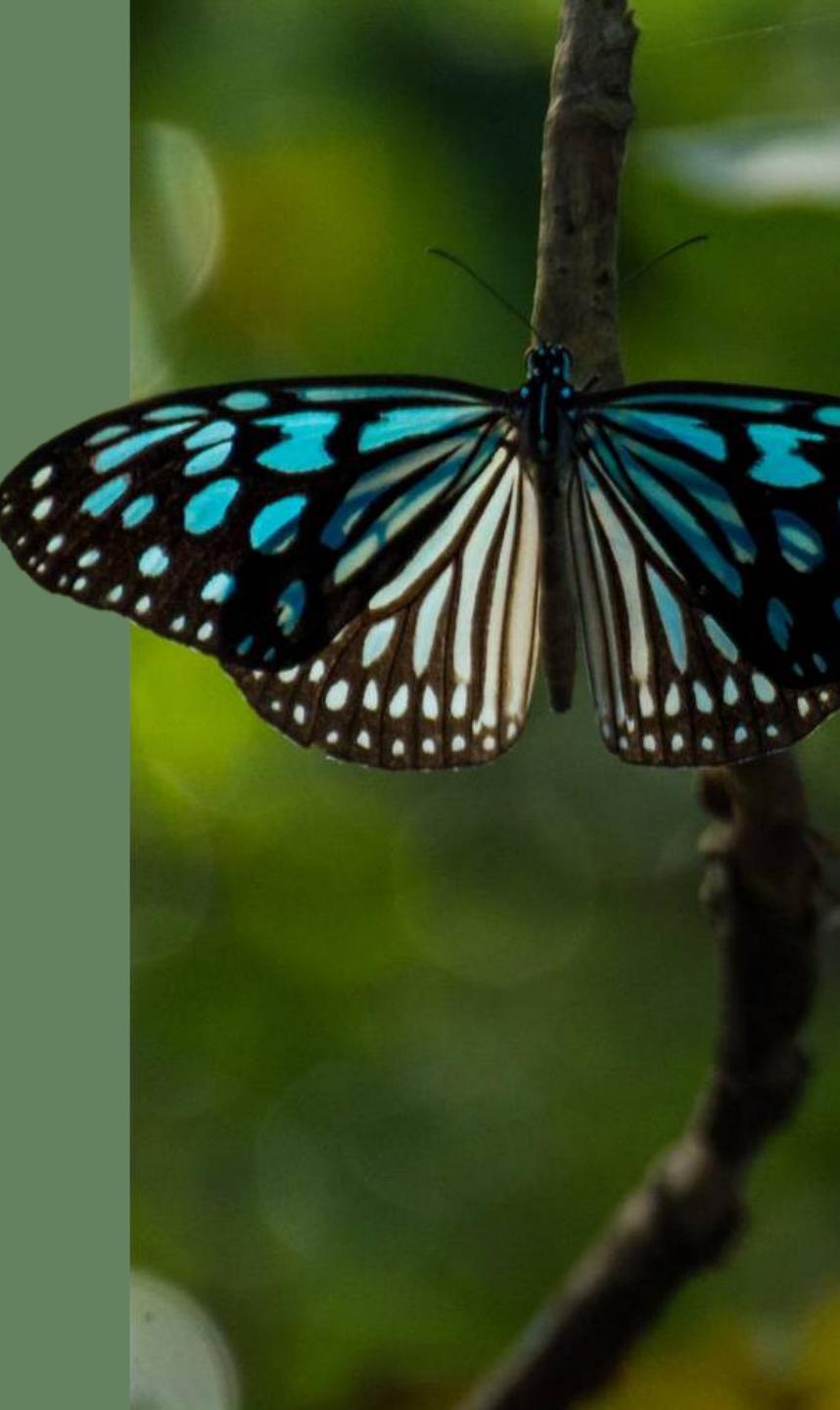


Odeta Jankaitienė

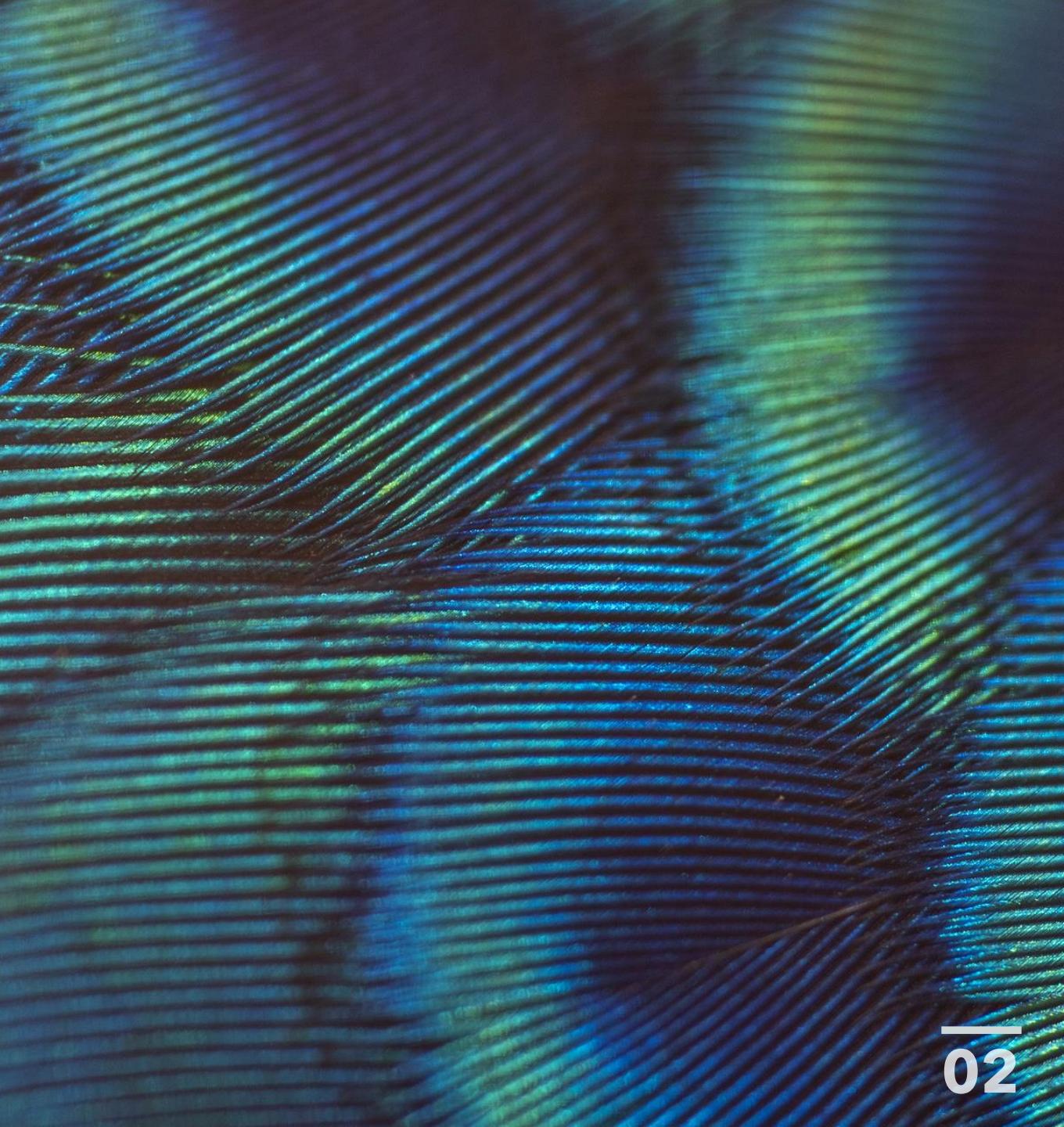
UNLEASHING THE POTENTIAL OF POWER BI

A Hands-On Introduction



Training Description

In this training, you'll learn what Power BI report developer's workflow looks like and how to create the best report for your client.





