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Thank you for your understanding and appreciation of this work.

Welcome and thanks for having me today. My name is Friederike Oehlerking and my mission is to free the world from poor PowerPoint presentations. And yes, I do understand the irony that I am showing a PowerPoint presentation to make my point. But bear with me, I will hopefully be able to explain to you in the upcoming 30 minutes that Powerpoint is not the enemy, after that I welcome you to challenge me on that.



Why do we present (data)?

Let's start with a quick question: Why do we present and why do we present data?

Answer? To get a decision from our audience and decision makers.

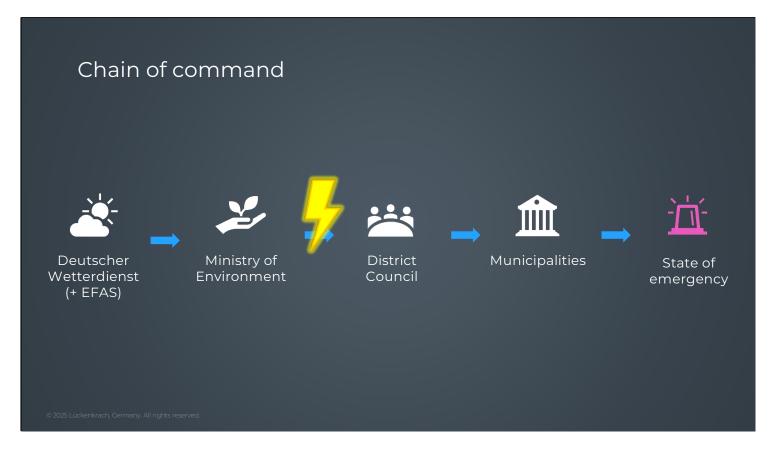




I want to talk about an example of when data was unable to convince the audience to take action. And the consequences were severe. On the night between July 14th and 15th, 2021 we saw one of the greatest natural desasters in the history of Germany: the flood in the Ahrtal.

You have to imagine an idyllic valley with a serpentine river bed. Left and right the hillside is covered with forrests and meadows. It looks really beautiful. In this summer of 2021 it had been raining a lot in Germany, which was a blessing compared to the droughts we had in 2018 and 2019 and even 2020 was still too dry. It had been raining for weeks now and by this time the soil was completely saturated with water and was unable to absorb more. This was the time, massive new rain clouds gathered at the horizont in the west and began their journey towards the valley.





In cases like this, the german weather service sends the warnings to the ministry of environment. They pass it on to the district councils who in return trigger the municipalities to take measures, such as evacution or calling out the state of emergency.

BTW, the DWD is only allowed to warn the public directly when it is due to rain or storm. They have not permission to warn about floods, I asume because they do not know whether the soil is saturated or not etc.

And according to the investigation afterwards, this is where the communication broke. But I will get back to that. Let's take a look at the report first.



Extreme storm with heavy & continuous rain
 Precipitation up to 130-200 l/sqm over 48-60 hours
 Major uncertainties in the forecast model

Landesamt für Natur, Umwelt und Verbraucherschutz Nordrhein-Westfalen



Informationen zur hydrologischen Situation in NRW (13.07.2021 13:30 Uhr)

Wetterlage in NRW (Quellen: DWD, Meteomedia, LANUV NRW)

Der Durchzug eines Tielfruckgebiets von Frankreich nach Mitteleuropa sorgt bis Donnerstagmittag für sehr unbe ständiges Wetter mit teils gewittrigem, unwetterartigem Starkregen. Laut aktueller, neu bewerteter Vorabinformation bestehen Warnungen des DWD vor extremem Unwetter (Stufe 4, im Südwesten NRWs) sowie Unwettervarnungen (Stufe 3, bis zur Mitte NRWs inkl. Ruhngebiet) durch Starkregen und Dauerregen infolge von lünger anhaltendern Regen bzw. wiederholt auftretendem, krätligen Starkregen ab dem Nachmittag sind aus Südwest kommend insgesamt 40-80, regional bis zu 1:30 l/m² zu erwarten und lokal auch 200 l/m² in den nächsten 48-80 Stunden nicht ausgeschlossen. Der Schwerpunkt liegt wahrschenlich in einem Bereich von der Mitte bis in den Südwesten von NRW. Es bestehen jedoch noch größere Modellunsicherheiten.

Weitere Informationsmöglichkeiten: http://www.dwd.de. http://wetterstationen.meteomedia.de

Abflusssituation / Wasserstände (Quellen: LANUV NRW, HMZ Mainz, WSV, HVZ BW)

Rhein

Das Hochwassemieldezenfrum Rhein in Mainz ist gegenwärtig für den Oberhein aktiv. Nachdem das unbeständige Wetter bereits in der letzten Woche zu Überschreitungen erster Meldehöhen am Oberhein führte, sorgen die
auch in den südlicheren Teilen des Rheingebiets vorhergesagten, zum Teil extremen Niederschlagsmengen für
einen starken Ansteg der Wasserstände von einem hohen Nieuea uss. Am Pegel Speyer wird der Wasserstand
auf über 700 cm ansteigen. Am Pegel Mannheim wird die Meldehöhe von 650 cm am Donnerstag überschritten.
Am Pegel Mainz vorerst noch fallende Wasserständen, mit einem Ansteig ist ab der Wochenmitte zu rechnen. Am
Oberrhein werden dabei die Höchststände der vergangenen Tage deutlich übertroffen. Da der Pegel Koblenz vorraussichlich am Donnerstag die Meldehöhe von 450 cm erreicht, wird zu diesem Zeitpunkt der Meiddenfest für
den Mittel- und Niederrhein eröffnet. Spätestens ab Donnerstag ist auch für den Niederrhein mit steigenden Wasserständen zu rechnen.

