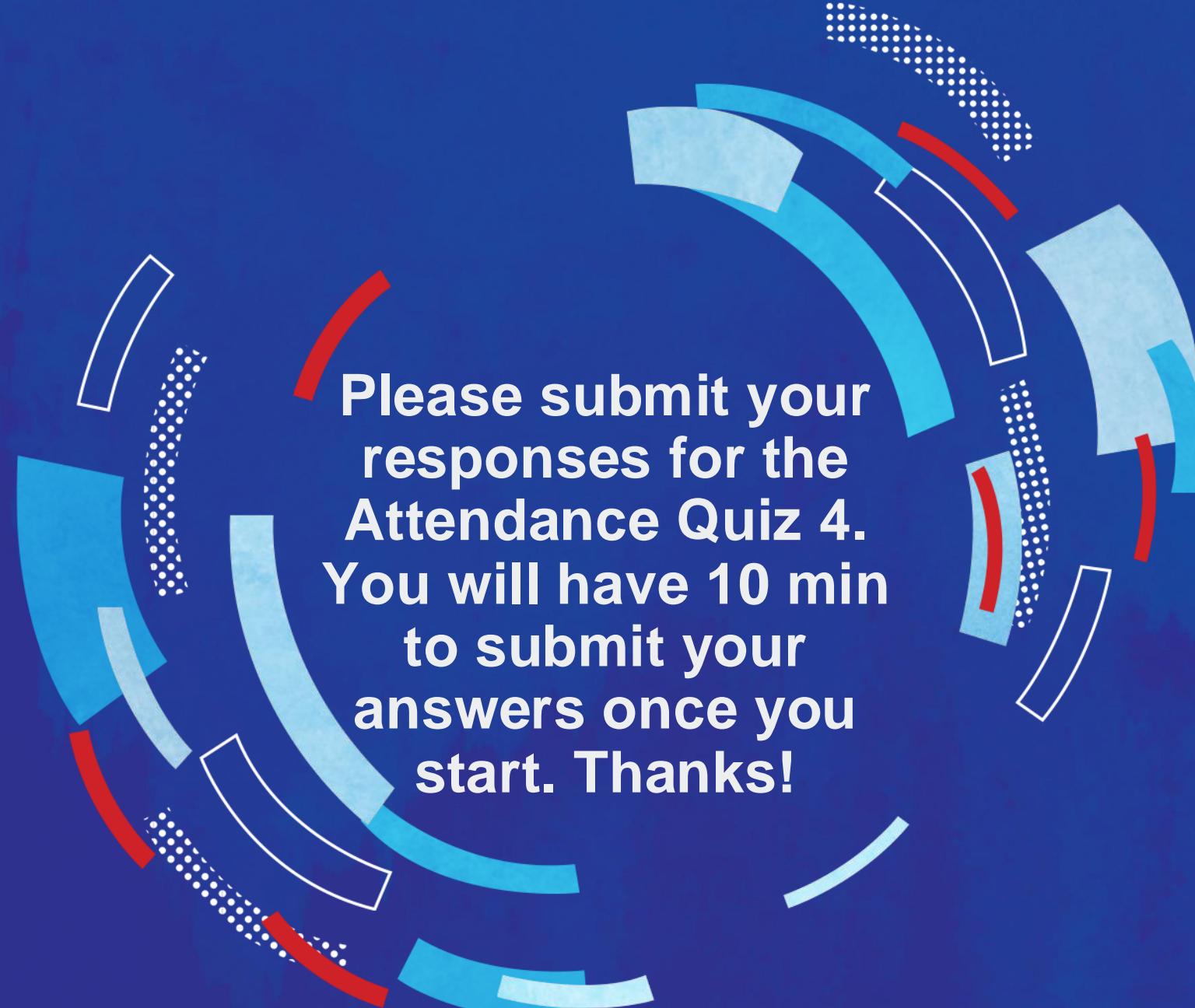


We're starting soon



**Please submit your  
responses for the  
Attendance Quiz 4.  
You will have 10 min  
to submit your  
answers once you  
start. Thanks!**



# MSA 8030 – Communicating with Data

Mark Jack [mark.a.jack@gmail.com](mailto:mark.a.jack@gmail.com)

November 12, 2024



Week 4 –

Team Presentations: Present Your Use Case Selection



Class Discussions: How To Pitch Your Data Science Solution

Mark Jack [mark.a.jack@gmail.com](mailto:mark.a.jack@gmail.com)

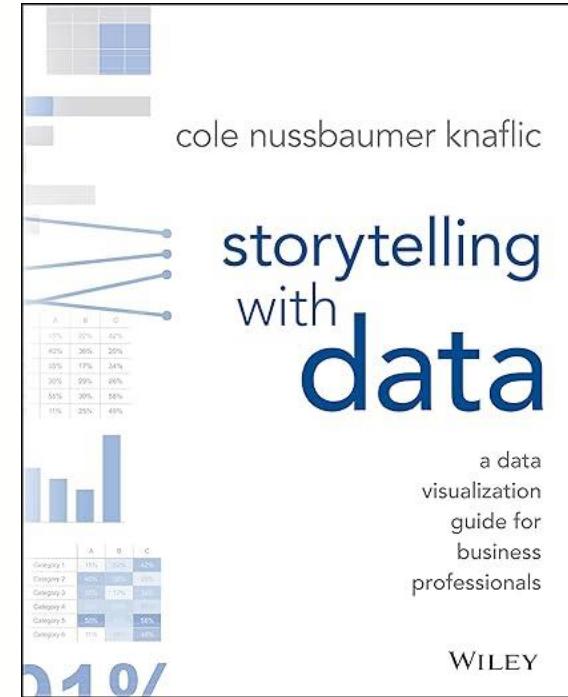
November 12, 2024

# Course Resources

Recommended textbook:

***story telling with data - a data visualization guide for business professionals, 1st edition***

by Cole Nussbaumer Knaflic ([Wiley](#))



Github site:

***CommunicatingWithData***

<https://github.com/mjgrav2001/CommunicatingWithData>



**It is 12:10 p.m.**

**Let's start  
the Team Presentations**

...

# **Team Presentations (45 min)**

**Team 1 – Water Potability of Plants dataset**

**Team 2 – Fossil dataset**

**Team 3 – U.S. Airbnb Open dataset**

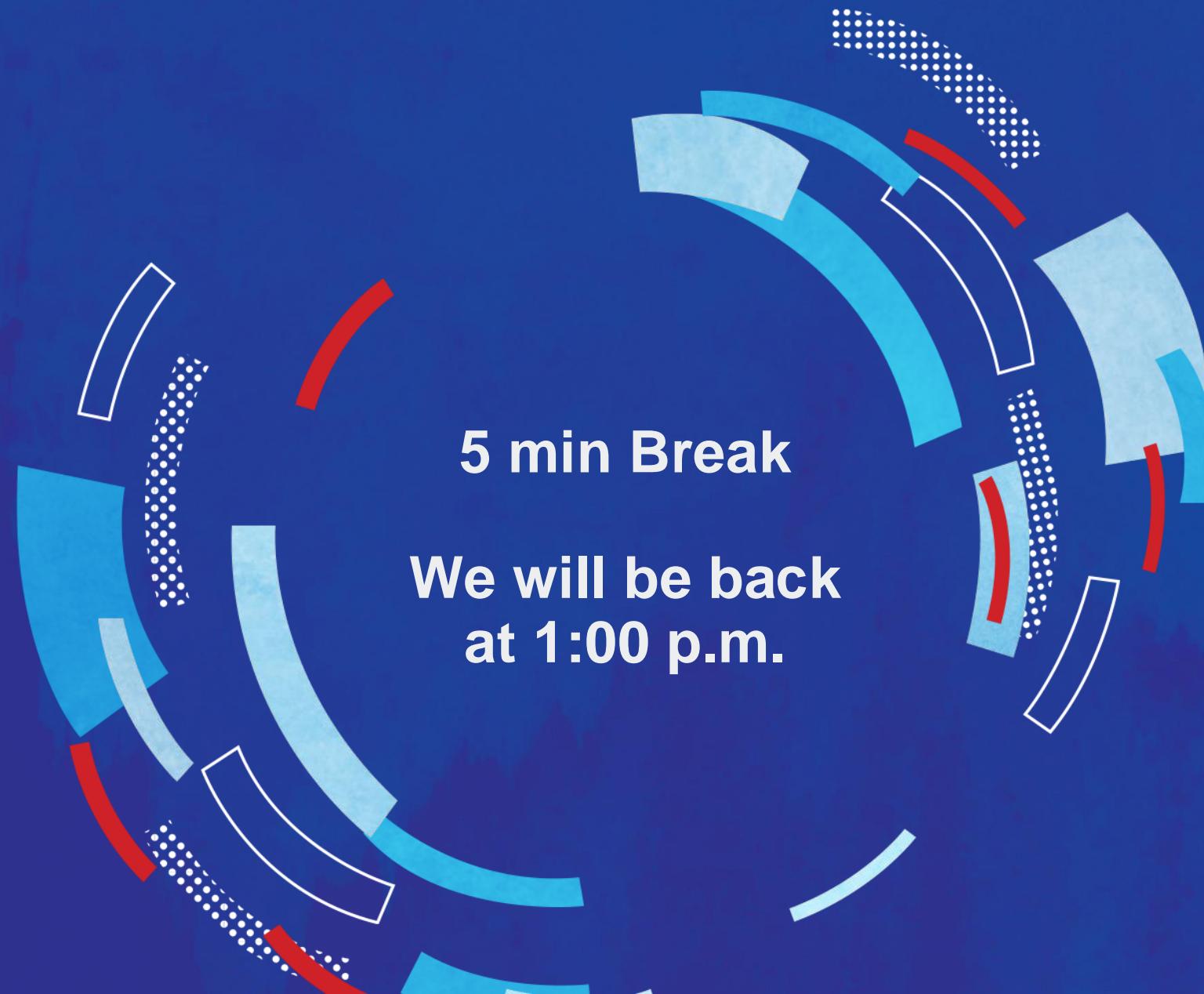
**Team 4 – U.S. Airbnb Open dataset**

**Team 5 – Flywise dataset**

**Team 6 – Flywise dataset**

**Team 7 – Vehicle Sales dataset**

**(presentations in no particular order!)**



5 min Break

We will be back  
at 1:00 p.m.

# Lecture 1 (30 min): How To Pitch Your Data Science Solution

## General idea:

- You want to first create a document with 6 paragraphs before you create your 1-min pitch.
- This document can serve as your speaker notes and as a first draft of your exec summary (Word).

**NO JARGON or TECHY LANGUAGE.** Your end customer needs to be able to understand this, even if they are not the ones who will read it. I use the 5th grader or grandma test. If they can understand this, so will your customers.

**NO FLUFF.** Keep it short and simple and expressive so no "more efficient" or "will be better" etc. language. SAY WHAT YOU MEAN like "it will improve throughput of customer 360 X amount". The pitch should fit on ONE page, with regular font and margins.

If you don't know exact numbers yet, how much improvement, how much cost/savings, etc. **substitute "X"** and fill it in after your **Spike/Exploratory work or PoC** (which would be your appendix).

**NOW, LET'S CREATE THE FOLLOWING PARAGRAPHS IN A DOCUMENT IN THE ORDER SHOWN ...  
(GO TO NEXT PAGE)**

# Lecture 1 (30 min): How To Pitch Your Data Science Solution

Paragraph Five (2 sentences):

## **Describe the Customer Experience.**

Tell me a story. What is the customer journey like now, and what do you want it to be? Paint the story from the customer perspective. How will the customer discover and use your proposed solution? This needs to be compelling and this is the best place to show your passion for helping the customer.

# Lecture 1 (30 min): How To Pitch Your Data Science Solution

Paragraph Two (3 Sentences):

## **Describe the Opportunity or Problem: The Setup:**

**WHO is the customer** and what is the internal/external customer pain or what can they not take advantage of because there are missing pieces to deliver existing value?

DO NOT "bad mouth" an existing solution (that's a #1 mistake here).

Speak as if you are talking to a customer, what problem are you solving from their viewpoint?

# Lecture 1 (30 min): How To Pitch Your Data Science Solution

Paragraph Four (2 sentences):

**Capture the value provided to the customer: The WHY.**

What's the value proposition, how will this make your customers FEEL or REACT to your business or solution?

What is the expected outcome to the customer if this solution goes through?

# Lecture 1 (30 min): How To Pitch Your Data Science Solution

Paragraph Three (3 Sentences):

**Explain the approach or solution: The Knockdown: The HOW.**

How will the service/product/solution you are proposing solve for the problem in Paragraph 2? What are the usage scenarios and how will you address them.

In simple, customer-understood language.

This is not the place to outline your Features or technical blueprint (that can go in your appendix), think Epic or Agile Capability level.

# Lecture 1 (30 min): How To Pitch Your Data Science Solution

Paragraph One (3 Sentences):

**Summarize what the service/product is and what it provides to customers:**

Should include launch/completion date, most important benefit/value to customer (internal/external), and costs.

DONT BURY THE LEAD. This is the most important paragraph.

# Lecture 1 (30 min): How To Pitch Your Data Science Solution

Paragraph Six (1-2 sentences):

**Call to action.**

What are you asking for! Tell readers what is required to get started or progress.

# Lecture 1 (30 min): How To Pitch Your Data Science Solution

**Your Very First Statement (1 sentence):**

**What is your product / service:**

**What product / service are you creating for the customer?**



2 min Break

We will be back  
at 1:30 p.m.