Odetta Jankaitienė

*Lead Data & Analytics Consultant -
Macaw*



/in/odetajankaitiene

DragonsData.com

github.com/Odetta-Jankaitiene

/@dragonsdata





WHO ARE YOU?

WHY DO YOU WANT TO LEARN HOW TO CREATE REPORTS?



Training Outline

01 Part

What is the
Purpose of a
Report?

02 Part

Get and Connect
to Data

03 Part

Transform Data

04 Part

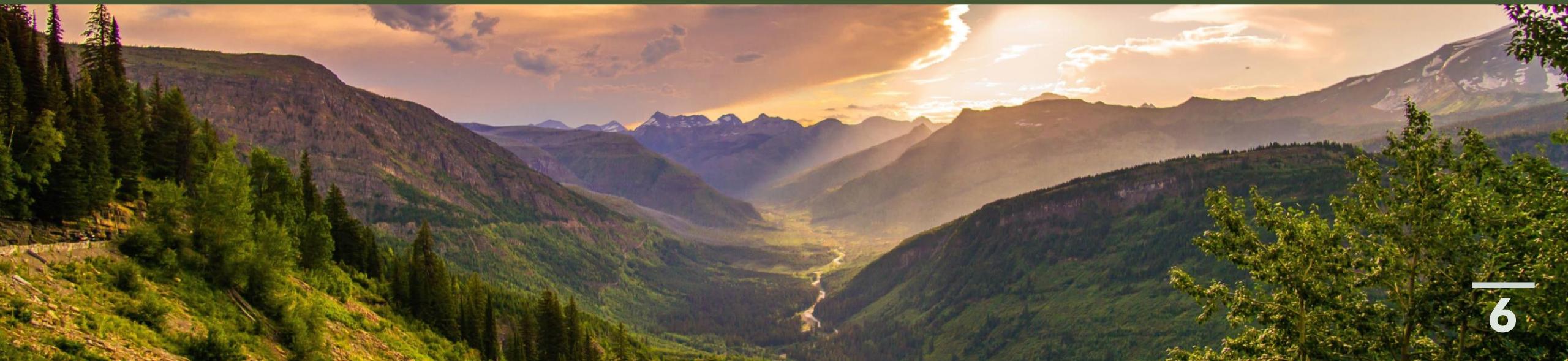
Visualise and Tell
a Story

05 Part

Test and Get
Feedback

Breaks

- ~**10:30** - 5 mins
- ~**12:00** - 1h lunch, password: PASS
- ~**14:00** - 5 mins
- ~**15:05** - 10 mins
- ~**16:15** - 5 mins



Part 01

What is the Purpose of a Report?





What is the Purpose of a Report?

Before You Start

Problems

What problems or issues do they want to solve?

Right Metrics

Are they looking at the right data?
Do they have data?

Audience

Who will be using the report?

Usage

Will they look via desktop or/and mobile?

Part 02

Get and Connect to Data



Topics

What Will You Work With?

What is Power BI?



