

Storytelling for Data Scientists

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January 6, 2020

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Source: <https://bit.ly/2uX5enz>

Harvard Business Review recently published an [article](#) on what leading Data Scientists actually do. Surprisingly enough, the key skill is *communication*, rather than experience with statistical models.

Aristotle argued that to persuade people, you need to use [Ethos](#), [Logos](#), and [Pathos](#). Ethos establishes the credibility of the speaker, and Logos appeals to the reasoning used. Yet, both are useless without Pathos, the way to the heart of the audience. The Homo Data Scientistus generally falls in love with causal, data-driven reasoning when presenting their work. This is generally the right way to argue. But to evoke actions, Data Scientists need to tell stories.

| Maybe stories are just [data](#) with a soul. — [Brené Brown](#)

This article presents two frameworks for structuring presentations and emotionally binding your audience. It will help you evoke the actions that you want. Use responsibly.

Language to tell stories

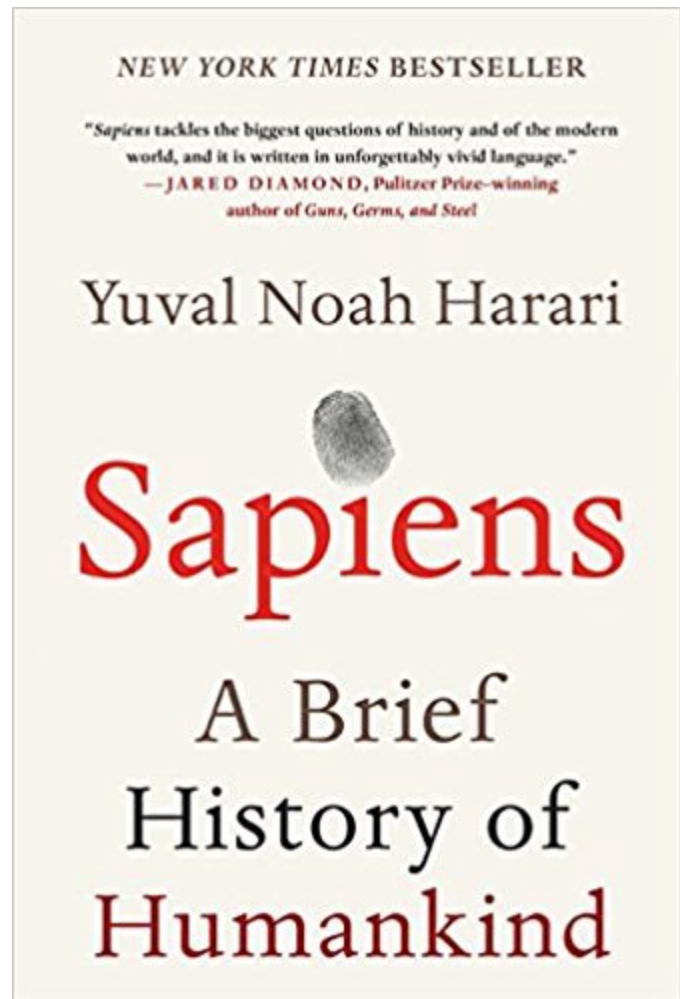
According to best-selling author and scientist Yuval Harari, language was invented to tell stories. Contrary to public opinion, language was not invented to coordinate work more efficiently or to create military plans. Since the stone ages, humans used stories to comfort each other, bicker about issues and form social alliances.

|(Wo)Man ... is the storytelling animal. — Graham Swift, *Waterland*

Humans to this day are not rational beings. We talk, think and dream in stories. When debating public policy options, we reason emotionally instead of rationally. When hearing a story about what happened to our neighbors' friends, we draw generalizations from this single story instead of taking a step back and evaluating the data.

On a daily basis, Data Scientists need to explain results of complex models simply and understandably to stakeholders. They also need to pitch projects. When doing either, storytelling should be the tool of choice for Data Scientists.

The first section explains the SPSN-framework to create a result-driven storyline. The second section examines the SUCCEs framework to make your story as emotionally appealing as possible.



Source: <https://amzn.to/2P8zum3>

Creating a storyline for your presentation



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Management Consultants have known for a long time: You first put an effort in creating a solution, then you need a cohesive storyline to convey the solution. Naturally, solving the issue starts with analyzing the available data. In this regard, Consultants are very similar to Data Scientists. Let's use some of their tricks in the next step to our advantage.

| Data makes people think, emotions make them act. — [Antonio Damasio](#)

A commonly used framework to structure presentations is the Situation-Problem-Solution-Next Steps framework, short for SPSN. It is perfected in EY's Digitalization Strategy practice around AP [Robert Jung](#). With just four slides, you are able to communicate any problem and touch on its solution.

Situation: To start, describe the current state to your audience. What is the status quo you're trying to change?