# Group Activity (30 min): How To Pitch Your Data Science Solution

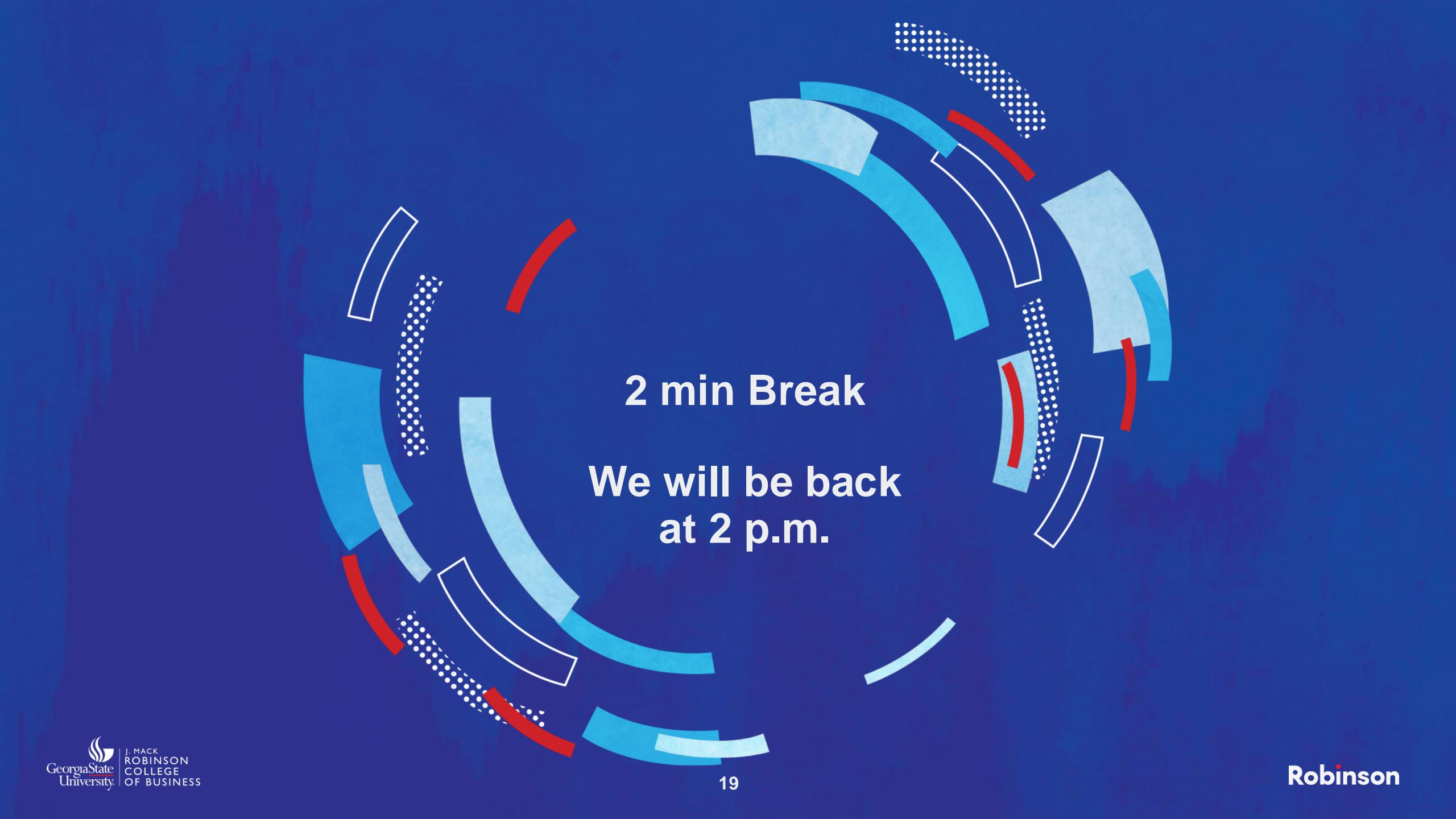
Brainstorm as a team on how to pitch your data science solution:

We will use the online ‘Sticky notes’ board from Lucid.

Each team pick a color!

Each team collect ideas on your sticky notes for each of the paragraphs you want to write (at home/offline) – you can ‘divide and conquer’ as a team if you like!

- Paragraph Five (2 sentences): **Describe the Customer Experience.**
- Paragraph Two (3 Sentences): **Describe the Opportunity or Problem: The Setup.**
- Paragraph Four (2 sentences): **Capture the value provided to the customer: The WHY.**
- Paragraph Three (3 Sentences): **Explain the approach or solution: The Knockdown: The HOW.**
- Paragraph One (3 Sentences): **Summarize what the service/product is and what it provides to customers.**
- **Your Very First Statement (1 sentence): What is your product / service.**



2 min Break

We will be back  
at 2 p.m.

# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0902

## Survey Results: Team X

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

Percent of Total

0% 20% 40% 60% 80% 100%

Survey item A

1%

33%

**Survey item A**  
ranked highest  
for team X

Survey item B

5%

12%

Survey item C

8%

9%

Survey item D

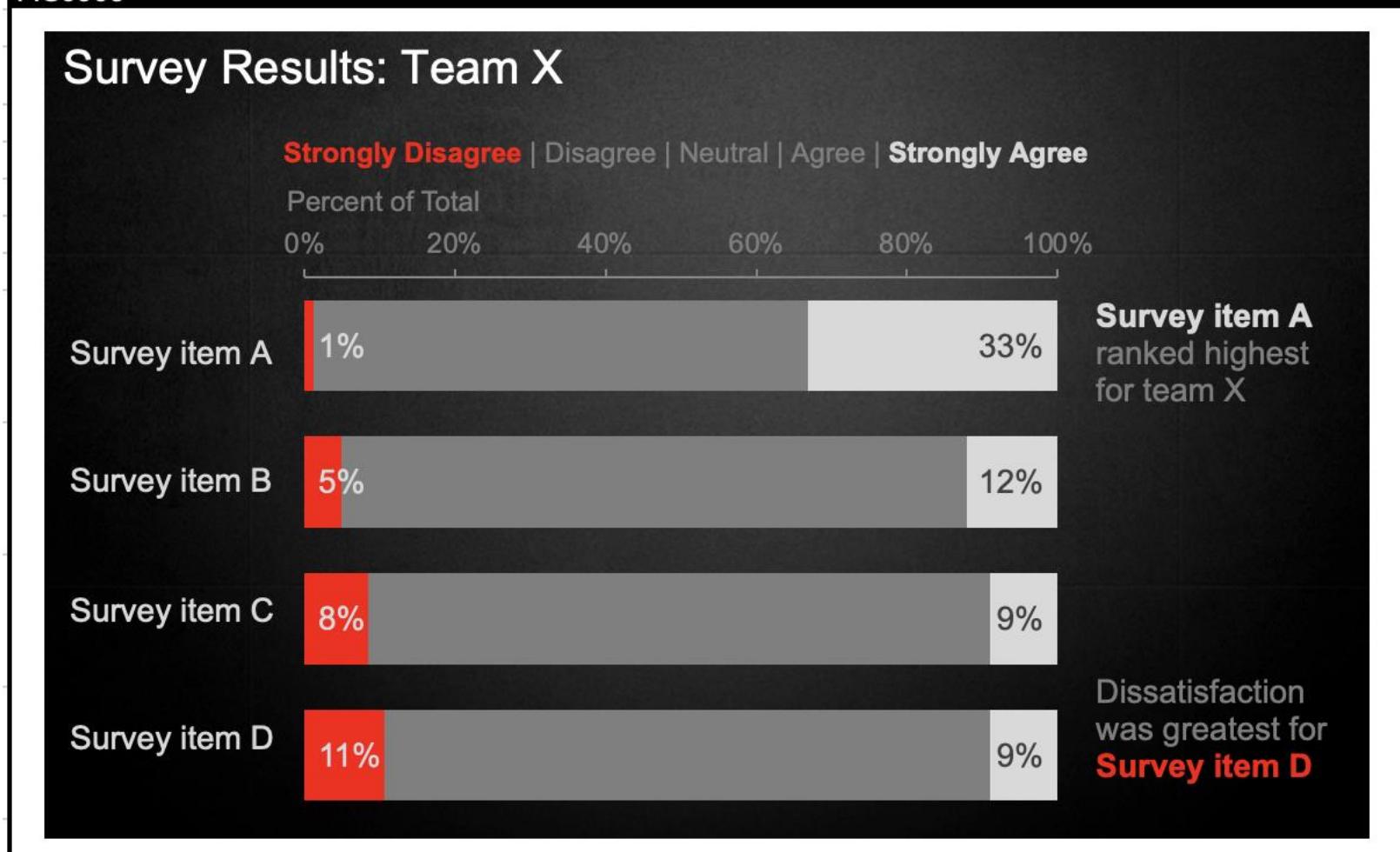
11%

9%

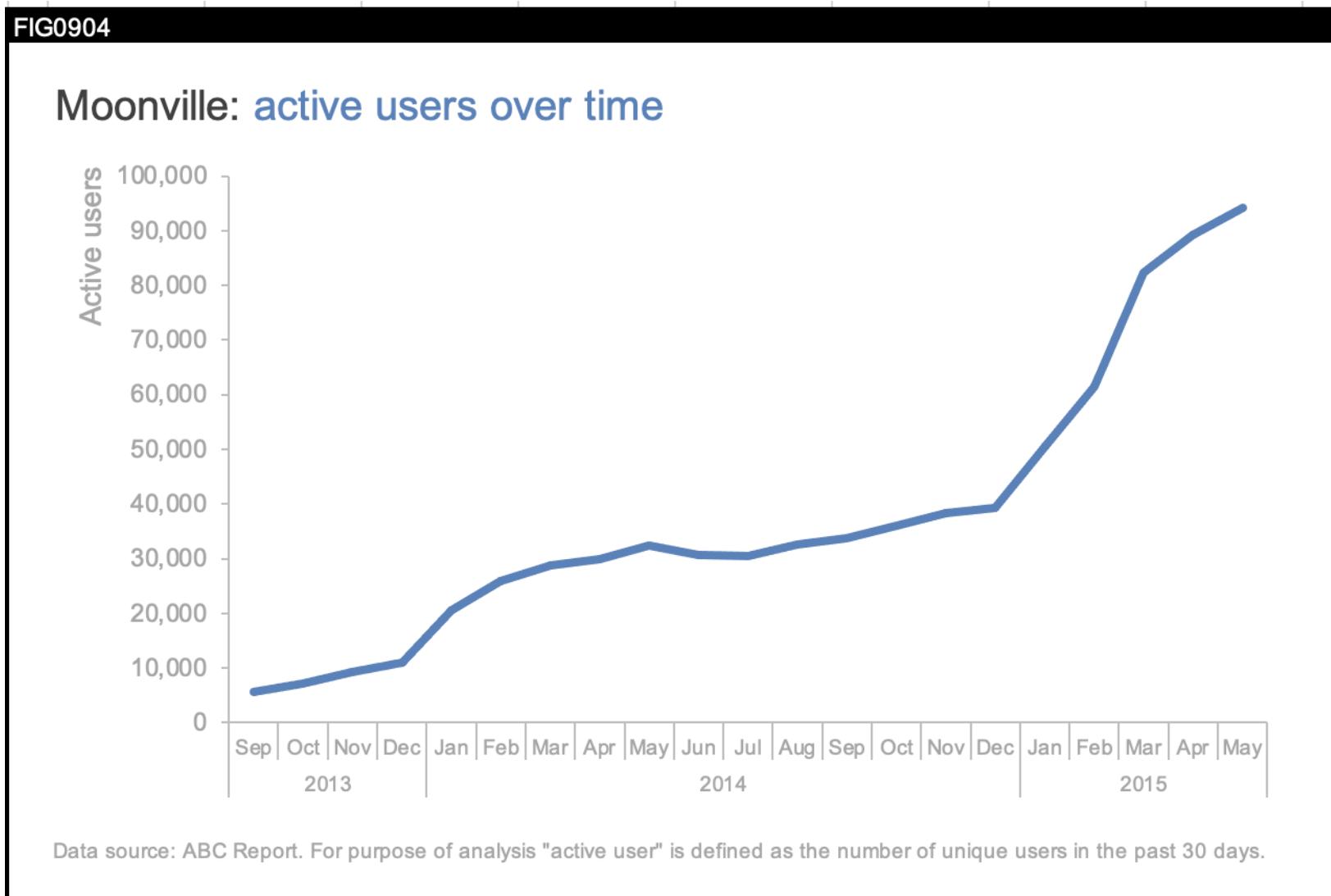
Dissatisfaction  
was greatest for  
**Survey item D**

# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0903



# Lecture 2 (30 min): Storytelling With Data – Case Studies



# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0905

## Moonville: active users over time



Data source: ABC Report. For purpose of analysis "active user" is defined as the number of unique users in the past 30 days.

# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0906

Moonville: active users over time

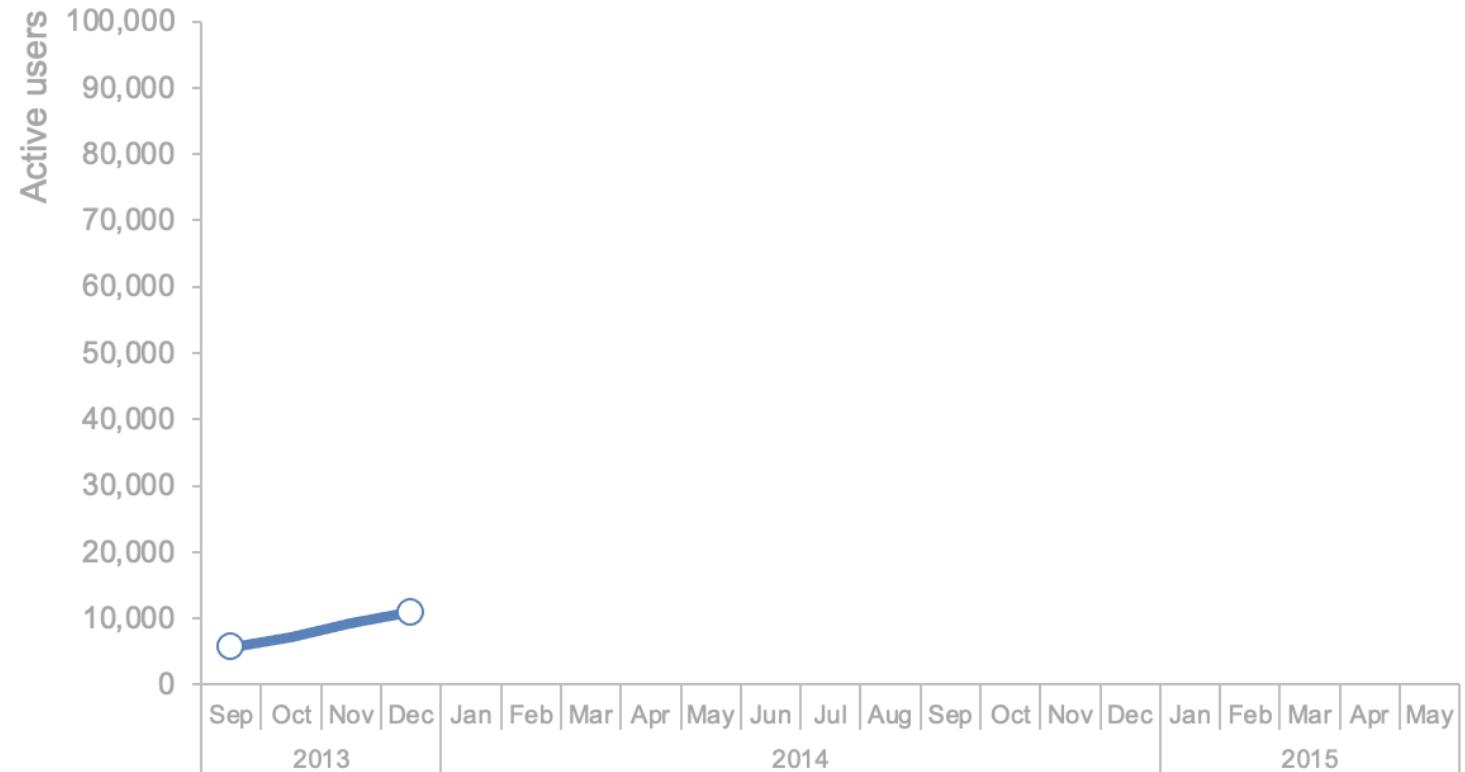


Data source: ABC Report. For purpose of analysis "active user" is defined as the number of unique users in the past 30 days.

# Lecture 2 (30 min): Storytelling With Data – Case Studies

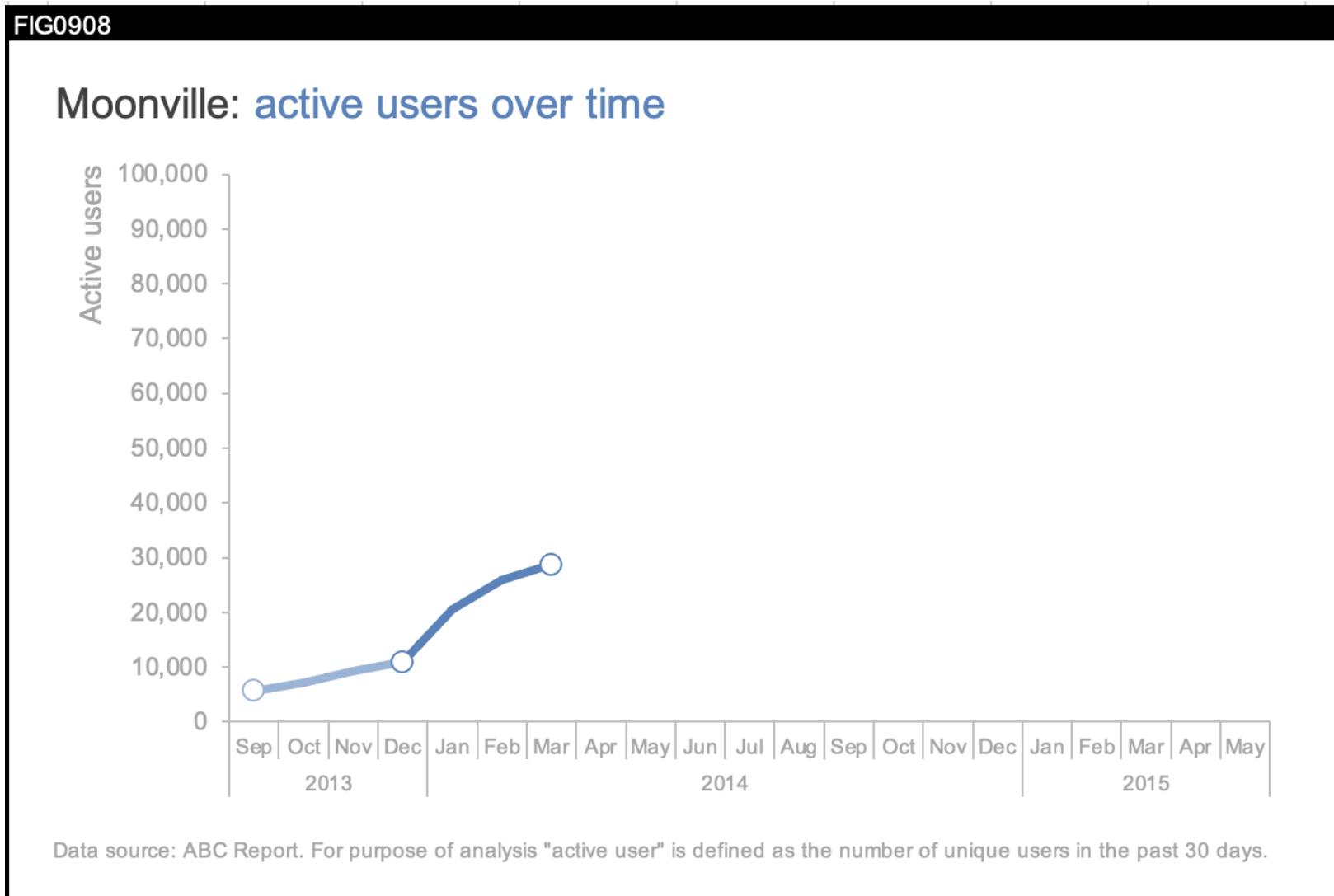
FIG0907

Moonville: active users over time



Data source: ABC Report. For purpose of analysis "active user" is defined as the number of unique users in the past 30 days.

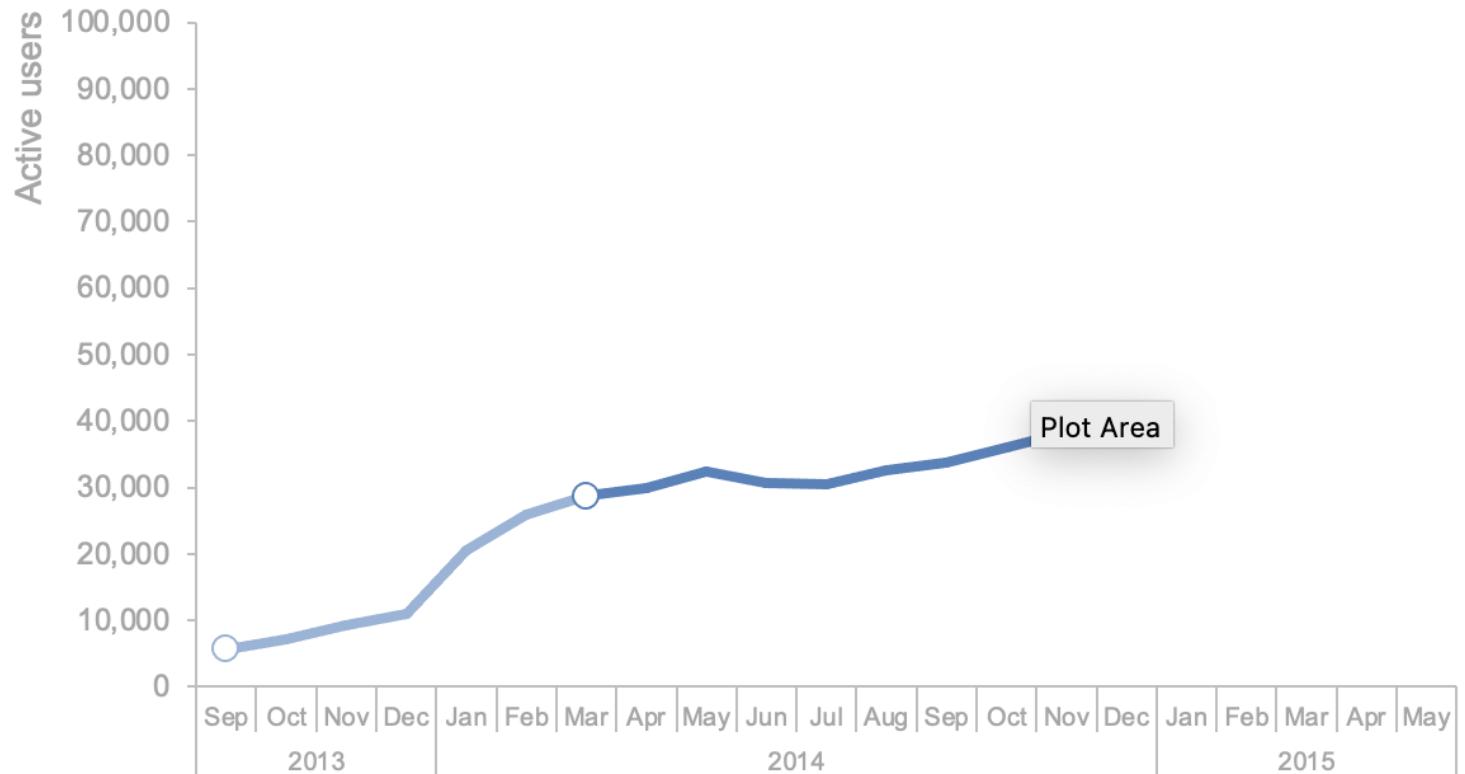
# Lecture 2 (30 min): Storytelling With Data – Case Studies



# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0909

Moonville: active users over time

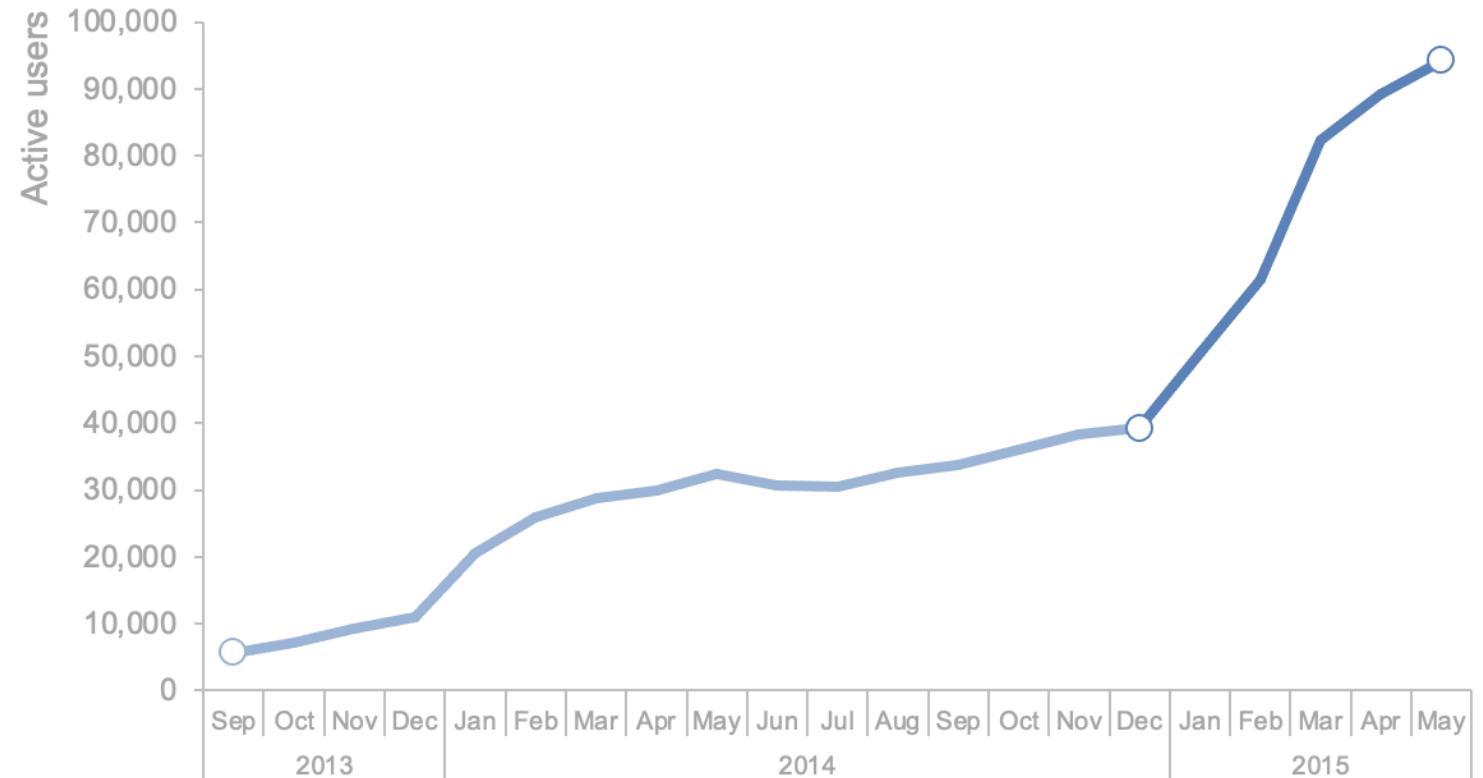


Data source: ABC Report. For purpose of analysis "active user" is defined as the number of unique users in the past 30 days.

# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0910

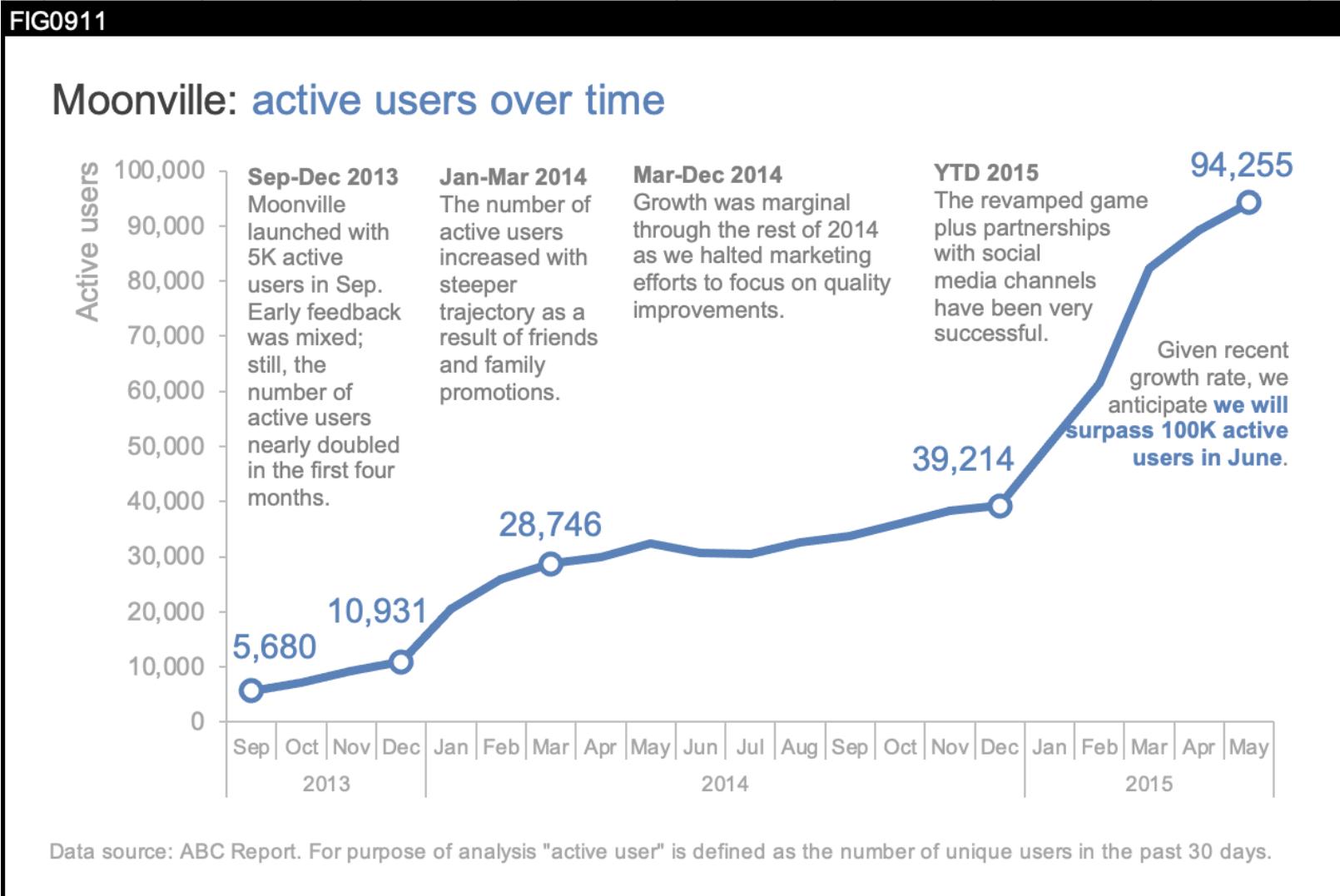
Moonville: active users over time



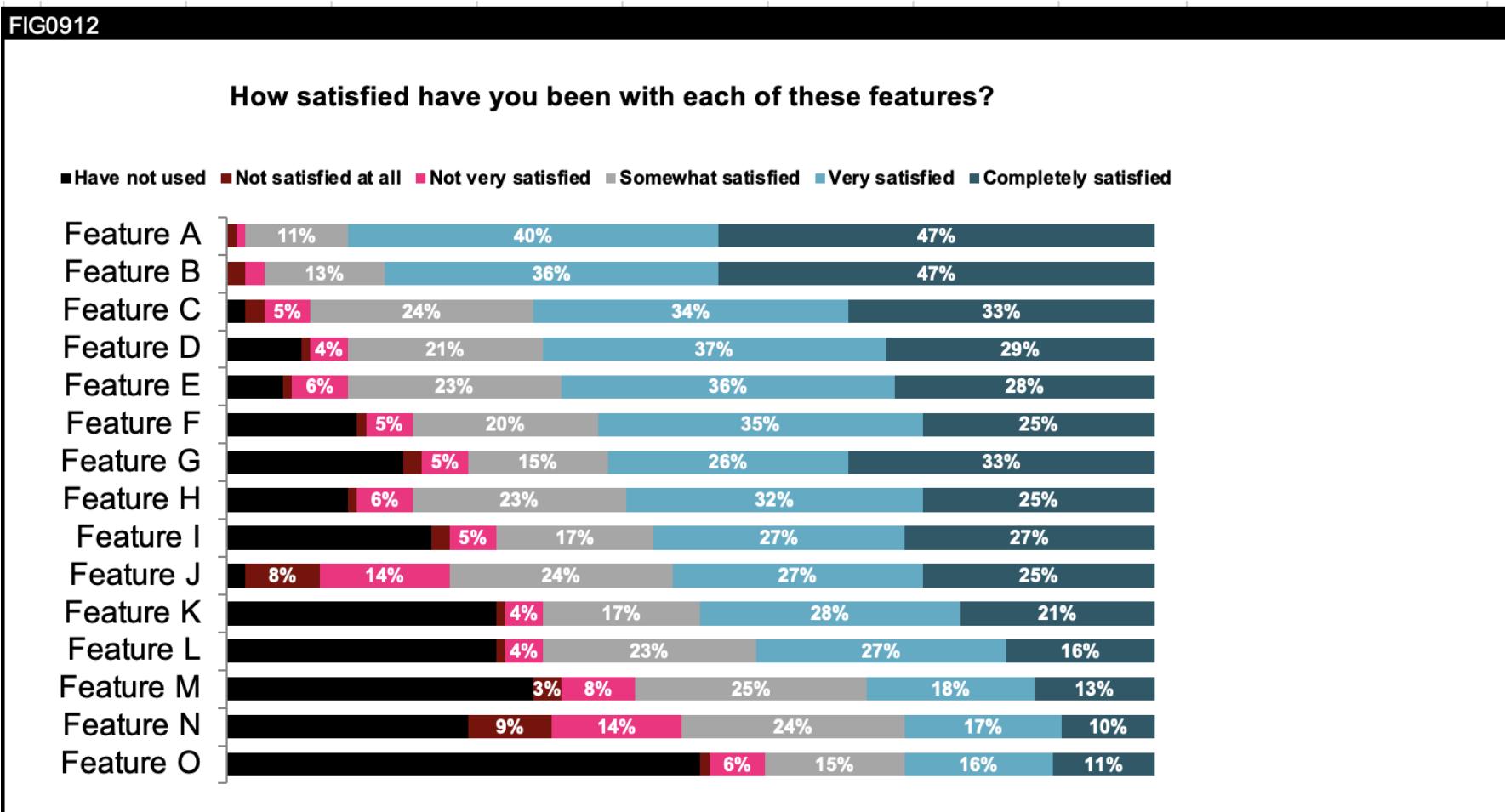
Data source: ABC Report. For purpose of analysis "active user" is defined as the number of unique users in the past 30 days.

# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0911



# Lecture 2 (30 min): Storytelling With Data – Case Studies



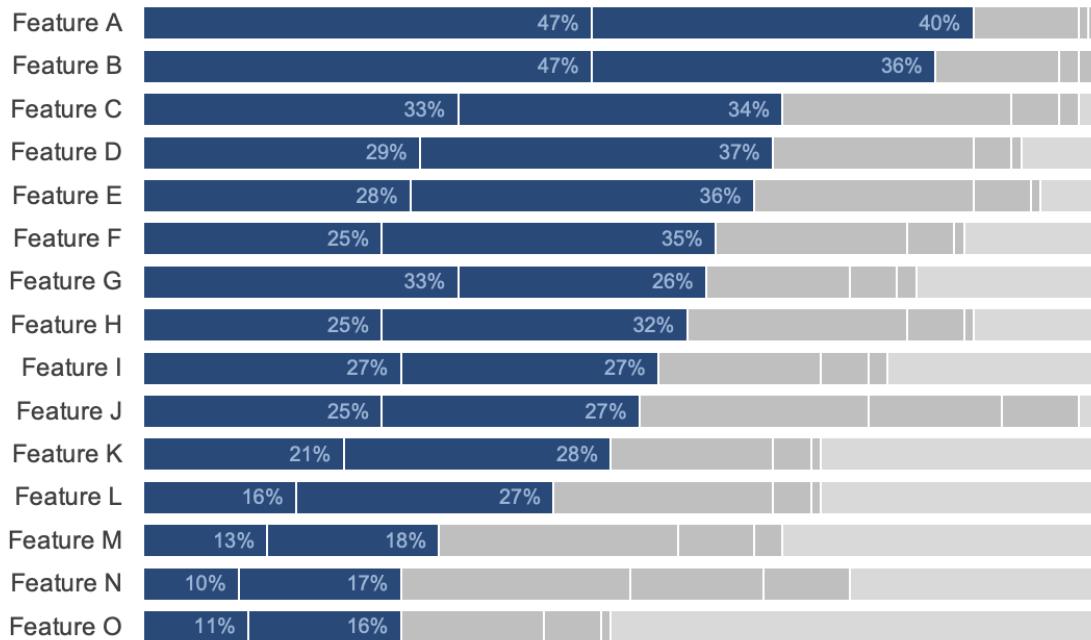
# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0913

## Features A & B top user satisfaction

### Product X User Satisfaction: Features

■ Completely satisfied ■ Very satisfied ■ Somewhat satisfied ■ Not very satisfied ■ Not satisfied at all ■ Have not used



Responses based on survey question "How satisfied have you been with each of these features?".

Need more details here to help put this data into context: How many people completed survey? What proportion of users does this represent?

Do those who completed survey look like the overall population, demographic-wise? When was the survey conducted?