Power BI Desktop



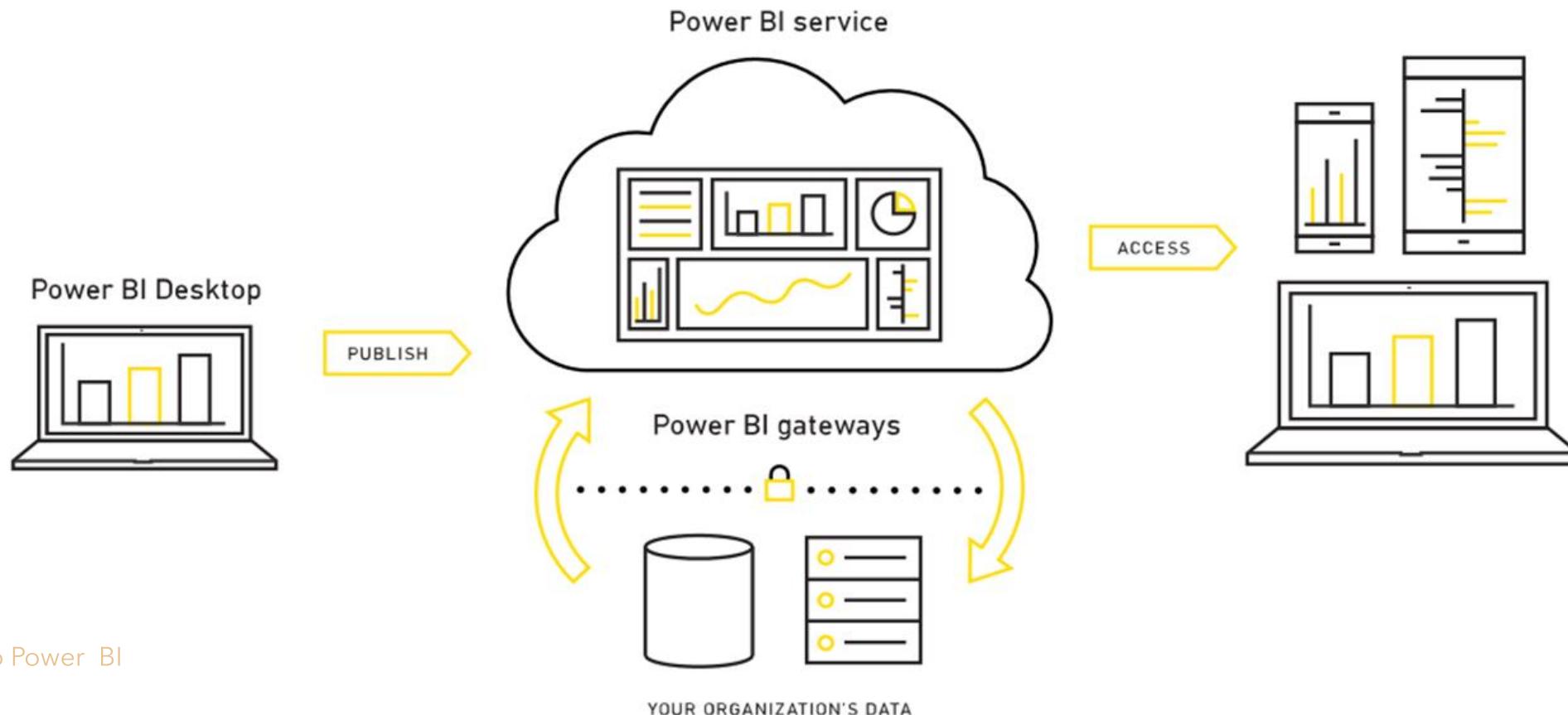
Power BI Service



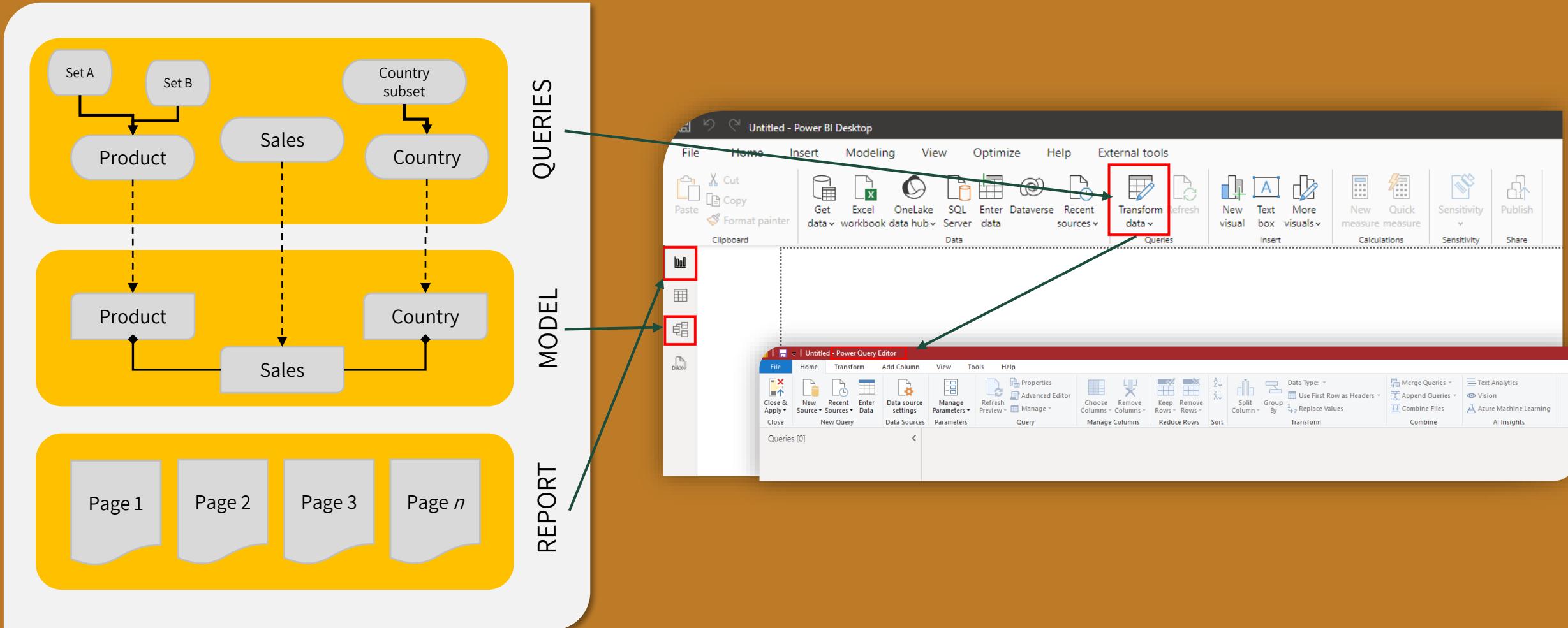
Connect to Data



What is Power BI?



What is Power BI Desktop?



What is Power BI Service?

The screenshot shows the Power BI Home page with a red header bar containing a search bar, a trial status (59 days left), and user profile icons. Below the header is a "Recommended" section with six cards: "You frequently open this" (Embed for Customers, My workspace, Life expectancy v202009, Revenue Report), "Getting started with Power BI" (Explore basic Power BI concepts), and "Explore this data" (Explore the 100 most us). On the left is a sidebar with navigation links: Create, Browse, OneLake data hub, Apps, Metrics, Monitoring hub, Deployment pipelines, Learn, Workspaces, and My workspace. The main content area features a "Recent" tab selected, showing a table of recent items:

Name	Type	Opened	Location	Endorsement	Sensitivity
Asylum	Workspace	55 seconds ago	Workspaces	—	—
Life expectancy v202009	Report	5 days ago	Embed for Customers	—	—
Embed for Customers	Workspace	24 days ago	Workspaces	—	—
Revenue Report	Report	2 months ago	Revenue WS	—	—
My workspace	Workspace	2 months ago	Workspaces	—	—
Training Calendar and Attendees Emails	Report	5 months ago	PremWS2	—	—
FabricTenantSettings	Report	5 months ago	TrialPremWS	—	—
Embed for Customers	App	5 months ago	Apps	—	—
Life expectancy v202009	Semantic model	5 months ago	Embed for Customers	—	—
Final Report	Report	6 months ago	Finance Reports	—	—
Final Report	Semantic model	6 months ago	Finance Reports	Certified	—

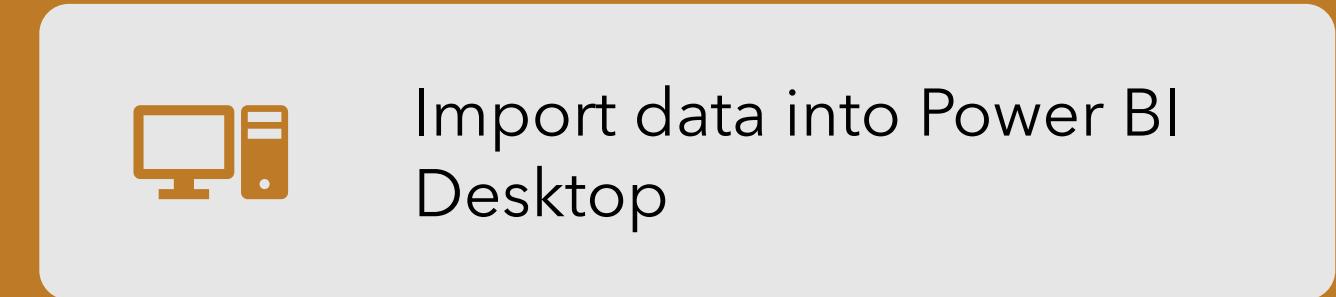
Get Data

First, [install Power BI Desktop](#)



Export data from
https://github.com/Odetajankaitiene/PBI_Training

It comes from: [kaggle.com](#)



Import data into Power BI
Desktop



Change “Regional Settings”
(Current File & Global)