Gewässer in NRV

Aktuell weisen die Gewässer in NRW derzeit (noch) keine Überschreitungen der Informationswerte auf. Lediglich am Pegel Glesch (Erft) wurde, bedingt durch die Regeldneiße am Morgau, die interne Vorwamstufe bereits überschritten. Es ist aufgrund der aktuellen Prognose jedoch davon auszugehen, dass ab dem Nachmittag v. a. in den Einzugsgebieten von Rur. Erft und Sieg die Wasserstliche rasch ansteligen werden. Dabei ist es wahrscheinlich, dass Informationswerte überschritten werden. Nach derzeitigem Stand gilt dies be Domenstagmittag auch für weltere Einzugsgebiete NRWs, wobei jedoch bezüglich der Intensität, Dauer und räumlichen Ausbreitung der Nederschäge und damit einkergehend der Abflussige große Untensiche auftreten können.

Weitere Informationsmöglichkeiten: http://luadb.it.nrw.de/LUA/hygon/, www.hochwasserzentralen.de, www.hochwasserzentralen.de, www.hochwasserzentralen.de, www.pegelonline.wsv.de,

Erläuterungen zu den Informationsstufen: http://www.lanuv.nrw.de/umwelt/wasser/wasserkreislauf/wasserstaende/pegeldaten-online

Ergänzende Informationen:

Der nächste hydrologische Lagebericht des LANUV NRW wird am 14.07.2021 gegen 08:00 Uhr erstellt, sofern eine veränderte hydrologische Lage keine frühere Mitteilung erforderlich macht.

Source: LANUV (2021) Information zur hydrologischen Situation in NRW (13.07.2021 13:30 Uhr). https://www.lanuv.nrw.de/fileadmin/lanuv/wasser/lageberichte/20210713_Hydrol_Lagebericht_1.pdf. Accessed: 21. Sept. 2023

This is what the report looks like. This is the one from the 13th of July, around 1.5 days before the catastrophe hit.

The first paragraph has three key messages.

...

What would you do, if you had received this report? Do you have an idea of how much 200 liters per SQM are? Let me show you...



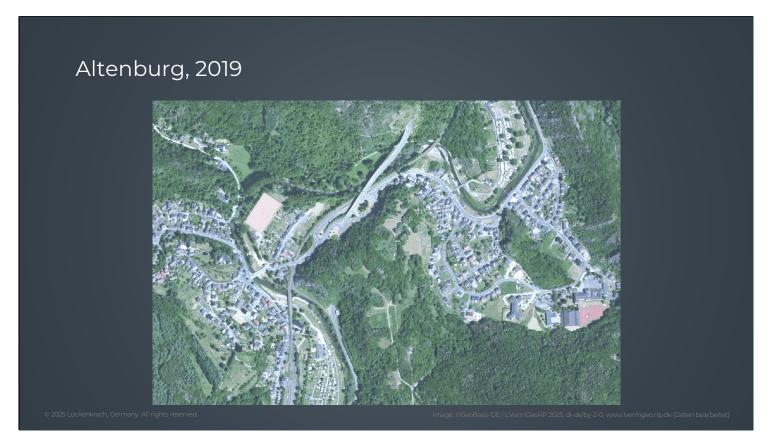


Image: ©GeoBasis-DE / LVermGeoRP 2025, dl-de/by-2-0, www.lvermgeo.rlp.de

The scale of the flood was unprecedented, and that is one of the reasons why the danger was underestimated. How dramatically we can see at the example of Altenburg, a district of Altenahr, which looked like this before the catastrophe.





The Altenburg district on a regular afternoon, the water level of the Ahr is usually around 43 centimeters here. 43 centimeters, that's a normal average. In 2021, after persistent rain in the afternoon, the level rose to 1.5 meters. In the evening then the flood turns into a catastrophe. At 2.80 meters the first houses are affected. The tide is getting more torrential. At 6 meters, the gauge is lost and the water rises. The peak is reached at night at a height of up to 10.80 meters.





Image: ©GeoBasis-DE / LVermGeoRP 2025, dl-de/by-2-0, www.lvermgeo.rlp.de That's Altenburg end of July, 2021.





Image: ©GeoBasis-DE / LVermGeoRP 2025, dl-de/by-2-0, www.lvermgeo.rlp.de

More than 189 people died in this flood. Amongst them 12 from a nursing home who were unable to escape the flood, even though the DWD had warned since July 10th, so 4,5 days before the flood. More than 800 people were partially severly injured and to this day the thousands and thousands of first response helpers, military, farmers, THW and firebrigade, etc. need councelling due to post traumatic stress disorder.

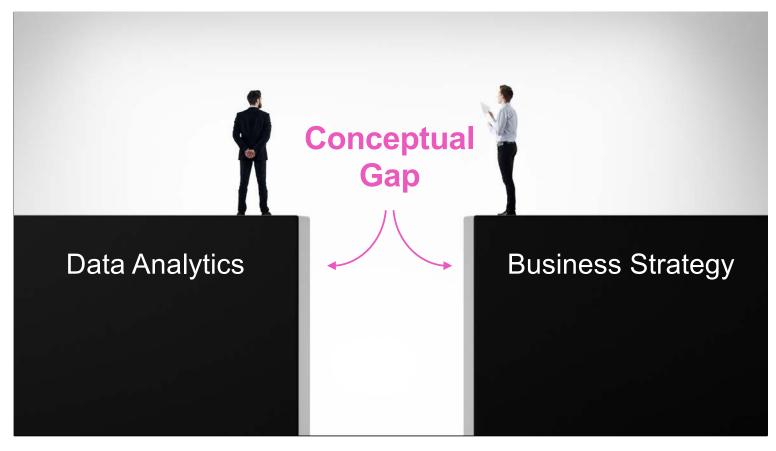
As I mentioned before, the communication chain had a flaw:

the Ministry of Environment sent the report, but the district councils didn't grasp its implications. Former Minister Heinen-Esser noted that the reports "ended up in the waste-paper basket" because they weren't clear or actionable. Investigators argued that if the warnings had been understood as urgent throughout the chain, many deaths could have been prevented. As Stefan Kämmerling, committee chair, said: "The ministry understood the danger, but no one translated it in a way people could act on."

This is a very drastic example of how data is informing but not causing action. The information of "200 liter per square meter of rain" apparently did not trigger anything. It is very abstract. "The water will reach the second floor of the houses next to the river" probably would have been more meaningful.

And on a smaller scale this is what happens every day in our organisations.

