long-term memory while also increasing their inclination towards a recommended decision or action.

Emotions generated through a data story make an impression on the audience, facilitating retention and recall. The emotional connect also makes it easier to persuade and motivate a desired action.

4. **Pattern recognition:** A linked set of events that forms the basis of a story's narrative structure is conducive for human understanding and memory because it presents information in a logical structure which the human mind is most adapted to interpret. When any information is presented in front of us, our immediate response is to find patterns which can help us decode the information presented.

When data gets enveloped in a story structure, it starts depicting patterns the human mind can easily catch, understand and remember.

[8] Donald G. MacKay, Meredith Shafto, Jennifer K. Taylor, Diane E. Marian, Lise Abrams, and Jennifer R. Dyer, 'Relations between Emotion, Memory, and Attention' (2004). Available at: http://mackay.bol.ucla.edu/MacKay%20%282004%29%20-%20Emotion%2C%20memory%2C%20and%20attention.pdf (accessed on 13 November 2018).

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BAD STORIES ARE EVERYWHERE

> *Your audience should not have to analyse the data themselves. Its meaning and conclusions should be intuitively visible at the first glance.*

The treasury department of a corporate conglomerate showed me multiple presentations created by them on daily, weekly, monthly and quarterly bases, seeking my views on improving their quality and impact. Some of these even went directly to the chairman and his Board. All I could see, slide after slide, were data tables or charts which only reported the data without providing any significant insight into it, and compelling the audience to analyse and arrive at a particular conclusion. Unfortunately, this is the state of most data communication across organizations as shown in Figure 1.2.

Most people are used to making such charts on a regular basis and might wonder why I call them 'bad'. The answer lies in two broad points: missing story and bad visual aesthetics.

Here's what makes them bad:

1. Excessive information on all charts which makes it difficult to read patterns and understand the data.
2. The charts do not provide any clear insight or conclusion, requiring the audience to analyse these charts themselves.
3. Bad visual aesthetics: Wrong chart types, bad colour choices (yes—even on a grey scale), large gap width between bars and bad data labels are some repeated mistakes.

The aforementioned points summarize the most common charting issues, which you will learn to overcome through this book.

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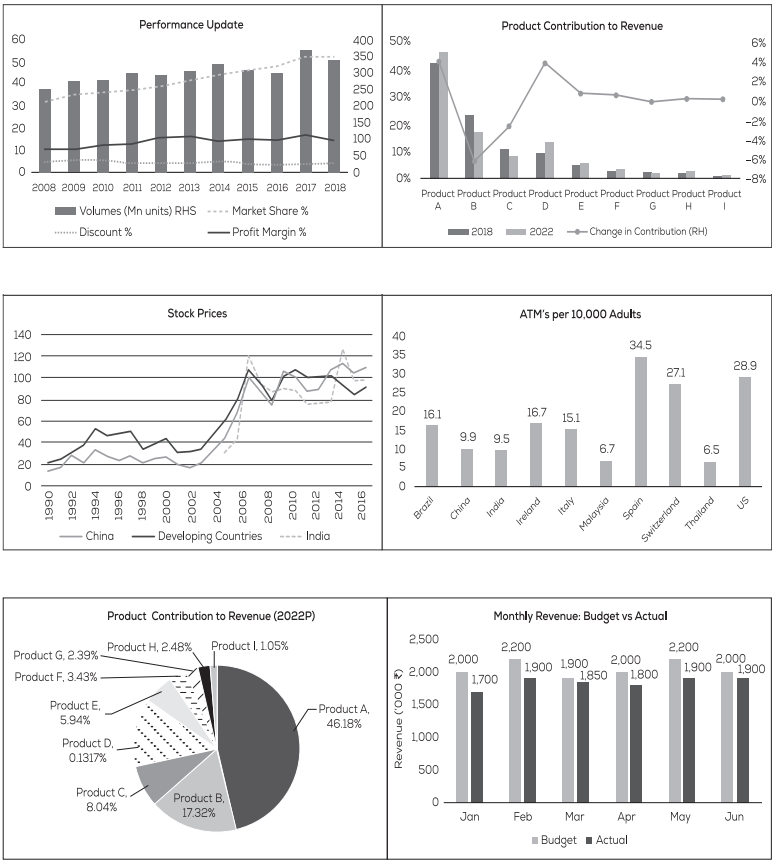
Figure 1.2 We Are Surrounded by Bad Charts



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