Problem: Next, picture the problem. What's the issue with the situation? Wherein lies the pain you're trying to solve?

Solution: Present the solution. How do you solve the problem? How do you cure the pain?

Next Steps: You convinced the audience. What are the next steps you need to take? Which actions need to be taken?

Let's apply this framework to a common Data Science goal. You're part of an e-commerce company and try to convince your superiors to develop a recommender system. The blank slides could look like this.

Situation	Problem
<ul style="list-style-type: none">• <u>Consumers leave data traces when browsing our website</u>• <u>We store and collect data for every user</u>• <u>We don't offer personalized recommendations</u>	<ul style="list-style-type: none">• <u>Consumers expect recommendations, because our competitors offer it</u>• <u>We're missing out on potential revenue</u>• <u>Consumers switch to our competitors for product browsing</u>
Solution	Next Steps
<ul style="list-style-type: none">• Create <u>personalized item recommender</u>• Train <u>state-of-the-art recommendation algorithms</u>• Roll out <u>recommender to all users</u>	<ul style="list-style-type: none">• Create recommendation project team of 6 <u>data engineers & scientists</u> and a <u>Product Owner</u>• <u>Invest 100k in cloud resources</u>• <u>A/B tested recommender will be ready for rollout in 6 months</u>

As you can see, the SPNS-framework clearly lays out the four slides we need to persuade the audience of our idea. Something is still missing though. Let's spice up the storyline with the SUCCEs model next.

The salt in your story

Now that you have created the raw storyline, let's turn it into a story.

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Chip & Dan Heath analyze in their often referenced book [Made to Stick](#) what all sticky stories have in common. They all, to some degree, use elements of the SUCCEs model. The model will help your idea stick with the audience even after the presentation. The acronym stands for the following:

Simple: Keep it simple. Data Scientists often fall in love with technical details. Really focus on the most important message you're trying to bring across.

Unexpected: Use the element of surprise to get the attention of the audience. Break expected patterns.

Concrete: Use concrete examples. Help your listeners or readers picture the situation that you're trying to solve.

Credible: Get credible resources to back up your claim. Use data, or external validation, to give your story credibility.

Emotional: Remember that not your numbers will make people care, but your people stories will make them care. We want to help people, not just reduce costs or improve efficiency. Appeal to the five emotions of fear, happiness, surprise, sadness, and love/hate.

Stories: Every story has a hero, an obstacle to be overcome and a happy ending. Try to make a story out of your point to help it stick.

Let's add these elements to the blank structure to spice up our story.

We collect user data. We don't generate insights from it yet.

- Explain current situation from user perspective (STORY)
- User shops on website
- Bookmarks and buys products
- Would like to be recommended complementary products

We need personalized recommendations to survive against competitors (EMOTIONAL)

- After buying a whiteboard, user is looking for markers and erasers
- User doesn't remember all complementary items (STORY)
- Amazon, Netflix attribute billions in revenue to recommender (CREDIBLE)
- We miss out on revenue, because we fail to satisfy consumer needs (SIMPLE)

The recommendation engine can generate X% of additional revenue (CONCRETE)

- Recommender will present user with items of interest to her
- User spends more time browsing website and buying products
- Recommendation engine will make users more happy using your product (EMOTIONAL)

We will create a personalized recommender in the next 6 months (CONCRETE)

- Create development team of 6 high-performing data engineers & scientists
- Use budget of 100k for computational resources
- Combat competitors and satisfy consumers (EMOTIONAL)

As you can see, we incorporated most SUCCESS elements in our storyline. While this is not necessary for every good story, it surely helps.

In a third step, you will accompany your presentations with visuals. The more visuals and the fewer bullet points, the better. Insert revenue graphs from your company and use company style guides. However you proceed, your storyline is clear now.



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Data Scientists must communicate effectively. You have seen how you can harness the power of storytelling to turn numbers into emotions and into actions. Keep this hybrid framework in mind when preparing your next presentation, post or speech. It will pay off.

Key Takeaways:

- To persuade people, tell a story
- Lay the foundation with the Situation-Problem-Solution-Next Steps framework
- Integrate SUCCEs elements to create a narrative

Closing

Jeff Bezos, Amazon's CEO, [banned PowerPoint](#)s from executive meetings. Instead, he asks presenters to write 6-page memos in a narrative style. It could show how users, team members or media outlets write a story about the fictional new product. Jeff understands the power of storytelling. Do you?

Additional material

- Yuval Harari — Sapiens
- Chip & Dan Heath — Made to Stick
- Johnathan Gottschall — Storytelling Animal

Two storytelling structures that will help you succeed in life and in business

medium.com

A few years ago, Dr. Brené Brown delivered a presentation on “The power of vulnerability” at TEDx Houston. As a...

hbr.org