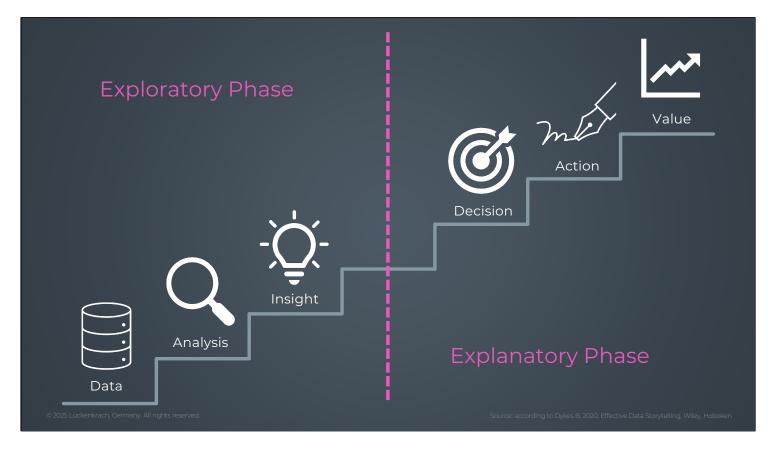




The gap is real: we see in various studies that there is a gap between data analytics and business strategies. This leads to wrong decisions or worse procrastination and no decision, inefficiencies and missed opportunities.

So let us understand a bit better one of the reasons for this gap: The miscommunication of data.



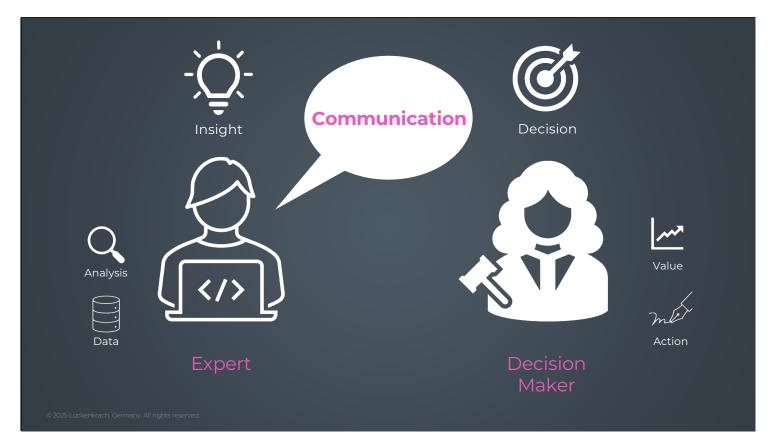


To do so, we have to look at how data generates business value.

We are starting in the exploratory phase where an expert is exploring the data. They create an analysis and generate insights from that. Now it switches over to the explanatory phase when the expert then explains to the business and their decision makers what those insights are. Here the decision maker is then taking a decision, an action is made and value is created from that.

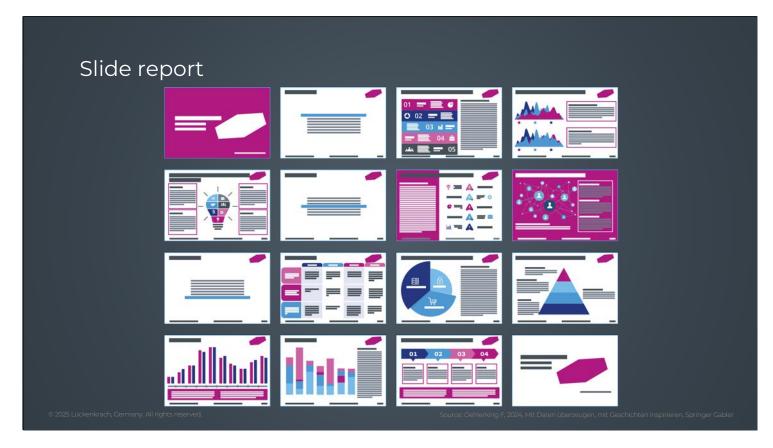
However, many times we forget, that there is a change in personell from expert to decision maker.





And between both we find communication. And how does that communication look like today?





It looks something like this, right? Very overloaded, very detailled powerpoint slide decks. But frankly, these are no presentations. These are white papers, guidelines, reports, coincidently created in PowerPoint. But that does not make them a presentation worth presenting in front of an audience, right?

We are misusing powerpoint. We put all details every bit of information we can find in it and we are afraid to miss any detail because we have to make sure, that the audience has more information than it needs, just so noone tells us afterwards, they did not know. We do not take the responsibility to filter out the unimportant, the noise.

Presentations in our opionion have to be self-explanatory, so when they get send out to people that have not attended the meeting also understand what it is about. Frankly, that is absolutely wrong. Because what happens then in those long presentation with lots and lots of data and details that seem to be endlessly discussed?





The audience falls asleep.

Here's the reality:

Experts present their data. Solid insights, clean analysis. But the decision maker at the end of the table is busy checking emails.

When the presentation ends, they look up and say, "Can you send me the slides? I have a few follow-up questions let's meet back in two weeks to discuss further."

And just like that, another decision is delayed.

And let's be honest - what's worse than making the wrong decision? Not making any decision at all.

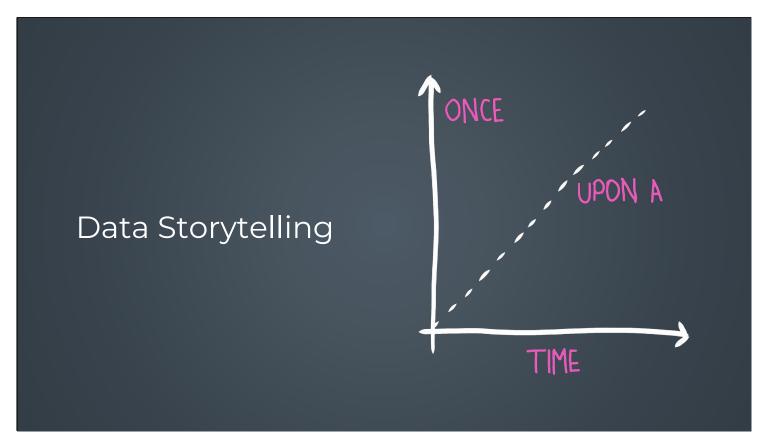
Meanwhile, on the flip side, managers try to roll out strategies with consultant-heavy PowerPoint decks – but lose their teams in a sea of detail, bullet points and KPl's. So they check out rather than taking initiative to act. And any spark of inspiration is basically extinguished right at the beginning. We have to understand that as data presenters, our presentation competes with two major distractors: the sensory overload keeps us from getting the initial attention at the beginning and the information overload might cost us the attention further into our presentation.