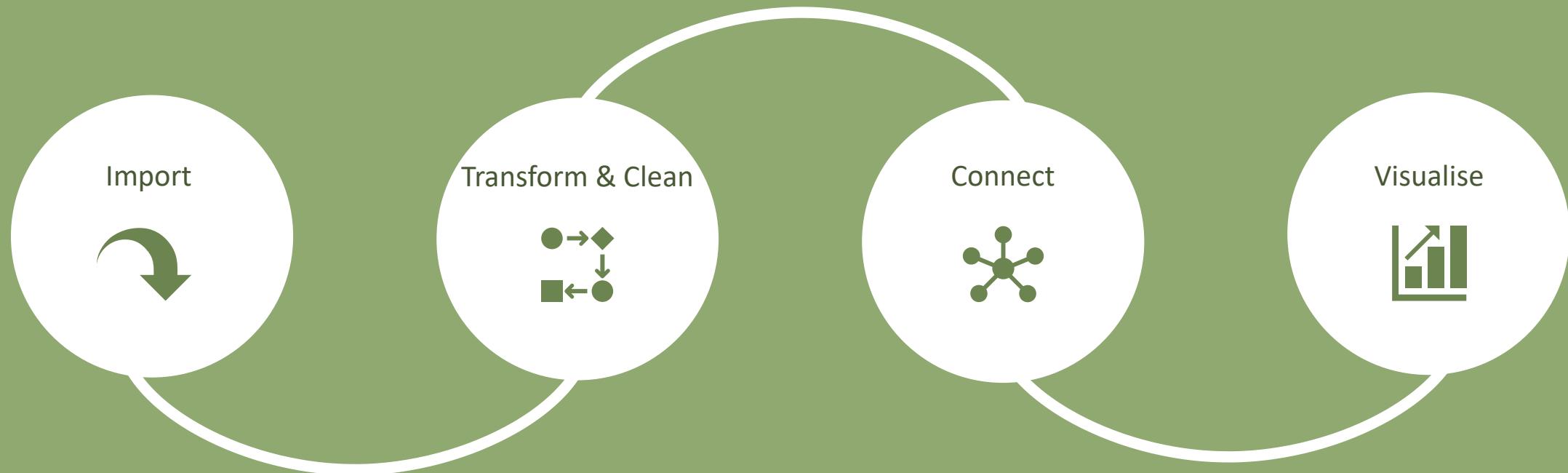
Part 03

Transform Data



Workflow

Start to Build



Tabular Form Table

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	
1	Count of title	Column Label																													
2	Row Labels	1975	1978	1983	1987	1993	1994	1996	1997	1998	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
3	Movie	1	1	1	1	1	1	1	1	1	2	1	1	2	1	1	1	1	1	2	1	1	2	1	2	4	1	5	23		
4	TV Show								1																1	2	1	1	2	4	35



A	B	C	
1	type	release_year	Count of title
2	Movie	1975	1
3	Movie	1978	1
4	Movie	1983	1
5	Movie	1987	1
21	Movie	2012	1
22	Movie	2013	2
23	Movie	2017	2
24	Movie	2018	4
25	Movie	2019	1
26	Movie	2020	5
27	Movie	2021	23
28	TV Show	1994	1
29	TV Show	2013	1
30	TV Show	2014	2
31	TV Show	2015	1
32	TV Show	2016	1
33	TV Show	2017	1
34	TV Show	2018	2
35	TV Show	2019	2
36	TV Show	2020	4
37	TV Show	2021	35

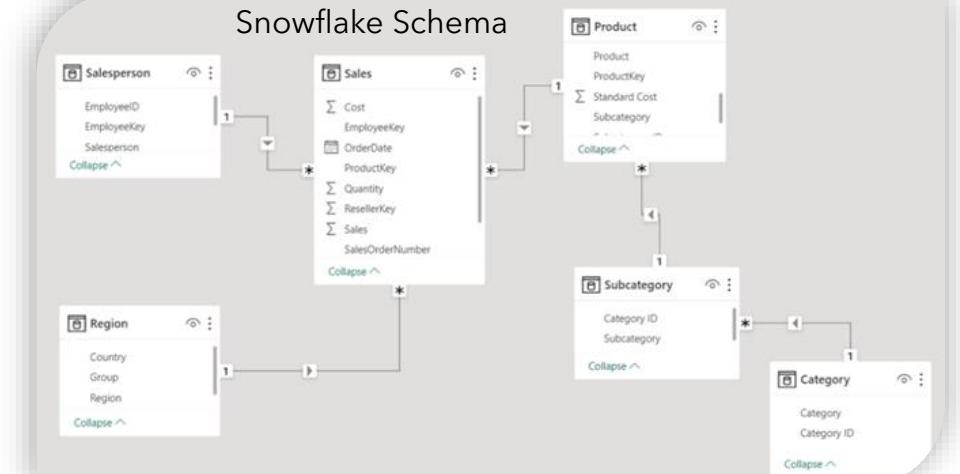
Semantic Model

Star Schema or Snowflake

Star Schema



Snowflake Schema





Relationship Types

1 to 1

Every **individual record** in dataset A is mapped to one **individual record** in dataset B

Dataset A Customer information		Dataset B Customer information	
Customer ID	Country	Customer ID	Date of Birth
AW000111024	United States	AW000111024	9 april 1990
AW00019377	Germany	AW00019377	9 april 1983

1 to many

One record of dataset A is mapped to **multiple records** in dataset B

Dataset A Customer information		Dataset B Sales Information		
Customer ID	Country	Customer ID	Product	Order Quantity
AW000111024	United States	AW000111024	CA-1098	2
		AW00019377	BC-M005	1
		AW00019377	CA-1098	1
		AW00019377	FE-6654	1
		AW00019377	HL-U509-B	1
		AW00019377	TI-M602	1
		AW00019377	TT-M928	1
		AW00019377	WB-H098	1

Many to many

Multiple records of dataset A are mapped to **multiple records** in dataset B

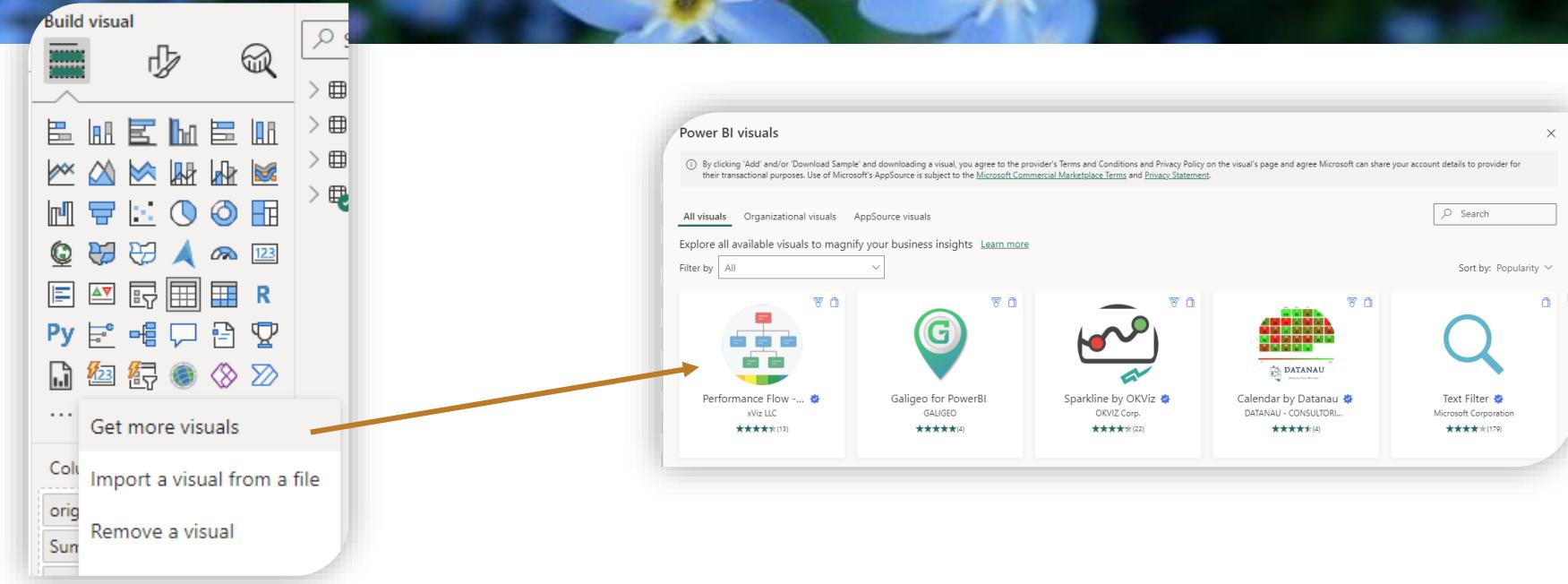
Dataset A Customer information		Dataset B Sales Information		
Customer ID	Store ID	Store Type	Customer ID	Product
AW000111024	ON-1	Online	AW000111024	CA-1098
	ST-1	Regional City Store	AW000111024	TT-M928
	ST-2	Regional City Store	AW00019377	BC-M005
	ON-1	Online	AW00019377	CA-1098
	ST-1	Regional City Store	AW00019377	FE-6654
	ST-2	Regional City Store	AW00019377	HL-U509-B
			AW00019377	TI-M602
			AW00019377	TT-M928
			AW00019377	WB-H098