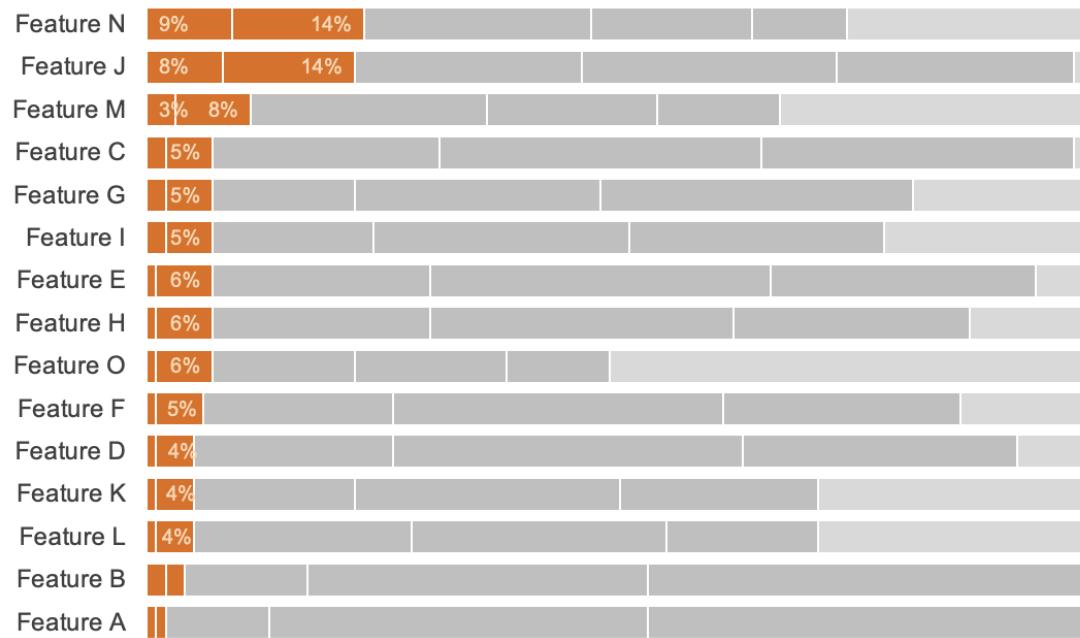
# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0914

## Users least satisfied with Features N and J

### Product X User Satisfaction: Features

■ Not satisfied at all ■ Not very satisfied ■ Somewhat satisfied ■ Very satisfied ■ Completely satisfied ■ Have not used

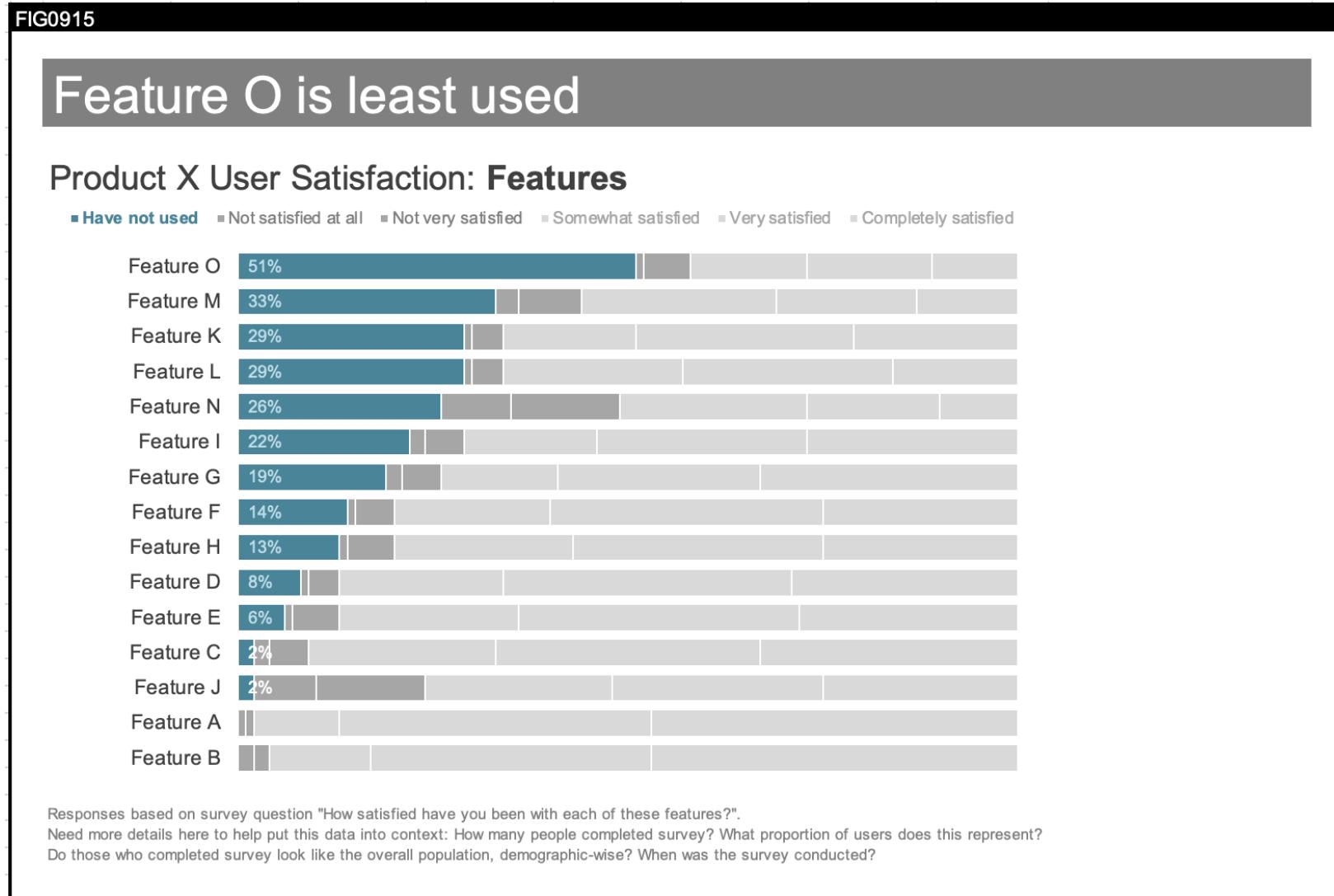


Responses based on survey question "How satisfied have you been with each of these features?".

Need more details here to help put this data into context: How many people completed survey? What proportion of users does this represent?

Do those who completed survey look like the overall population, demographic-wise? When was the survey conducted?

# Lecture 2 (30 min): Storytelling With Data – Case Studies



# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0916

## User satisfaction varies greatly by feature

### Product X User Satisfaction: Features

■ Have not used ■ Not satisfied at all ■ Not very satisfied ■ Somewhat satisfied ■ Very satisfied ■ Completely satisfied



Responses based on survey question "How satisfied have you been with each of these features?".

Need more details here to help put this data into context: How many people completed survey? What proportion of users does this represent?

Do those who completed survey look like the overall population, demographic-wise? When was the survey conducted?

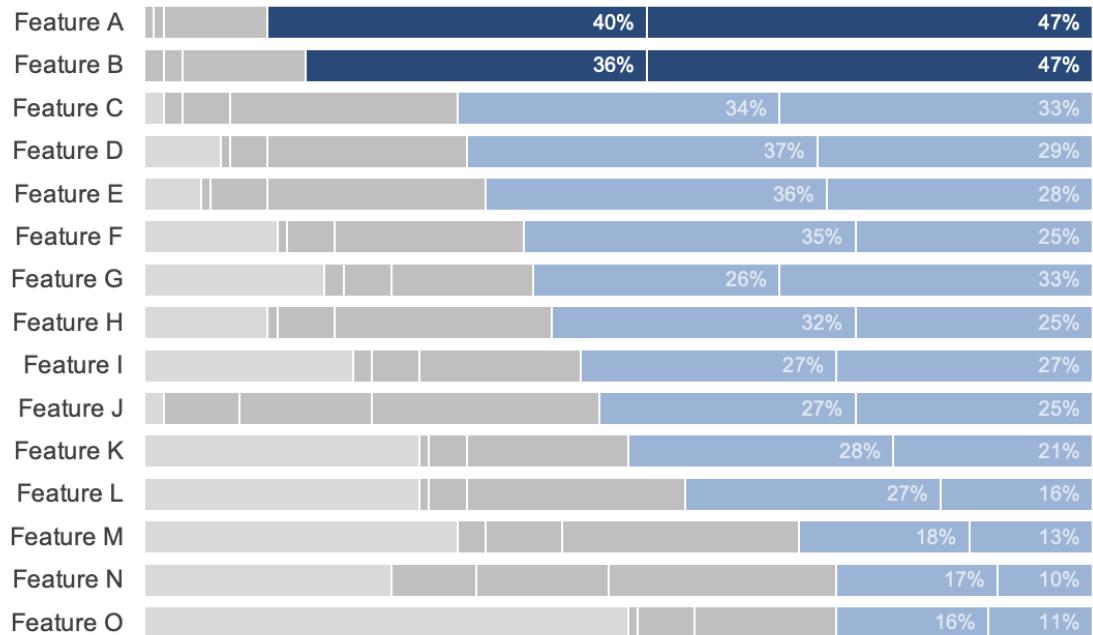
# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0917

## User satisfaction varies greatly by feature

### Product X User Satisfaction: Features

■ Have not used ■ Not satisfied at all ■ Not very satisfied ■ Somewhat satisfied ■ Very satisfied ■ Completely satisfied



Features A and B continue to top user satisfaction

Responses based on survey question "How satisfied have you been with each of these features?"

Need more details here to help put this data into context: How many people completed survey? What proportion of users does this represent?

Do those who completed survey look like the overall population, demographic-wise? When was the survey conducted?

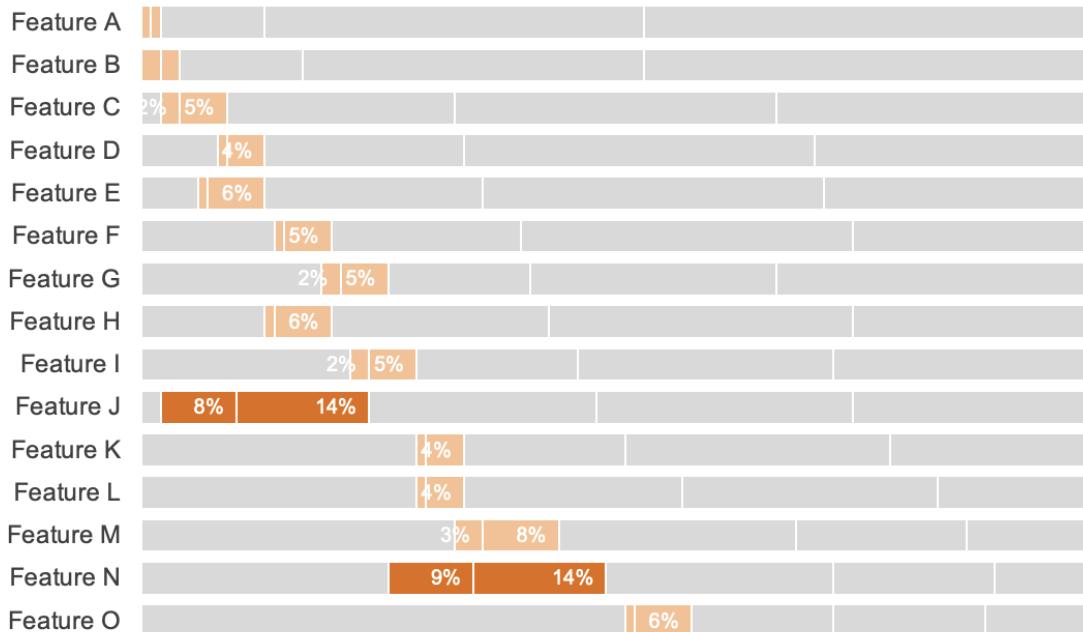
# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0918

## User satisfaction varies greatly by feature

### Product X User Satisfaction: Features

■ Have not used ■ Not satisfied at all ■ Not very satisfied ■ Somewhat satisfied ■ Very satisfied ■ Completely satisfied



Users are least satisfied with Features J and N; what improvements can we make here for a better user experience?

Responses based on survey question "How satisfied have you been with each of these features?".

Need more details here to help put this data into context: How many people completed survey? What proportion of users does this represent?

Do those who completed survey look like the overall population, demographic-wise? When was the survey conducted?

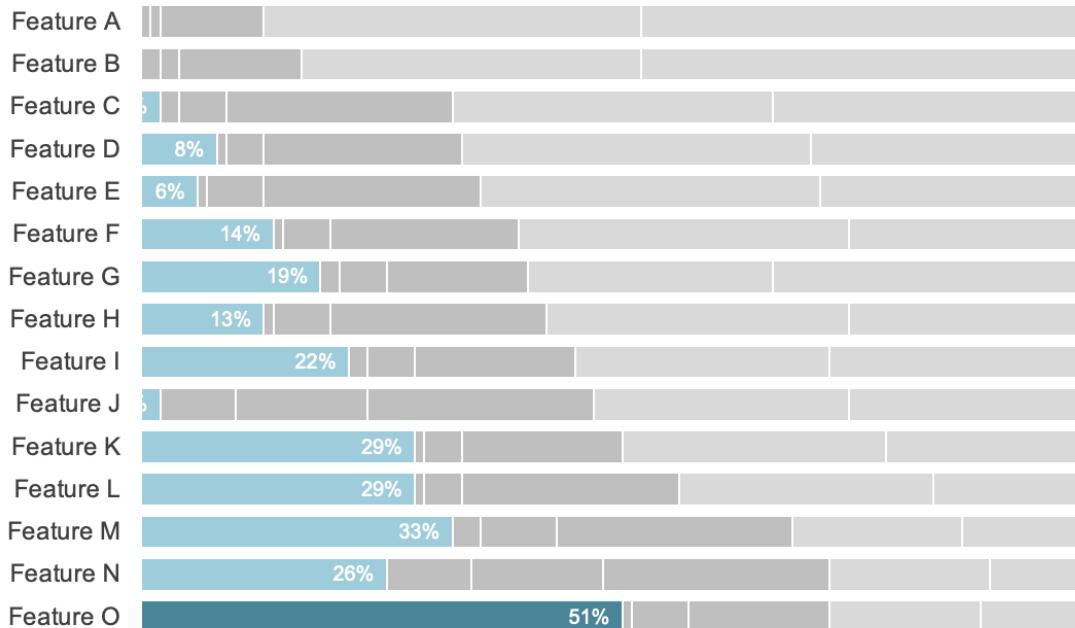
# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0919

## User satisfaction varies greatly by feature

### Product X User Satisfaction: Features

■ Have not used ■ Not satisfied at all ■ Not very satisfied ■ Somewhat satisfied ■ Very satisfied ■ Completely satisfied



Feature O is least used. What steps can we proactively take with existing users to increase utilization?

Responses based on survey question "How satisfied have you been with each of these features?".

Need more details here to help put this data into context: How many people completed survey? What proportion of users does this represent?

Do those who completed survey look like the overall population, demographic-wise? When was the survey conducted?