Yet, we have to find ways, so that our core messages are better understood, longer remembered so that they can serve as a basis for faster decision making.

And we have to finally realize, that if we continue, we are wasting the time we spent on creating these presentations and the time of everyone sitting in such presentation when there is no decision taken at the end of it.

So let's change that! Let's fight poor PowerPoint presentations together.





The solution



"No one ever made a decision because of a number.

They need a **story**."

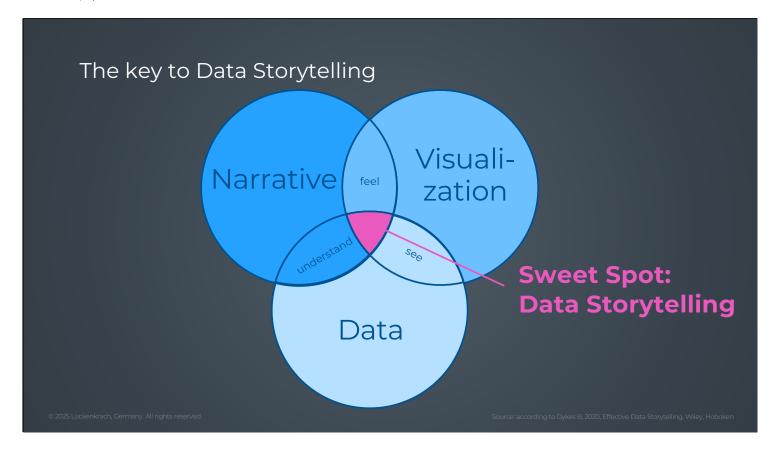
Daniel Kahneman Nobel-winning economist

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ource: https://www.forbes.com/sites/geoffreykabat/2017/01/07/michael-lewis-new-book-carries-an-essential-message-for-our-time/?sh=69f50c7d3801

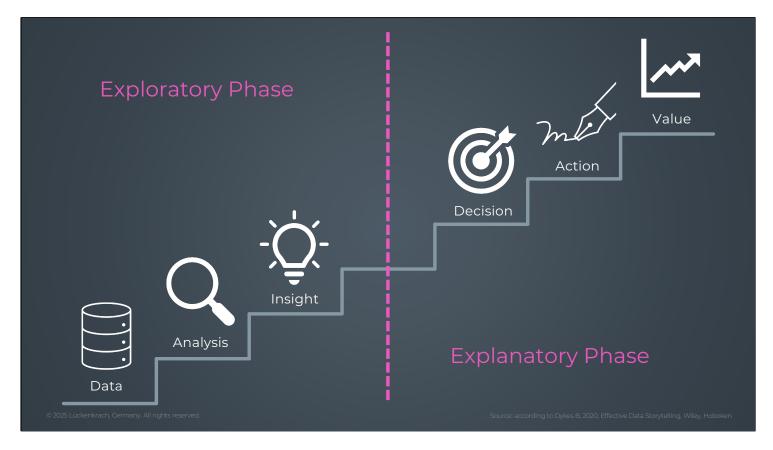
As Daniel Kahneman said: "No one ever made a decision because of a number. They need a story." And there is so much power in this. In my trainings I also explain to my clients, why storytelling is so powerful and why we as human beings are so hard-wired to this method of tranferring knowledge. It has been successful in advertising for many decades.





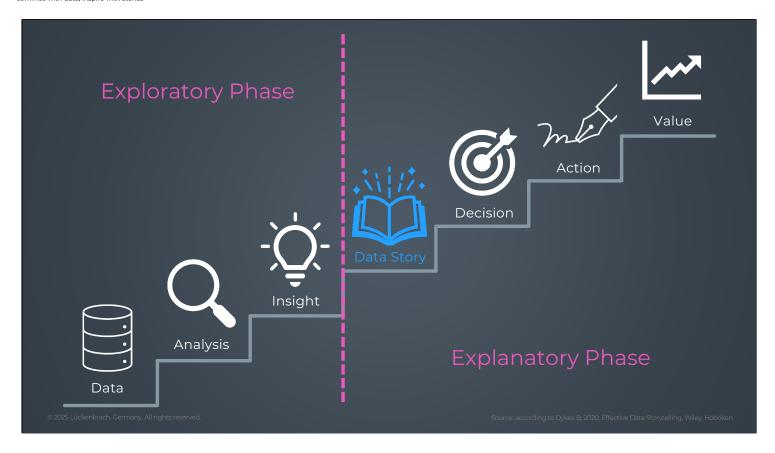
Data storytelling is located where the three components meet: the data insights you have gained after your data analysis, the easy-to-understand visualization and a captivating narrative.



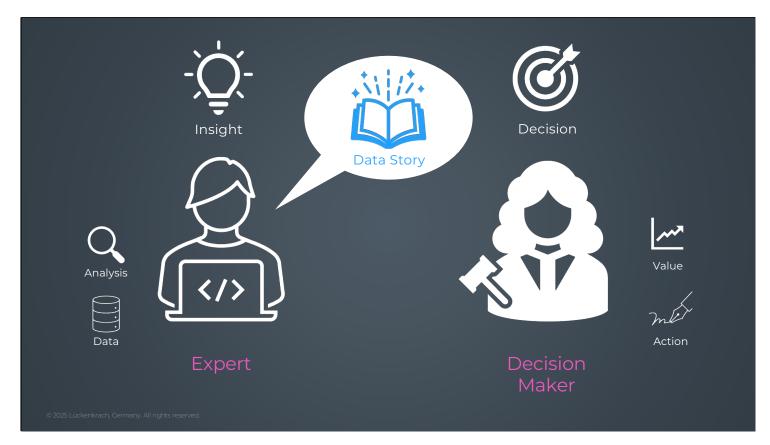


So let us follow Kahneman's advise and add a data story.