Part 04

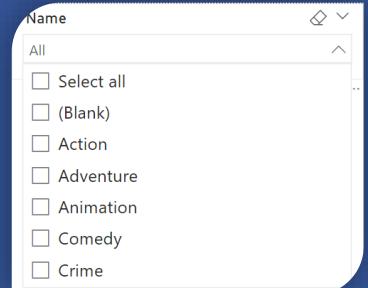
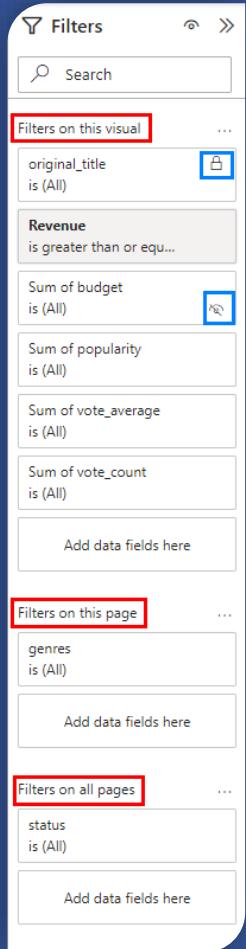
Visualise and Tell a Story



Visuals



Filters & Slicers



<https://www.youtube.com/@HowtoPowerBI>



Create a Report That Tells a Story

Topic 1: Design Principles

Topic 2: Report Themes

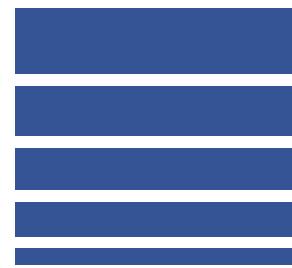
Topic 3: Which Chart Type to Use?

Topic 4: Storytelling with Data

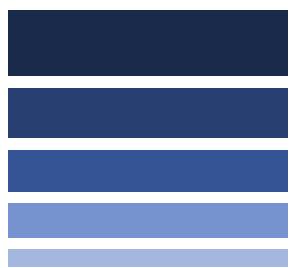


Hierarchy

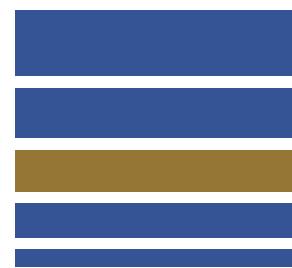
helps prioritise information by using size, colour, and placement to guide the viewer's attention to the most important elements



Hierarchy in Scale



Hierarchy in Colour (intensity or hue)





Contrast

enhances readability by creating differentiation between elements. It can be achieved through colour, font styles, and size variations



TITLE



Note

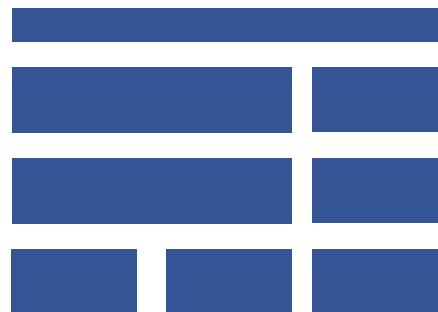
Contrast in Colour

Contrast in Size

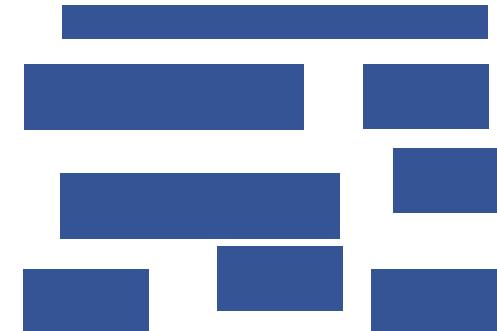
Contrast in Font

Alignment

ensures that elements are visually connected, creating a sense of order and coherence within the report



Good Alignment

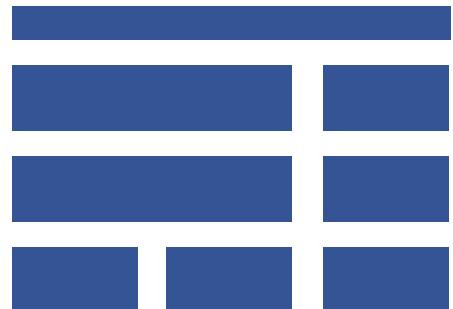


Bad Alignment

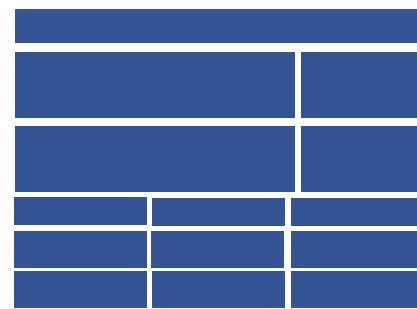
White Space



or negative space refers to areas of a design that have no design elements. This space is important for making a design uncluttered and for making various elements stand out.