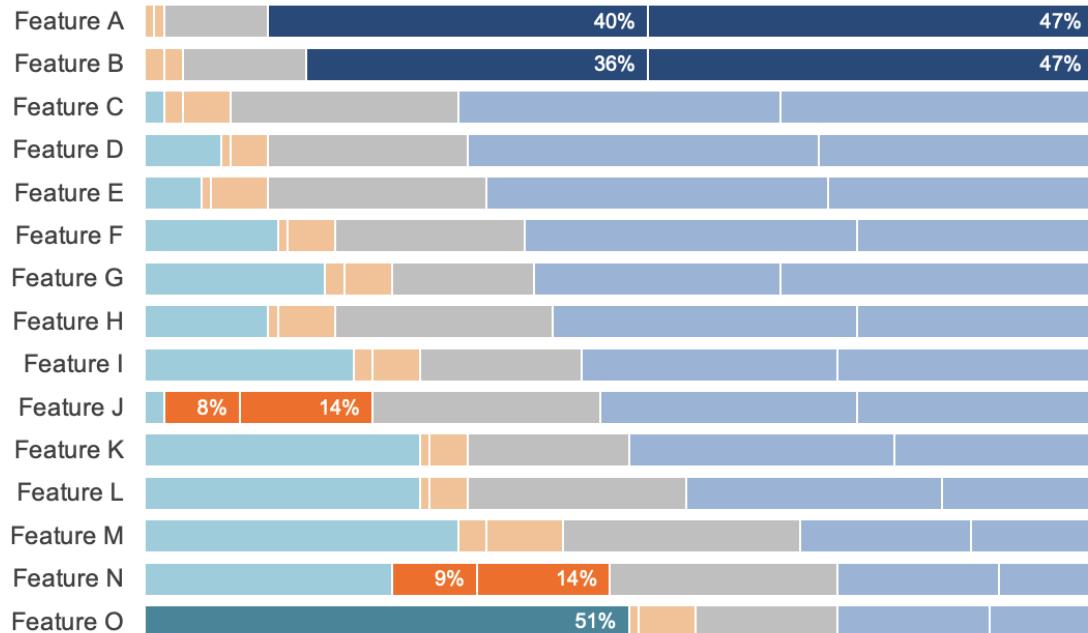
# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0920

## User satisfaction varies greatly by feature

### Product X User Satisfaction: Features

■ Have not used ■ Not satisfied at all ■ Not very satisfied ■ Somewhat satisfied ■ Very satisfied ■ Completely satisfied



Features A and B continue to top user satisfaction

Users are least satisfied with Features J and N; what improvements can we make here for a better user experience?

Feature O is least used. What steps can we proactively take with existing users to increase utilization?

Responses based on survey question "How satisfied have you been with each of these features?".

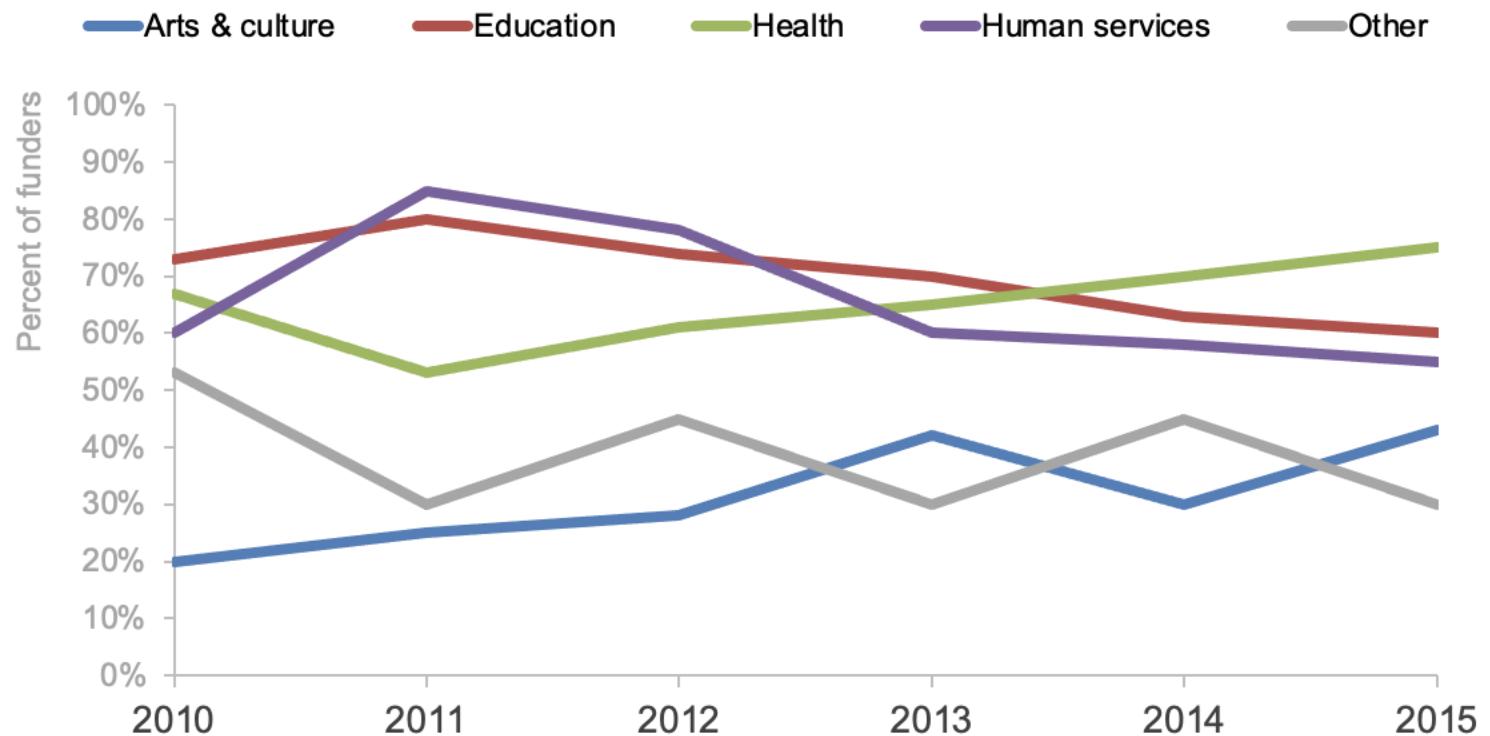
Need more details here to help put this data into context: How many people completed survey? What proportion of users does this represent?

Do those who completed survey look like the overall population, demographic-wise? When was the survey conducted?

# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0921

## Types of non-profits supported by area funders

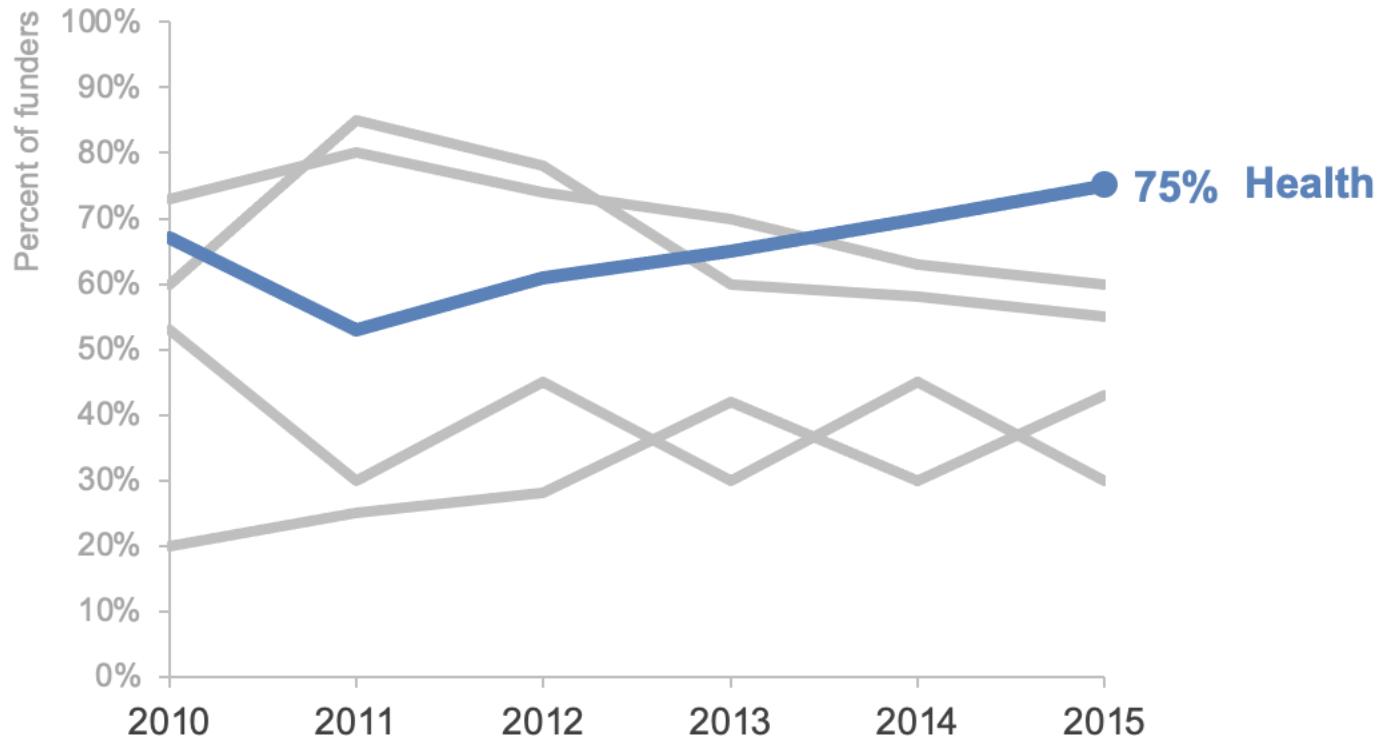


Data is self-reported by funders; percents sum to greater than 100 because respondents can make multiple selections.

# Lecture 2 (30 min): Storytelling With Data – Case Studies

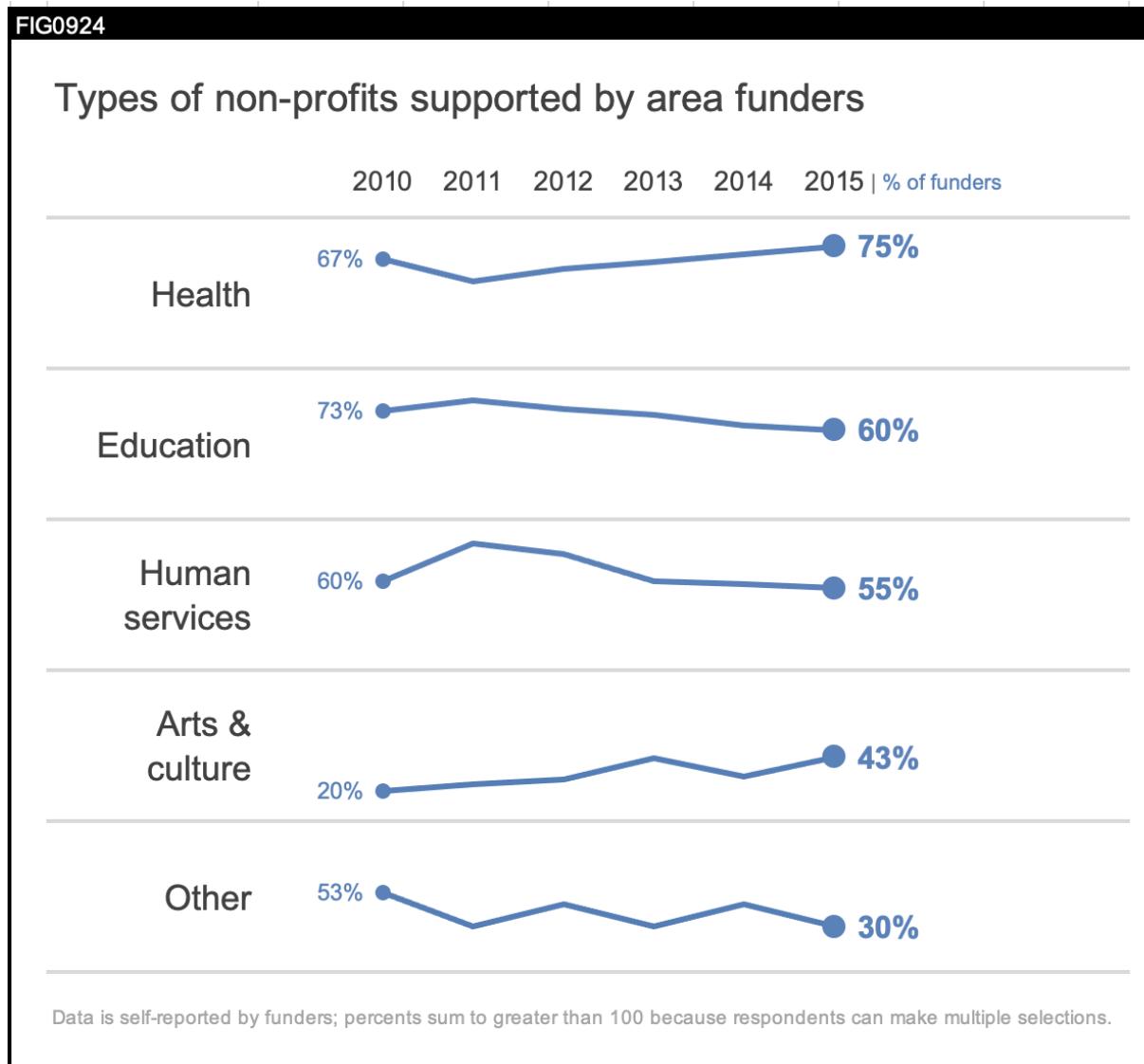
FIG0922

## Types of non-profits supported by area funders



Data is self-reported by funders; percents sum to greater than 100 because respondents can make multiple selections.