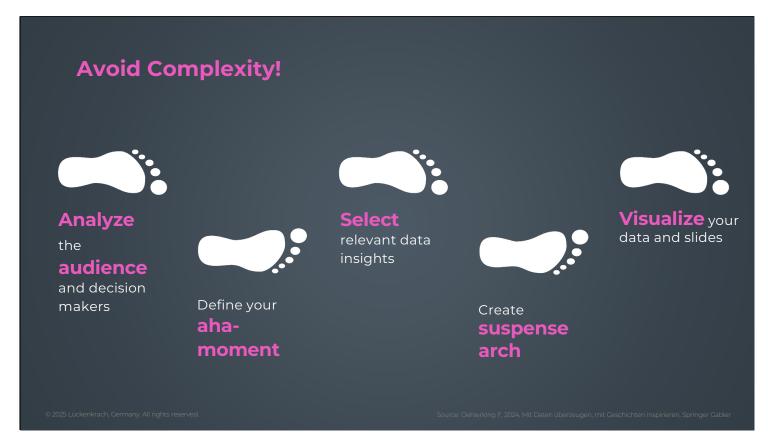




The expert now creates not a slide report but a data story to their audience and decision makers. Data storytelling is the vehicle on the fast lane of data highway to the brain. And this is why it becomes so important in the context of data literacy. We need to understand that we do not communicate in stats, data, in ones and zeros. Human beings communicate in stories.

And only when we learn how we comfortably switch back and forth between those two worlds, we can truely reach the data culture we seek and create the value we need.





Let's go through the steps

In Data Storytelling we do not start with Data, nor do we start with the story. We start with the audience. Understand, who your audience is and where they come from. Find the decision maker amongst them and ask yourself, what keeps them up at night?

Then identify your Aha-moment by defining, what the problem is and what is the solution you are proposing. Make sure, to match the problem to your audience. If the problem is not relevant to them, they might be the wrong audience. But what makes the problem from your perspective relevant to them, you will only find out, if you understand your audience. Then introduce your solution which will also call for action at the end of your presentation.

After that you brainstorm all data points, arguments and facts, that make sense to put into the data presentation to explain problem and solution to your audience. Here we have to be careful not to overload our audience with too many details, too many technical terms or other things, that might overload them. Be sure to cluster and edit your list of facts and check each whether it is relevant to your audience and decision maker.

Now you can start visualizing your data and your slide deck. The charts and diagrams that you want to present need to be easy-to-understand to keep the cognitive ease high! And remember: The visualisation, the slide deck, should only be a visual aid to underline what you are saying. Not the slide deck is the presentation: you are!

Finally bring all of it into the narrative structure that offers suspense to your audience and keeps them at the edge of their seats.

And with all that: by any means avoid complexity.

So let us look at each step more closely.





Why do we need to care about our audience, if the data tells the story, you ask?

Think of the story of Robin Hood – there are probably hundreds of movies about Robin Hood out there. And every one of them adresses a different audience: the animation movie by Walt Disney, the persiflage "men in tights, the romanitc Kevin Costern interpretation or the brutal Russel Crowe version. The story is basically always the same – more or less. But I would not go see the version with Russel Crowe and take my 6 year old nephew with me.

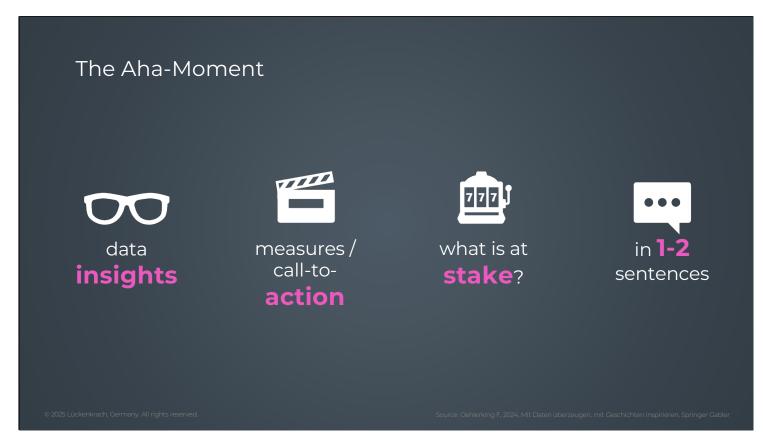
And yet, he knows the story of Robin Hood.

So it is the question, how to wrap the core message in a customized wrapping to make it interesting to the audience. It is how we deliver it to get the attention of our audience. We have to first really understand, what moves our audience, our decision makers.

There are 3 key questions we can ask ourselves:

- 1. Who is the deicison maker (or gatekeeper)?
- 2. What keeps them up at night?
- 3. What decision do we want from them? Whar action should they take?





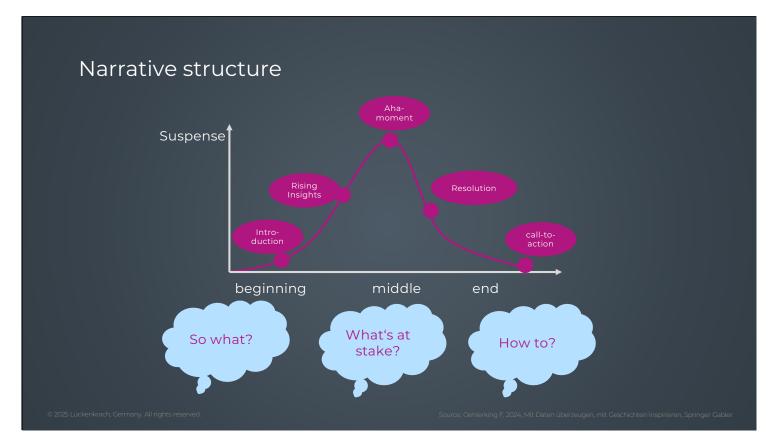
The Aha-Moment is your overall story. Robin Hood steals from the rich and gives to the poor.