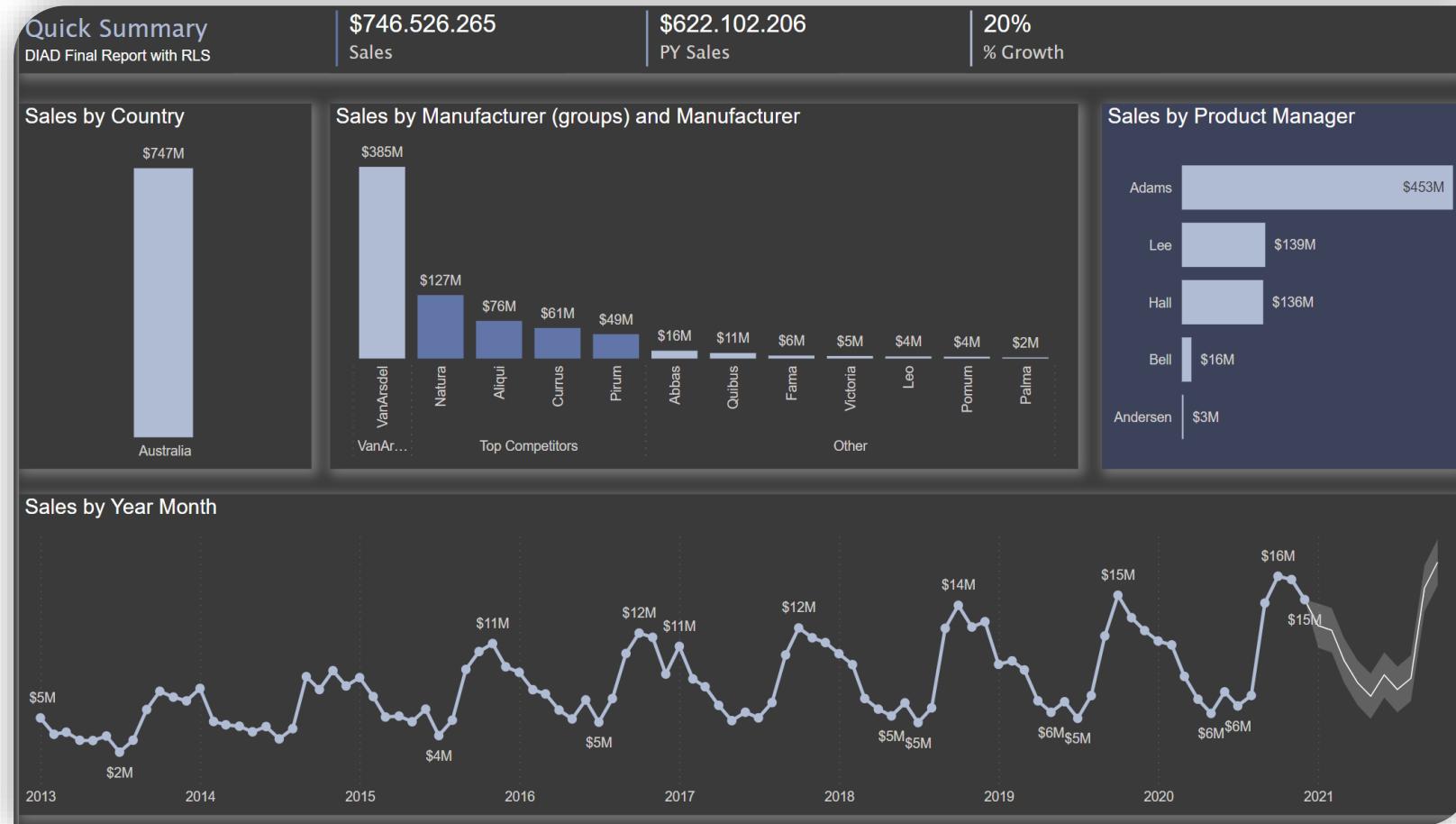


*Good White Space
Usage*



*Bad White Space
Usage*

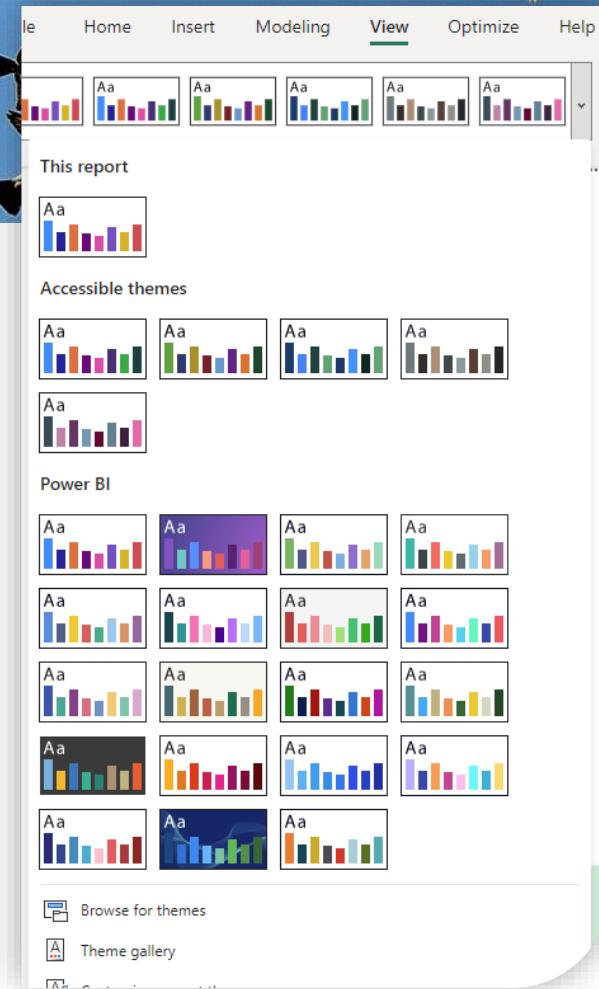
Report Example



Report Themes

Use the default Power BI report theme or your own

- Import your exported custom theme or created (JSON file), e.g., use theme builder at [PowerBI.tips](#)
- Import themes from the Github repository, e.g., [deldersveld/PowerBI-ThemeTemplates](#)
- Import themes from Microsoft Power BI Community [Themes Gallery](#)



Theme Example

```
{"name": "Macaw",
  "dataColors": ["#FFC000", "#000000", "#FFFFFF", "#9E99F", "#CDC7C2", "#FBD200", "#FFEA00"],
  "bad": "#C4151C", "neutral": "#E67A1D", "good": "#5A8D31",
  "textClasses": {"label": {"fontFace": "Assistant", "fontSize": 12}, "callout": {"fontFace": "Assistant"}, "title": {"fontFace": "Assistant", "fontSize": 13}, "header": {"fontFace": "Assistant"}, "visualStyles": {
    "*": {
      "*": {
        "background": [{"color": {"solid": {"color": "#FFFFFF"}, "transparency": 0}}, {"outspacePane": [{"backgroundColor": {"solid": {"color": "#FFFFFF"}, "transparency": 0}, "checkboxAndApplyColor": {"solid": {"color": "#CDC7C2"}}}], "filterCard": [{"id": "Applied", "backgroundColor": {"solid": {"color": "#FBD200"}, "transparency": 62}}]}
      }
    },
    "page": {
      "*": {
        "background": [{"color": {"solid": {"color": "#CDC7C2"}, "transparency": 80}}, {"outspace": [{"color": {"solid": {"color": "#FFFFFF"}, "transparency": 0}}]}
      }
    }
  }
}
```



Backgrounds & Layout

EXPERTISE

EXPERIENCE

ABOUT ME

SPEAKING EVENTS

CONTACT

HOBBIES

LANGUAGES

EXPERTISE

10 YEARS OF Work Experience
9 YEARS OF SQL
6 YEARS OF Power BI
2 YEARS OF Tableau
9 YEARS OF Training

EXPERIENCE

Odetta Jankaitienė
Data & Analytics Consultant | Solution Architect

ABOUT ME

I have a passion for data-driven decision making and am committed to helping organisations leverage their data assets to gain a competitive edge. My expertise includes designing and implementing data architectures and creating data visualisation solutions that enable stakeholders to derive insights from complex data sets. I have a proven track record of delivering high-quality data solutions on time and within budget, and I am constantly seeking new ways to push the boundaries of what is possible in the world of data and analytics.