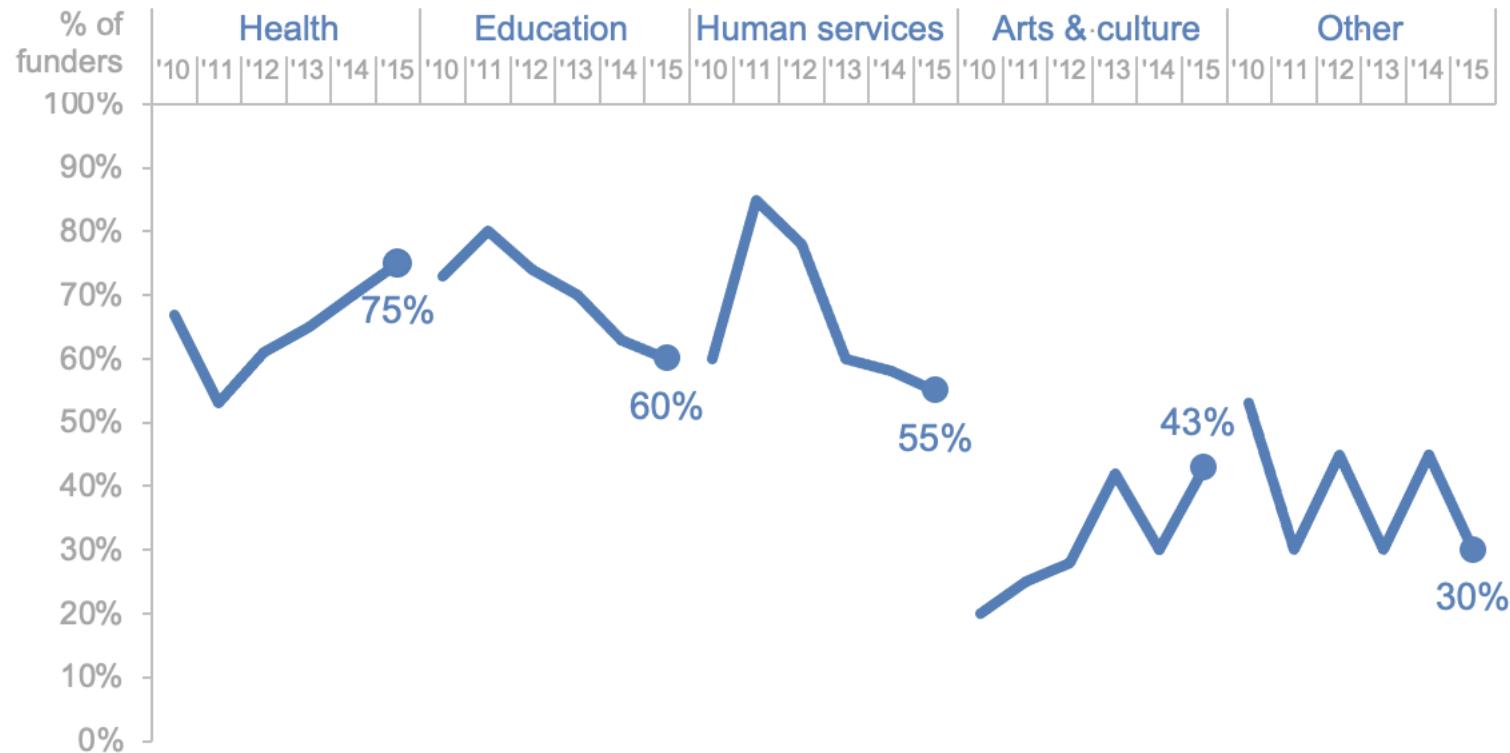
# Lecture 2 (30 min): Storytelling With Data – Case Studies



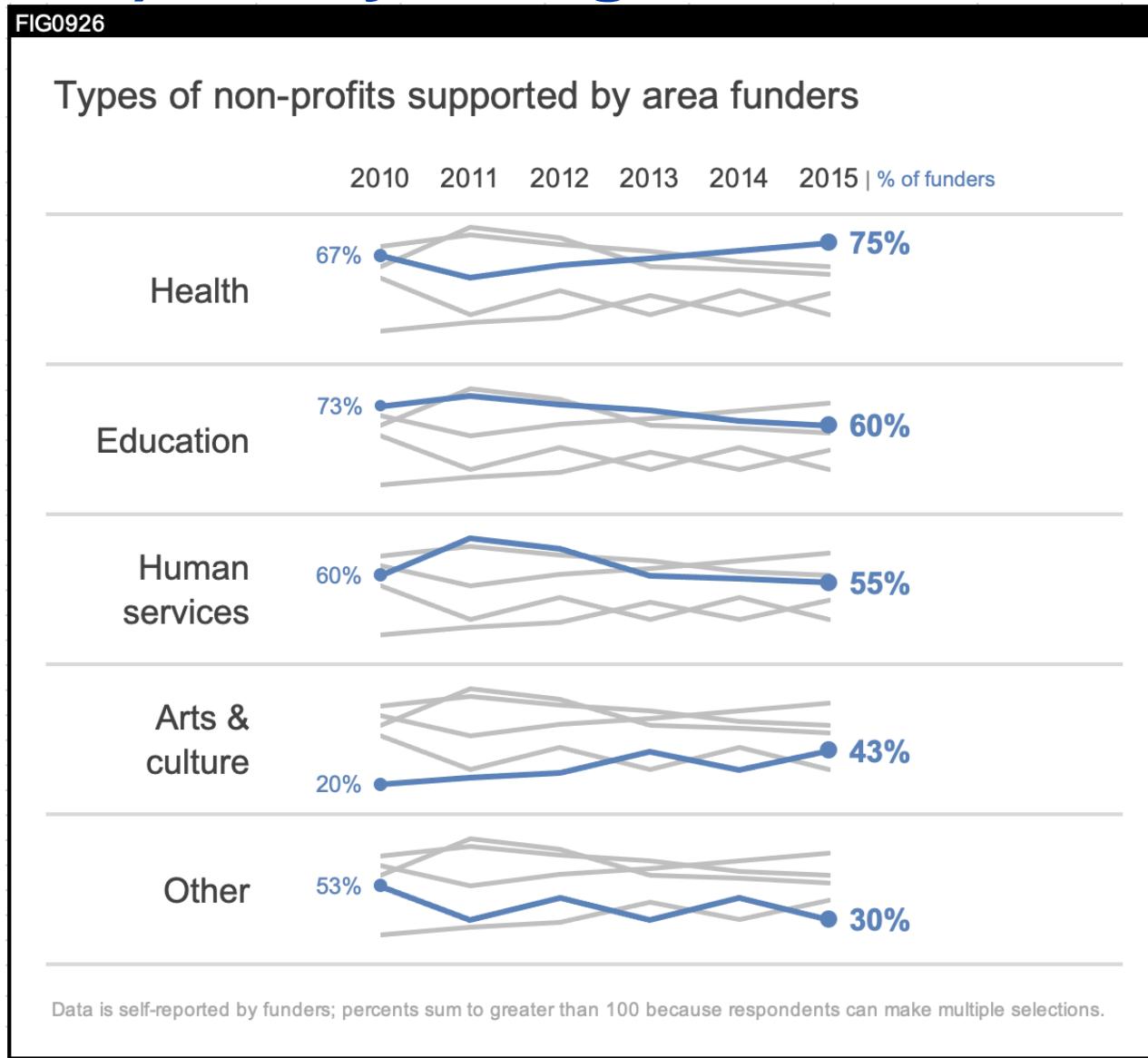
# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0925

## Types of non-profits supported by area funders



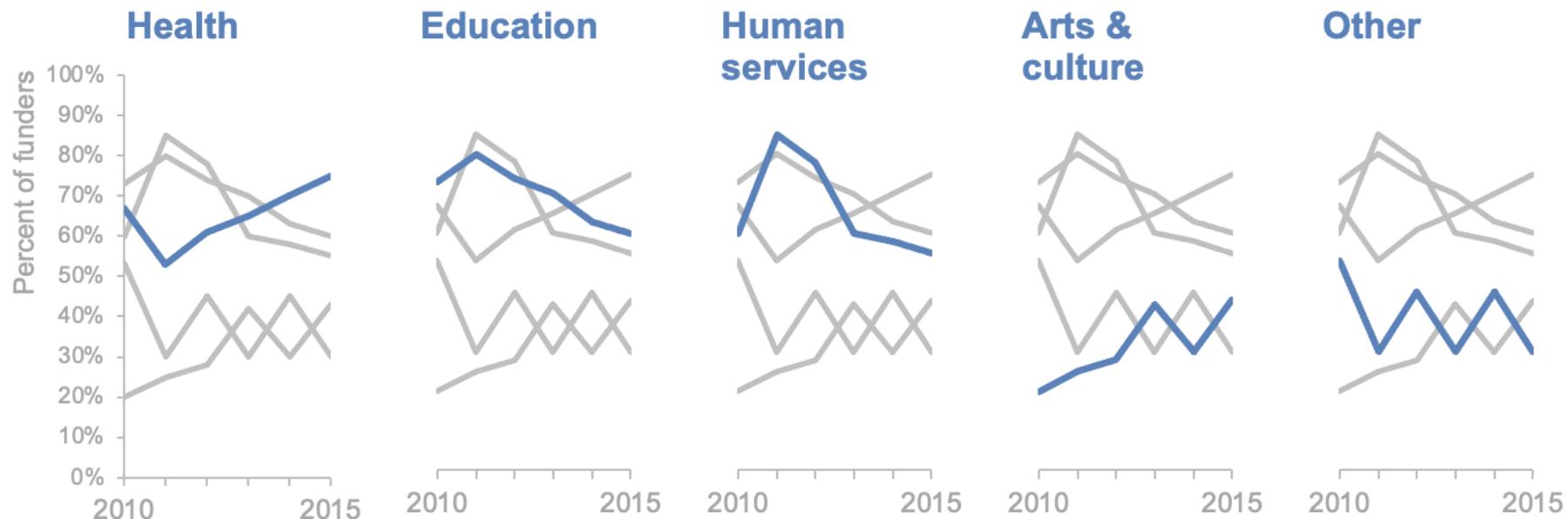
# Lecture 2 (30 min): Storytelling With Data – Case Studies



# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0927

Types of non-profits supported by area funders



Data is self-reported by funders; percents sum to greater than 100 because respondents can make multiple selections.

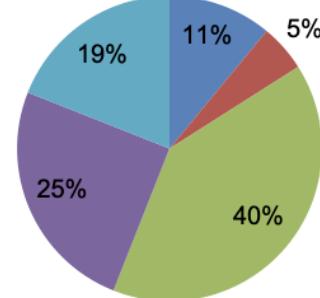
# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0928

Survey results: summer learning program on science

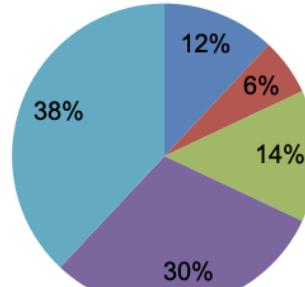
**PRE: How do you feel about doing science?**

■ Bored ■ Not great ■ OK ■ Kind of interested ■ Excited



**POST: How do you feel about doing science?**

■ Bored ■ Not great ■ OK ■ Kind of interested ■ Excited



# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0929

Pilot program was a success

After the pilot program,

**68%**

**of kids expressed interest towards science,**  
compared to 44% going into the program.

Based on survey of 100 students conducted before and after pilot program (100% response rate on both surveys).

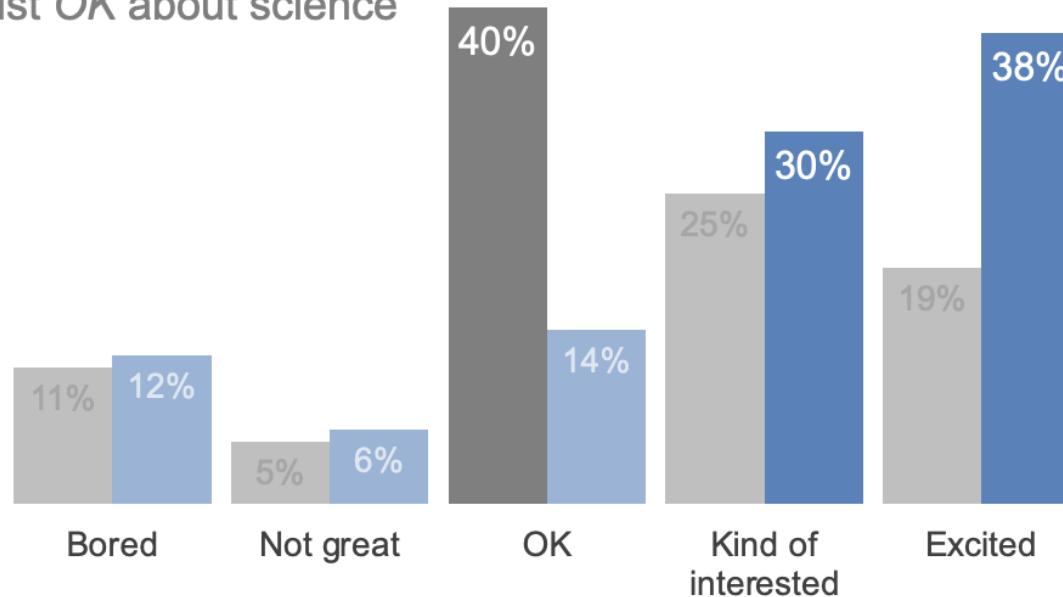
# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0930

## Pilot program was a success

How do you feel about science?