The Aha-Moment should:

- state your specific insights after your data analysis
- include your opinion, which measures should be taken
- urge what is at stake for your decision maker (positively or negatively)
- be articulated in 1-2 sentences max.

Once we write this down, this becomes our framework to build our story around. Make sure that the facts and arguments you deliver in this phrase matches to what our audience is really triggered by emotionally.





Once we know what our audience cares about and we know our Aha-moment, we put all the bits together in a narrative structure. This creates the suspense that we need for our audience to stay with us.

There are studies that show that during moments of suspense we are particularly perceptive to information. We are more likely to accept them and to remember them when our brains are exposed to suspenseful stories that trigger our emotions.

We use the suspense arch to help us with that.

With the introduction you offer background on current status quo and protagonists. With rising insights you share findings that reveal deeper insights into the problem or opportunity. A conflict becomes visible.

At this stage you answer the question "so what?" of your audience.

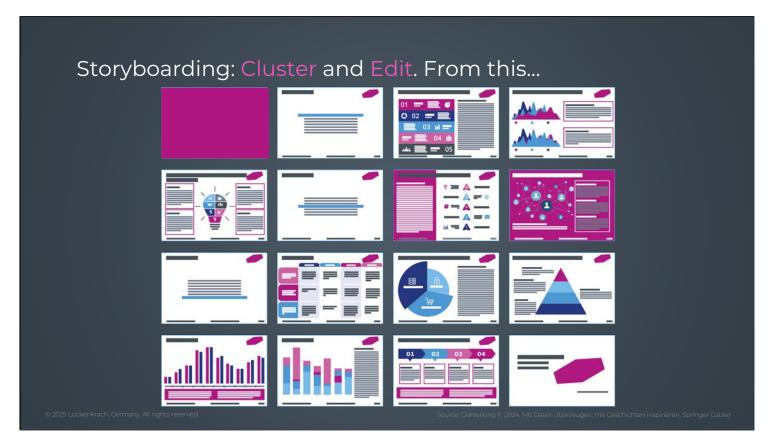
The story will then climax into your Aha-moment. Present your major finding or key insight! Again, this needs to be aligned the personal triggers of your decision makers. It is this stage where you explain "What is at stake" for your audience.

Then you offer the resolution and call to action, so the solution of the problem and the next steps you want the decision makers to take as soon as they walk out of your meeting. Hence, you answer the question of "how to" solve the problem.

Make sure that this solution is actionable and say what you need from your audience to implement your resolution.

Give them a path forward and what they can do specifically and realistically to get things moving.





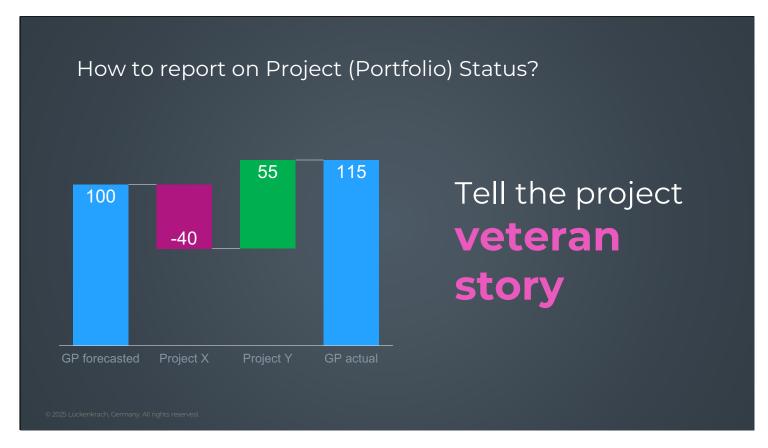
We then continue with the step called "Storyboarding". Main target is to cluster and edit all the endless information we would usually go with into...





...a short presentation that focuses on telling the data story to this specific audience. All other slides can go into the back-up slides. Use the few minutes you have to tell your story. Leave the rest for the conversation that you have once you gave your audience the chance to understand why they are here.





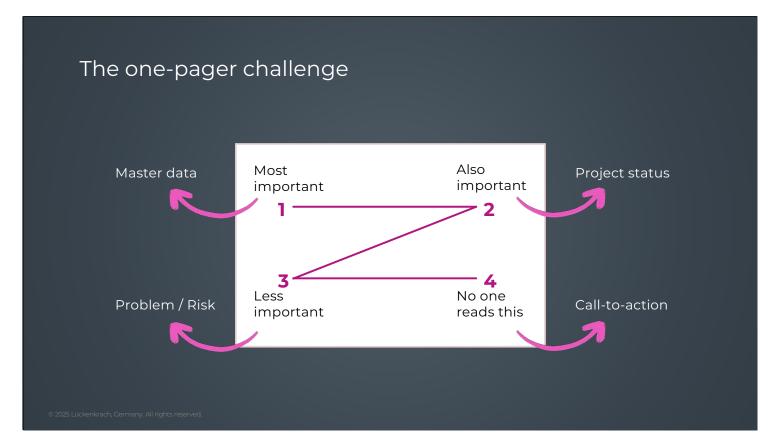
Mastering project and portfolio status reporting is an advanced form of Data Storytelling. You could try to make a KPI, such as gross profit, the protagonist of your report—but it rarely keeps your audience engaged for 20 minutes. Instead, start with the story: an executive summary that highlights the most critical developments.

The challenge with status reporting is that, by definition, it's designed to say: "Everything is under control, nothing to see here." How can that ever feel interesting? And let's face it—bad news travels fast. Your audience probably already knows most of the issues in your project portfolio.

The real impact comes from the project veteran stories we all love: "You all know the challenges in Project X, which had a huge effect on our gross profit this quarter. But Project Y did something remarkable. They... and saved the day." Celebrate wins and acknowledge challenges.

Once you've told the story, the KPI can appear in the dashboard, flying over the standard slides. Give your audience the story they'll remember first, and leave all the detailed data to the backup slides.



