Dashboard in a Day

SALES MATRIX (ADVENTURE WORKS CYCLES)
Version 2.3 – Naji El Kotob

Dashboard in a Day is an interactive and practical workshop that allows participants to learn how to effectively and efficiently use Microsoft Power BI to get data, perform data transformation, prepare the model, design the report and analyze the results. The day will start with "Let's Talk Data" and it will end with an interactive multi-page report.

The main purpose of the workshop is to give managers, business professionals, data analysts and data lovers a practical knowledge[1] and good understanding of real-world data analysis and visualization with Microsoft Power BI. After this day, attendees will be able to start using Power BI Desktop independently and create simple but useful reports.

The scenario in this workshop is based on the Adventure Works Cycles'[2] Sales Matrix dataset. Adventure Works Cycles is a large, multinational manufacturing company that produces bicycles, parts, and accessories for commercial markets in Australia and Europe.
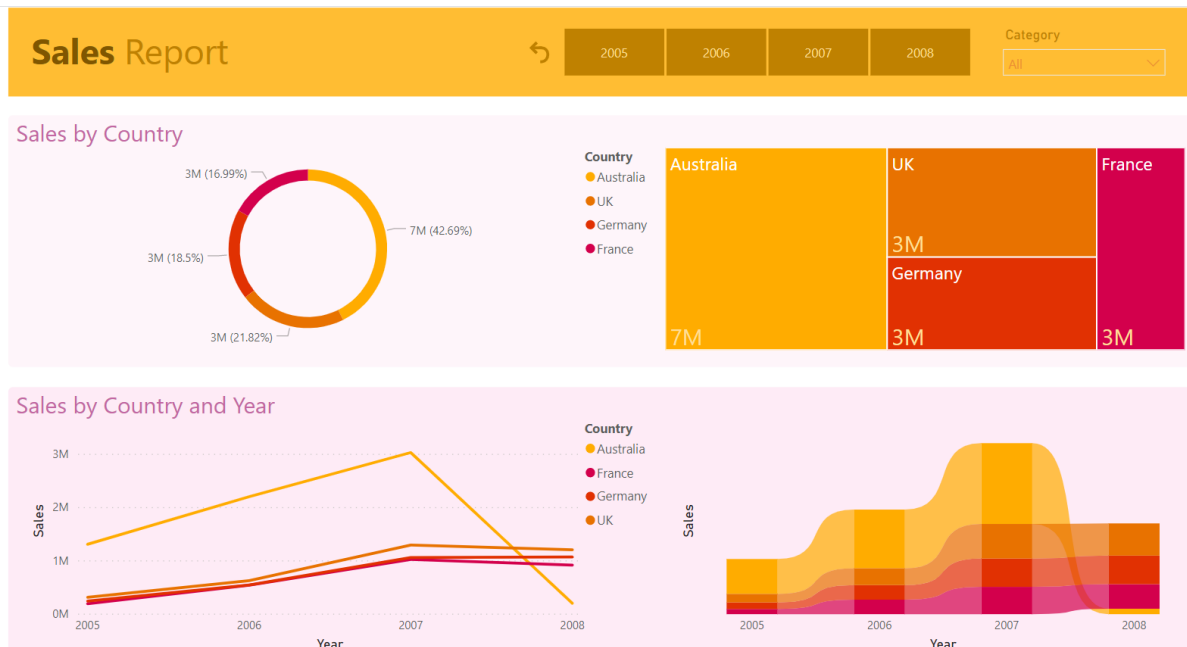

Figure 1 - Sales Matrix Report (Main page)

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[1] Practical knowledge is knowledge that is acquired by day-to-day hands-on experiences. In other words, practical knowledge is gained through doing things; it is very much based on real-life endeavors and tasks.
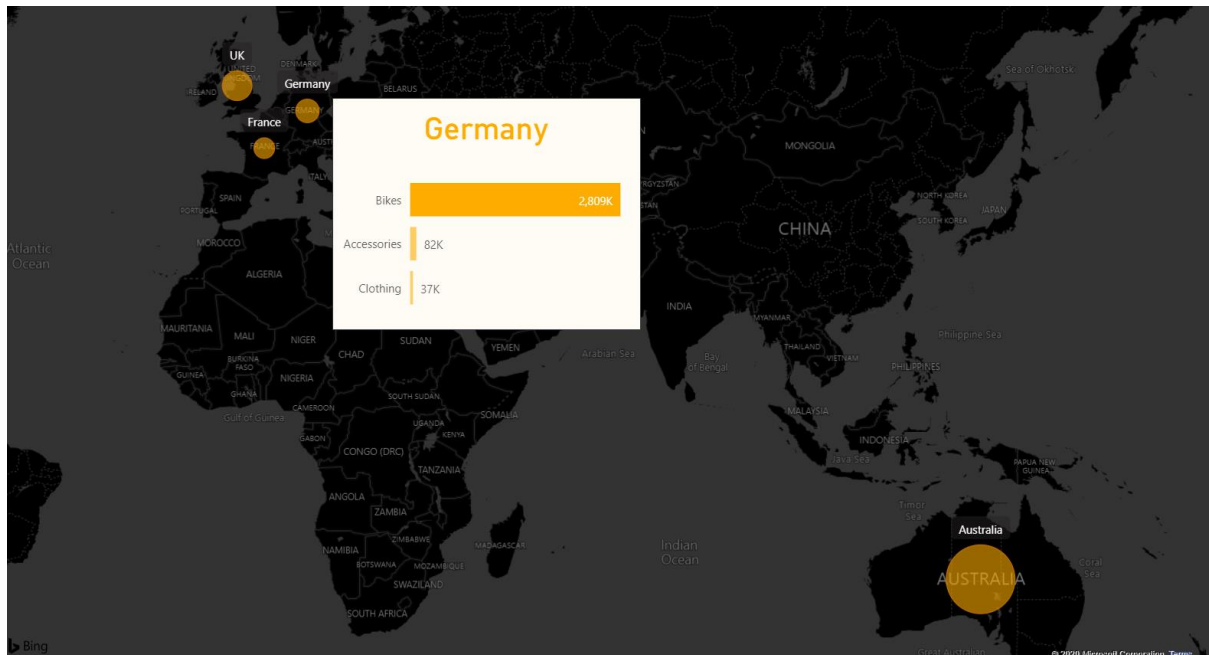[2] Adventure Works Cycles is a fictitious company.