CONTACT

+370 6x xxx xxx
askme@dragonsdata.com
<https://www.linkedin.com/in/odetajankaitiene/>

HOBBIES

Lithuanian
English
Russian
French

©2023 EarthStar Geographics Microsoft Power BI

SPEAKING EVENTS

Where to Get Inspiration From?

- Look at websites (don't forget that many people use the term "dashboard" instead of "report"):
 - [Dribbble](#)
 - [Freepik](#)
 - [Adobe Stock](#)
- You can replicate the design in PowerPoint or another design tool
- Use icons
 - From PowerPoint (Insert -> Illustrations: Icons)
 - [Flaticon](#)



Visualisation

Which Data Type to Use?

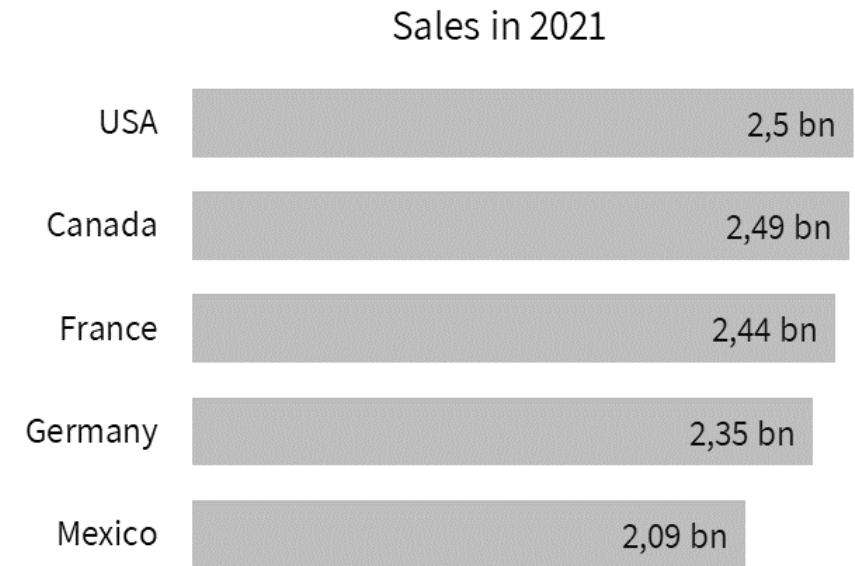
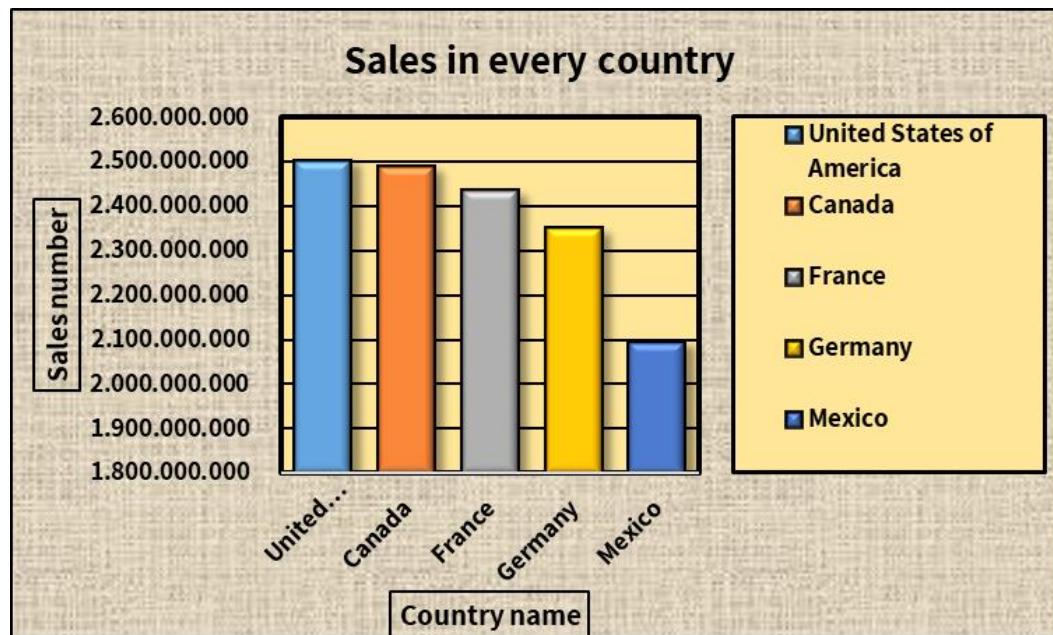
Data Types:

- **Quantitative**: numbers (e.g., revenue)
- **Ordinal**: can be ranked but not aggregated (e.g., clothes sizes S, M,...)
- **Nominal**: categories (e.g., electronic devices)

more effective
↑
less effective

Quantitative	Ordinal	Nominal
position	position	position
length	color intensity	color hue
slope	color hue	color intensity
size	length	shape
color intensity	slope	length
color hue	size	slope
shape	shape	size

Focus On Data



Storytelling with Data



Tell a Story

Structure your report in a way that guides the audience through the data and tells a coherent story.



Additional Information

Begin with a clear introduction, provide context for the data, and outline the objectives of the report.



Storytelling Techniques

Incorporate storytelling techniques such as using headlines, annotations, and callouts to highlight key insights and engage the audience emotionally