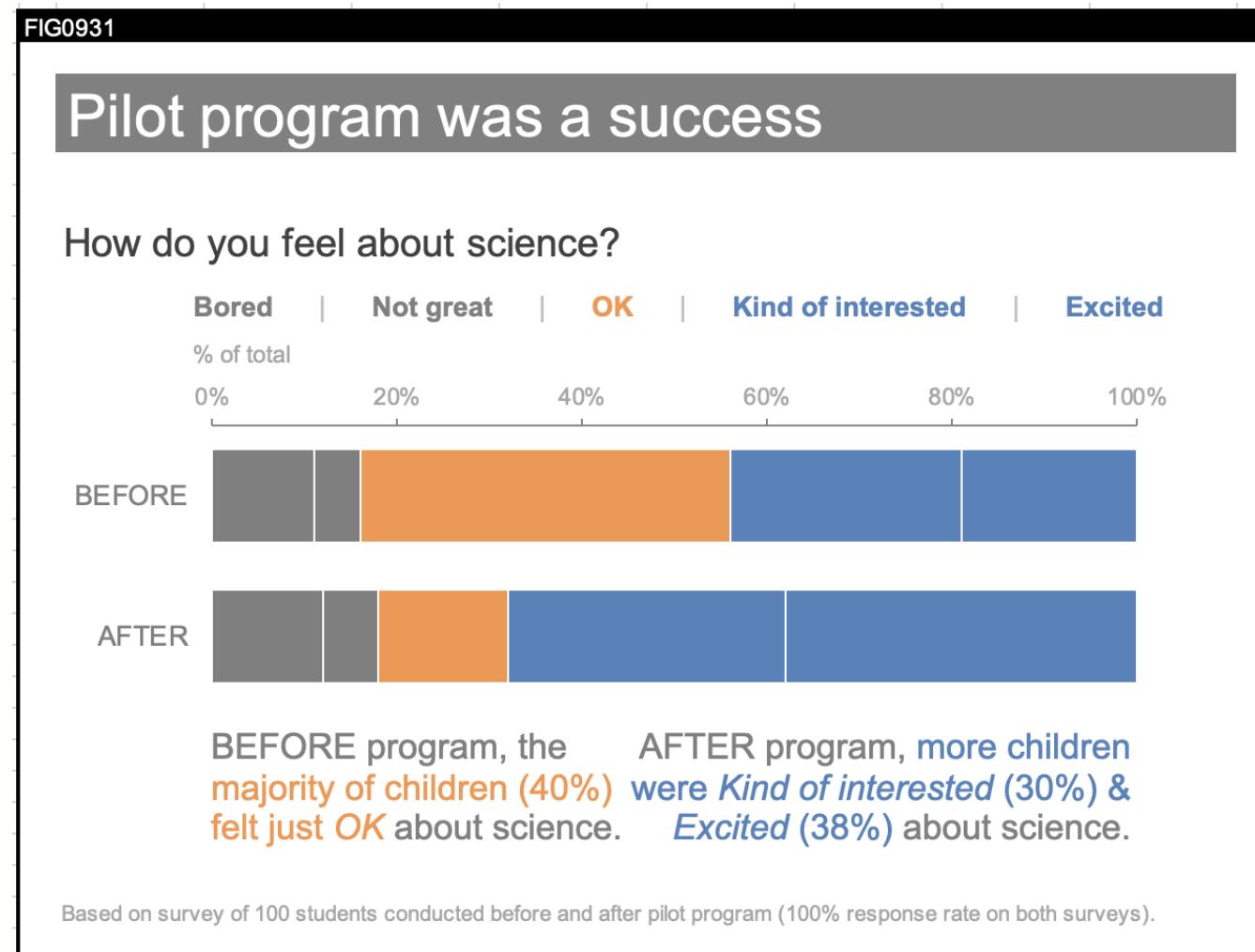
**BEFORE** program, the majority of children felt just OK about science



**AFTER**  
program, more  
children were  
*Kind of  
interested &  
Excited* about  
science.

Based on survey of 100 students conducted before and after pilot program (100% response rate on both surveys).

# Lecture 2 (30 min): Storytelling With Data – Case Studies

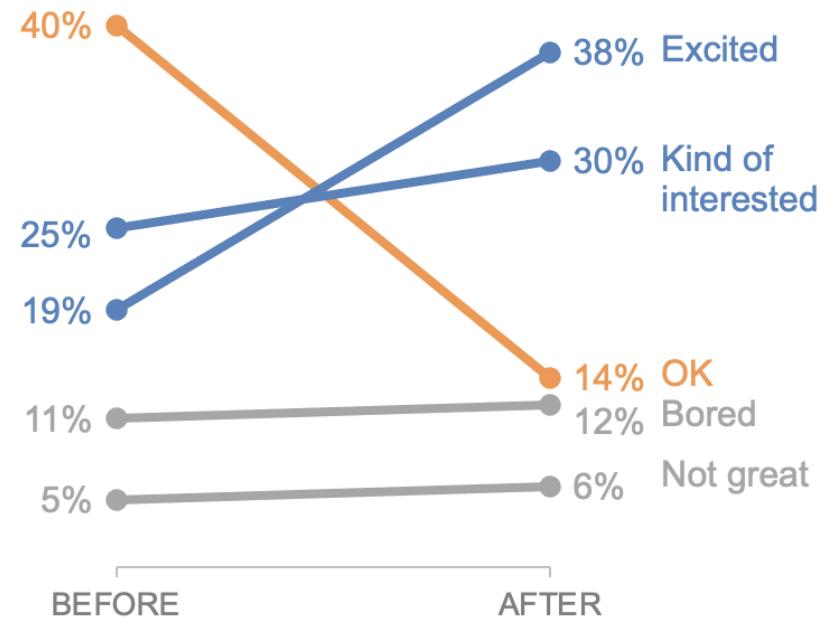


# Lecture 2 (30 min): Storytelling With Data – Case Studies

FIG0932

## Pilot program was a success

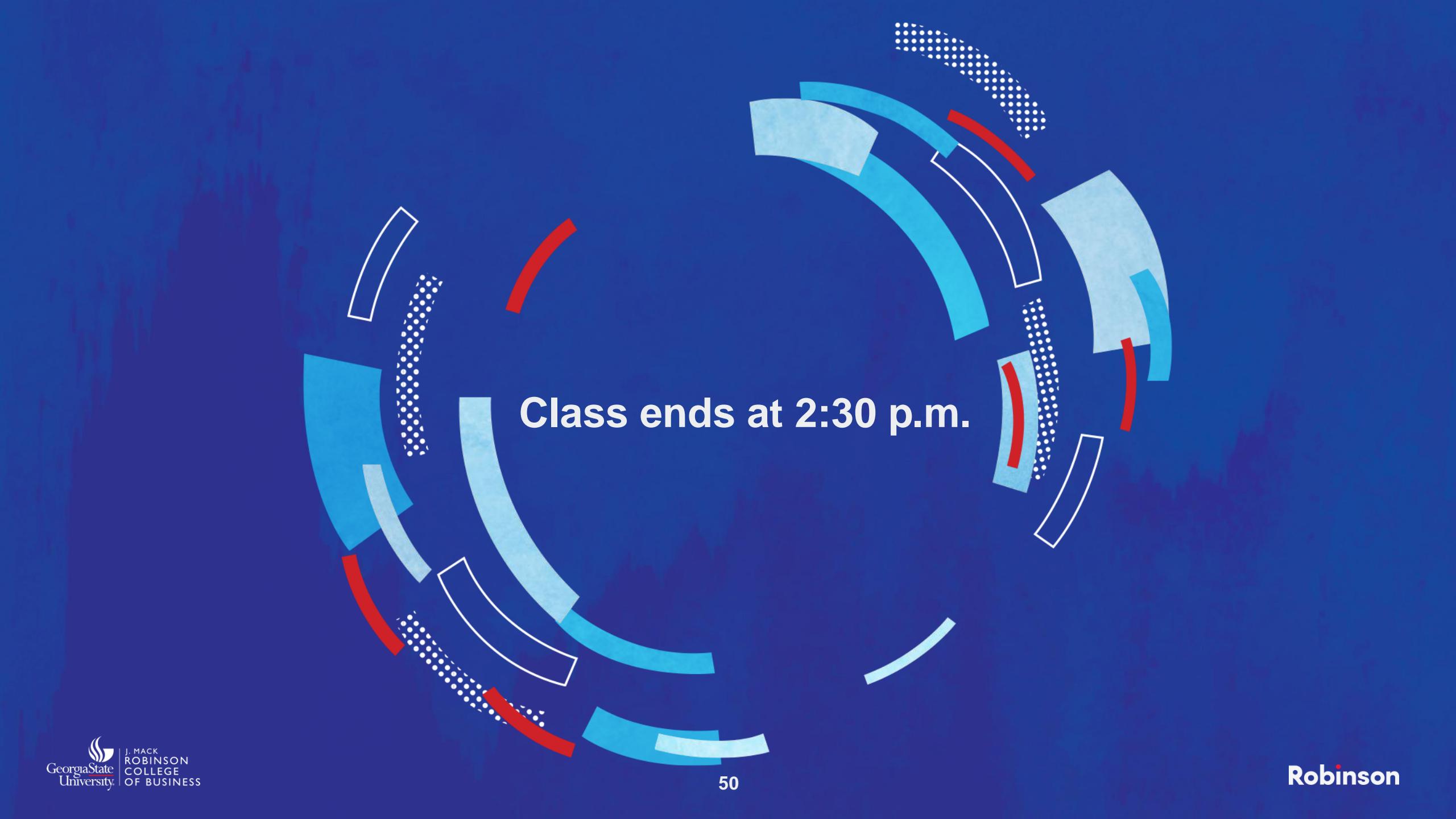
How do you feel about science?



BEFORE program, the majority of children felt just **OK** about science

AFTER program, more children were *Kind of interested & Excited* about science.

Based on survey of 100 students conducted before and after pilot program (100% response rate on both surveys).



Class ends at 2:30 p.m.

# Course Schedule

#	Topic and Objectives
1	<b>Intro &amp; Getting Started</b> <ul style="list-style-type: none"><li>• Course Overview (relevance, examples, etc.)</li><li>• Market-Ready-to-do List (MRTDL) by Career Advancement Center</li><li>• Pick a dataset (Datasets will be provided by instructor on first day of class. If you already have formed a team of 4 students to collaborate and work together and want to use your own dataset, this needs to be vetted and approved by the instructor. Examples: something you are working on from another project, Walmart data on Kaggle, synthetic data from Synthea, etc.)</li><li>• Explanation of peer-to-peer evaluation of presentations every week</li><li>• Instruction: Exploratory data analysis</li><li>• Assignment: <b>Prepare 1-minute “describe your dataset” presentation</b></li></ul>
2	Start with Presentations: (present what was assigned in the previous class) <b>Understand the Business (and core business processes)</b> <ul style="list-style-type: none"><li>• Activity (for a specific case or example business): Describe the business for an example business (inputs, activities, outputs/metrics), develop a simple flowchart, identify opportunities</li><li>• Instruction: Understanding the business problem, extracting the use case(s)</li><li>• Assignment (for your selected business): <b>Prepare 3-minute presentation that describes the business, core business process(es), and opportunities for your selected business</b></li></ul>
3	Start with Presentations: (present what was assigned in the previous class) <b>Identify a Business Problem (and why it needs to be addressed)</b> <ul style="list-style-type: none"><li>• Activity (for a specific case or example business problem): Developing persuasive arguments; Create tension with a visualization (draft)</li><li>• Instruction: Story telling with data - visualizations</li><li>• Assignment (for your selected business problem): <b>Create a 3-minute “tension” presentation; only 1 visual</b></li></ul>

# Course Schedule

4	<p>Start with Presentations: (present what was assigned in the previous class)</p> <p><b>Develop a Solution Pitch (for solving the identified business problem)</b></p> <ul style="list-style-type: none"><li>• Activity (for an example business problem): Big idea, exec summary, peer review</li><li>• Instruction: Feasibility study, selection of final use case (big idea)</li><li>• Assignment (for your selected business problem): <b>Create a 1-minute pitch (includes business overview, tension, and solution)</b></li></ul>
5	<p>Start with Presentations: (present what was assigned in the previous class)</p> <p><b>Provide a Progress Update (for an ongoing project)</b></p> <ul style="list-style-type: none"><li>• Activity (for your selected solution): Strong visualizations, exploration, status, revisions, issues, lessons learned</li><li>• Instruction: Data exploration and feedback loops with business stakeholders</li><li>• Assignment (for your selected solution): <b>Prepare a 5-minute presentation; 5 slides (excluding title slide); 3 visualizations</b></li></ul>
6	<p>Start with Presentations: (present what was assigned in the previous class)</p> <p><b>Planning a Final Presentation and Final Report (for a completed project)</b></p> <ul style="list-style-type: none"><li>• Activity (for your project): 1<sup>st</sup> draft of headlines only and main messages per slide; <b>Python Notebook for technical audience and Word document for leadership:</b> clear connections to final presentation, i.e., same structure/order, etc., including a narrative in the final report</li><li>• Instruction: Technical writing skills</li><li>• Assignment (for your project): <b>Complete final presentation and reports; 7-minute presentation; 5-7 slides (excluding title slide); appendix if required</b></li></ul>
7	<p><b>Final Presentations</b> (and final reports, notebook and Word document) are due</p>