Figure 2 - Sales Matrix Report (Map page)

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About this workshop

- Trainer: Naji El Kotob
- Audience: Business Analyst, Data Lovers
- Level: Beginner to Intermediate
- Delivery method: Hands-on and Interactive workshop
- Duration: 1 day (8 hours)
- Laptop: BYOL[3]
- Requirements
  - Power BI Desktop http://j.mp/pbi-setup-214
  - Internet Access to https://bit.ly/hellopowerbi
- Languages: English, Arabic
- Keywords: Microsoft, Power BI Desktop, BI

Audience and Prerequisites

This workshop is intended for data analysts and data lovers. Some previous experience in Power BI and DAX is helpful but not required for this workshop, you just need to have a passion for data.

Schedule

- 08:00 - 09:00   Hello and Coffee
- Dashboard in a Day
- 10:30 - 10:45   Coffee Break
- Dashboard in a Day cont'd
- 13:00 - 14:00   Lunch Break
- Dashboard in a Day cont'd
- 15:30 - 15:45   Coffee Break
- Q&A

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[3] BYOL – Bring Your Own Laptop

Learning Objectives

After completing this workshop, participants will be able to:

- Define the term data.
- Understand the difference between BI and SSBI.
- Understand the 5 main stages of Data Analytics.
- Ask the right questions.
- Use Power BI desktop.
- Get data into Power BI.
- Understand Power Query.
- Perform various types of transformations.
- Create measures using DAX functions.
- Select and use effective charts.
- Visualize data and create interactive reports.
- Design and implement custom tooltip.
- Analyze the results.

References and Resources

- Microsoft Power BI https://www.powerbi.com
- Awesome Power BI https://github.com/NajiElKotob/Awesome-Power-BI

Outlines

Getting started with data

Defines the terms data; BI and SSIB and explains the stages of data analysis.

- DIKW
- What is BI?
- What is SSBI?
- The 5 main stages of data analysis

Power BI Desktop

Introduces Power BI desktop and explores the features that enable the rapid creation of data visualizations.

- Checking the installed version
- Enabling the "Preview Features"
- Switching between Report Editor and Power Query Editor
- Working with the modern office ribbon
- Touring the report editor in Power BI Desktop
  a. Top nav pane (Ribbon)
  b. Visualizations pane
  c. Fields pane
  d. Filters pane
  e. Report View (canvas)
  f. Data View
  g. Model View

Transforming and Reshaping

Introduces the tools that are available for preparing your data, and transforming it into a form ready for reporting.

- Touring the Power Query Editor in Power BI Desktop
  o Top nav pane (Ribbon)
  o Queries
  o Applied Steps
- Understanding Transform and Add Column tabs
- Exploring the auto-generated 'M' language
- Using Excel as a data source
- Applying data transformation
  o Transpose
  o Use First Row as Headers
  o Change Type
  o Fill
  o Rename
  o Unpivot Columns

Data Modeling

Describes how to shape and enhance data.

- What is DAX
- Understanding the types of calculations
- What is a measure? And why?
- Creating an aggregate function
- Checking Measure tools and applying new format

Interactive Data Visualizations

Describes how to create and manage interactive data visualizations.

- Creating Power BI reports
- Categorizing the Power BI visuals
- Choosing your visuals
- Building the main "Sales Report" page
- Adding drillthrough to your reports
- Adding drilldown to your visuals
- Implementing custom tooltip
- Designing backgrounds and layouts
- Changing the default theme and colors

What Next

- Discuss what's next in Power BI
  - Power BI Architecture
  - Power BI Services
  - Power BI Mobile
  - AppSource
  - Power BI 2020 Roadmap

Learning Games

- Test your learning

Q&A

- Open Questions and Answers