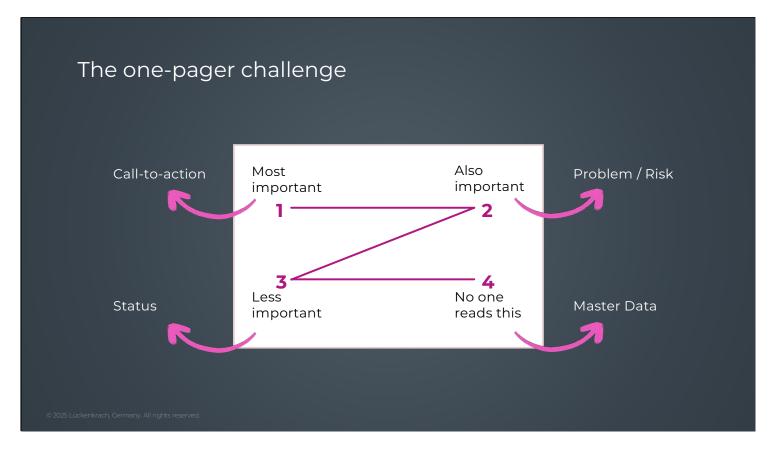


Our eyes scan information in a zig-zag pattern. Yet, many "one-pagers" miss this simple fact.

Often, management asks for a concise summary. And what do we do? We squash 10 slides into one – starting with project numbers, client names, and project managers... and ending with the interesting insights.

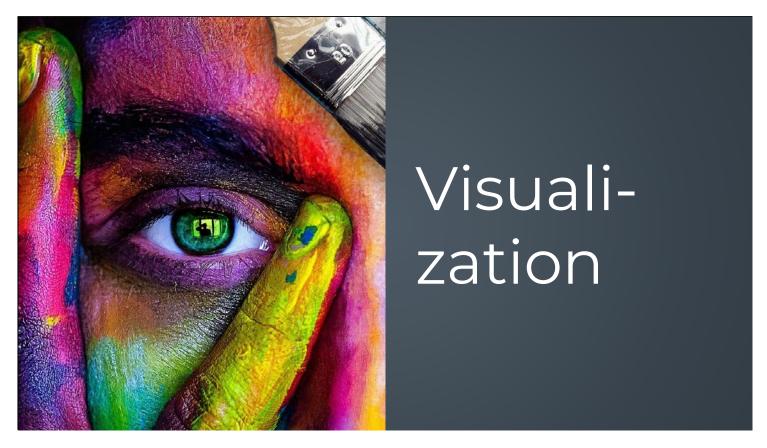
The result: the audience jumps over the boring part, loses attention, and misses the story.





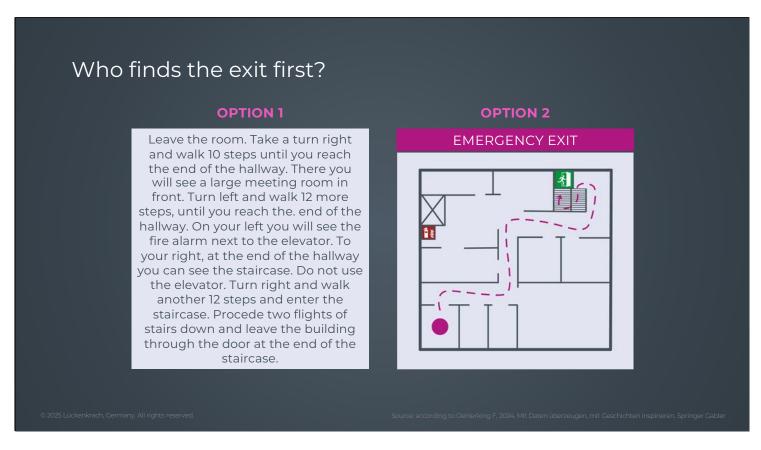
The right way? Start with what captivates – the insights, the challenges, the wins. End with the details. Respect how people read and let the story guide their eyes. One page can be short and memorable if you design it like a story.





Only now, once we have the strucured our data story, we start with the visualization of data and slides.





Who, do you think, will find the fire exit in case of emergency first? Option 1 or option 2?

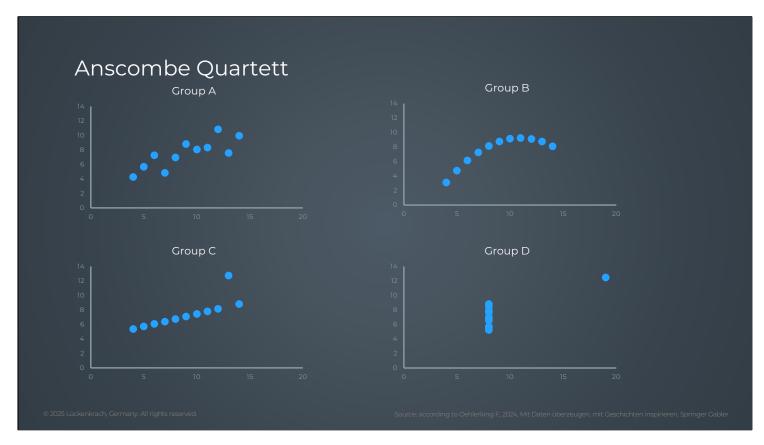
The take-away here is that graphs can work 1000 times faster than words. You can also memorize it more easily.