Part 05

Test and Get Feedback



Test & Feedback

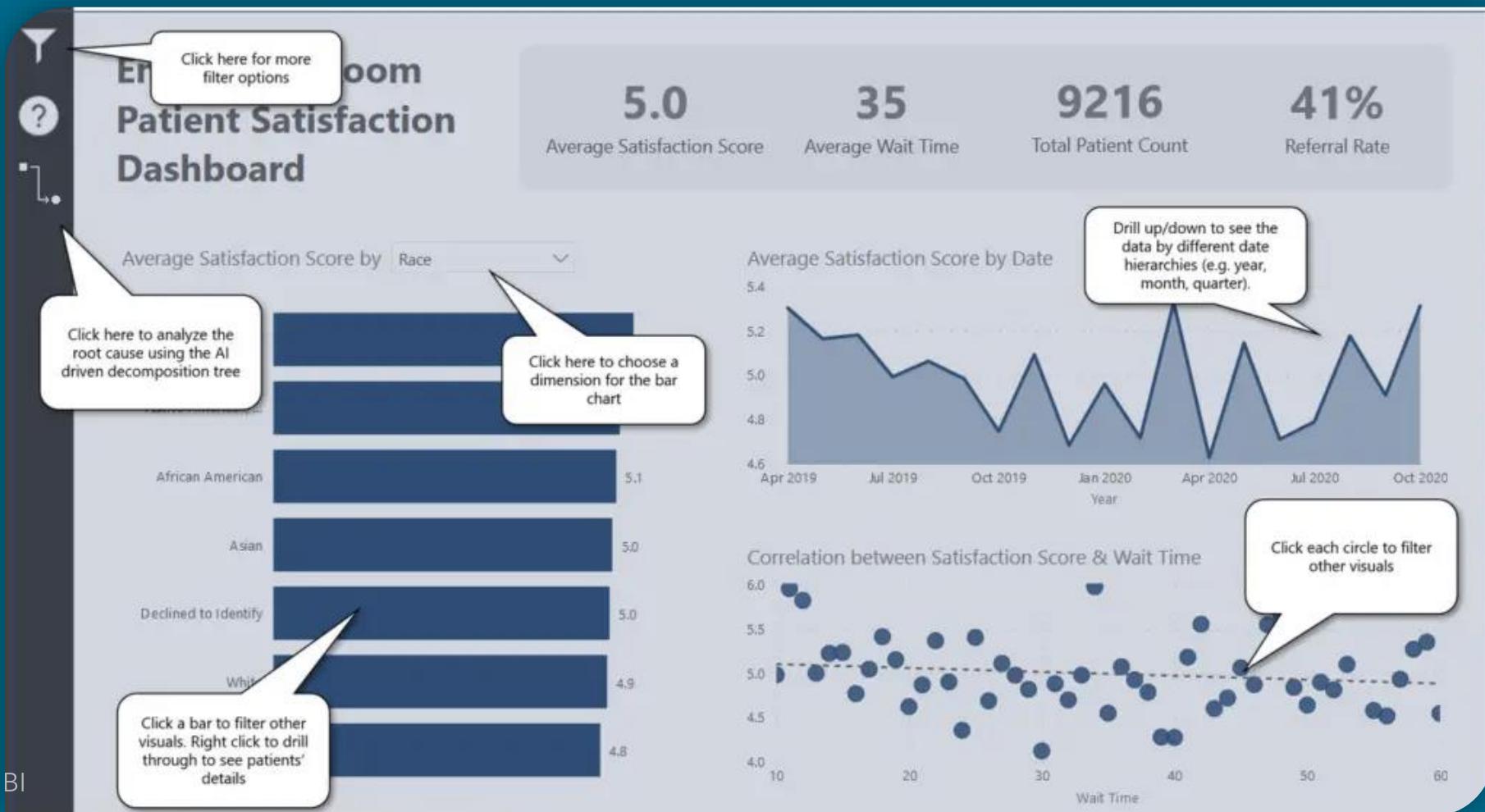


Test the report's usability
with different user roles and
gather feedback

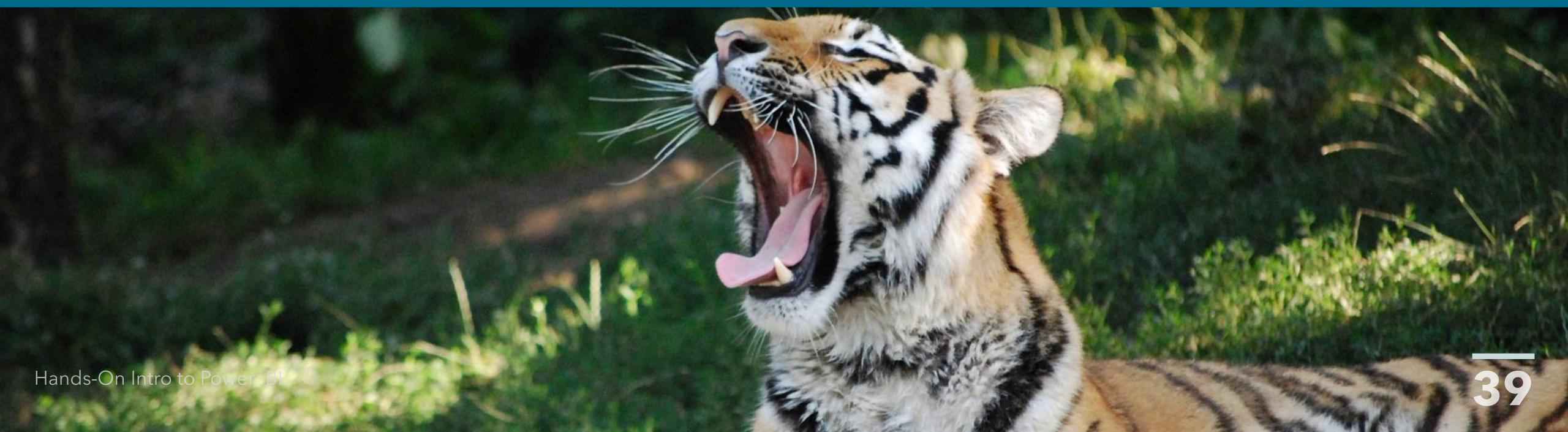
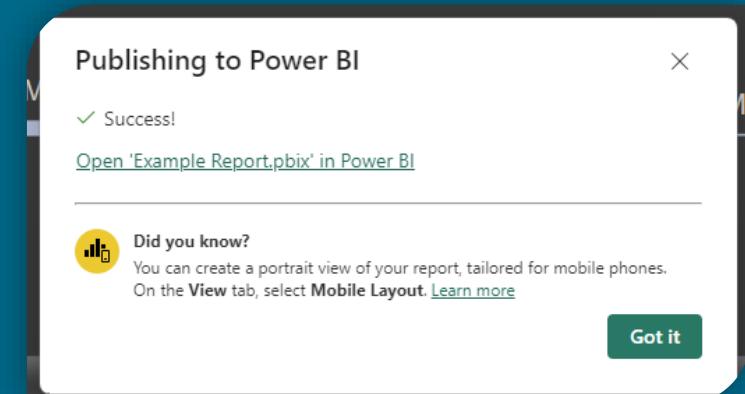


Train or/and describe how to
use the report

Callouts Example - Information Panel



Publish & Share Your Report



Power BI Service

What Needs to Be Done?



Workspace

Create a workspace



Publish

Publish the report to
the workspace



App

Create an app



Share

Share the app with
report users



Teach

Teach them how to use
it



Feedback

Gather feedback and
make necessary
adjustments





Training Summary

- Figure out what the purpose of the report is. Invest time in this!
- Make a tabular form & use star schema
- Data should be transformed as far upstream as possible and as far downstream as necessary
- Tell a story and use as simple visuals as possible
- Test and ask for feedback
- Train or describe how to use the report

Thank You For Participating!



Useful Links

For future learning

- [Guy in a Cube - YouTube](#)
- [SQLBI - YouTube](#)
- [How to Power BI - YouTube](#)
- [Power BI Blog - Microsoft Power BI](#)
- Design principles <https://254-online.com/>
- Theme builder [PowerBI.tips](#)
- For inspiration [Dribbble](#), [Freepik](#), [Adobe Stock](#)
- Icons [Flaticon](#)
- [storytelling with data](#)