Ascombe Quartett Group B Group C Group A Group D 8,04 9,14 10 10 7,46 8 6,58 8 6,95 8,14 6,77 5,76 7,58 8,74 12,74 7,71 8,81 8,77 8 8,84 7,11 8,33 9.26 7,81 8 8,47 14 9,96 14 14 8,84 8 7,04 7,24 6 6,13 6 5,25 6 6,08 8 4,26 3,1 5,39 19 12,5 10,84 9,13 8,15 5,56 4,82 7,26 6,42 7,91 5,68 4,74 5,73 6,86 Amount 7,5 7,5 9,0 9,0 7,5 9,0 7,5 9,0 Average Standard deviation 3,2 1,9 3,2 1,9 3,2 1,9 3,2 0,82 0,82 0,82 0,82 Correlation coefficient

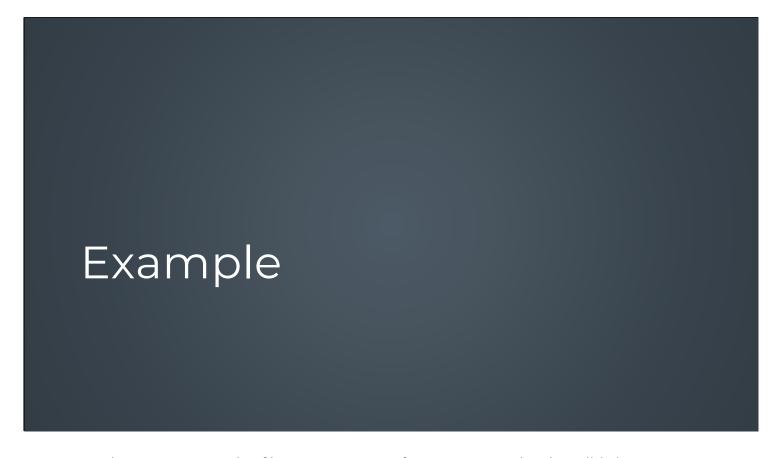
And the same goes for numbers. Do you see the differences in the individual data sets (groups)? The calculations below: amount, average, standard deviation and correlation coefficient are identical. The numbers as well? Only when we draw them, patterns emerge and outliers become visible.





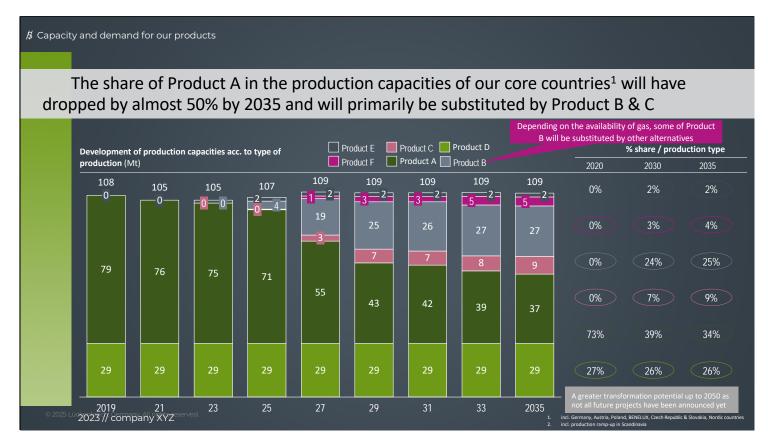
That means: allow your audience to visually explore your statements.





I want to give you an example of how you can transform your everyday data slide into more meaningful data visualizations.

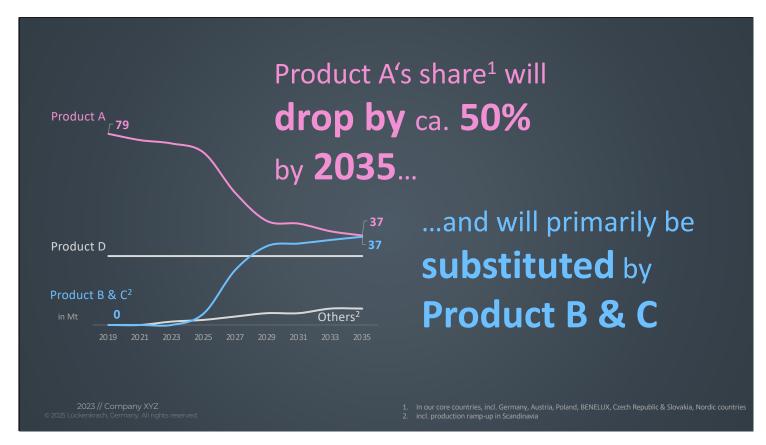




This is an example from a client. And I am sure many of you have seen similar slides like this. And yes, we can read the core message of this slide. But then we enter into a big riddle on what the data visualization actually wants to tell me. It takes to long to separate the important from the not so important information.

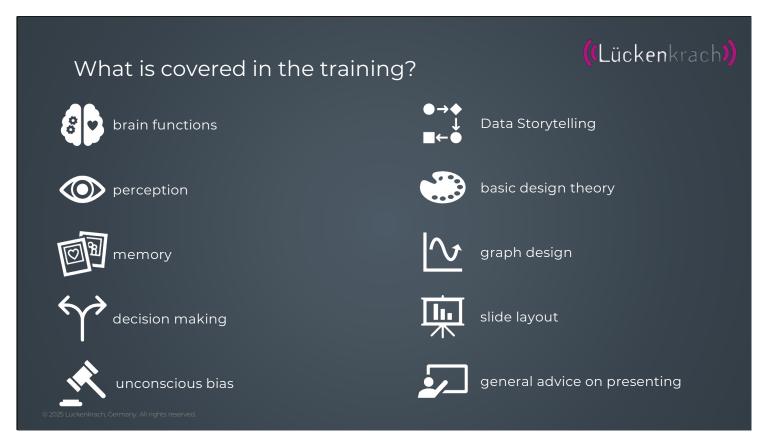
Make it easy for your audience to understand what the data tells us.





Here is how we restructured it. Yes, there might be information you have to put on it, as we can see in the footer here. But try to have it fade into the background and really make the core message pop.





In my trainings we go through all of these information in more details to understand how to apply data storytelling in your project management to drive for faster, more efficient decision making.





In the end, the most valuable advice I can give you on instantly improving your presentation, whenever you are the expert standing in front of your audience and decision maker is: Your slide deck is not the presentation. You are. The slides behind you are just a visual aid of what you are saying. So do not put text on the slide, that you are anyway about to tell. Do not treat the presentation to become self-explanatory. It should not be. That is a report. Not a slide deck for presentations. Even though you might prepare both in PowerPoint does not make it equally usable in a presenting situation. And if you consider this, while preparing your next presentation, you will already accomplish a lot and you are a good step closer to really generating value with your data insights and to really becoming a data culture.





Thanks a lot, again, my name is Friederike Oehlerking, I consult and train people and organisation in the arena of data storytelling. And if you want to learn more about it, feel free to check out my book or connect with me on LinkedIn.