



# Intro to Data Visualization and Business Analytics with Microsoft Power BI

## Overview

Strong data culture is a *sine qua non* for effective organizations in the digital age, and proprietary data insights are increasingly becoming the most important asset such organizations can accrue. Additionally, firms that are invested in crafting a compelling, authentic narrative from their data are uniquely positioned to establish enduring brands, often thriving in the dynamic markets and uncertain times we find ourselves in. When it comes to communicating such insights in service of a great mission or brand, there are few things that can beat a striking data visualization.

Over the course of a single day, we invite participants to explore an exciting and extensible data visualization framework (Microsoft Power BI) that allows finance and business professionals to create reports and dashboards on top of their existing data products. Participants will learn how to gather relevant data from sample spreadsheets, overcome common data preparation obstacles, and build an interactive dashboard they can publish to the web.

At the conclusion of the workshop, participants will have developed their own web dashboard that they can readily adapt to their own professional contexts, and which they can then use to obtain better insights into their own work and/or share it with their co-workers.

## What This Course Offers

- Hands-on data visualization experience Microsoft Power BI and its Power Query engine
- Every participant leaves with a working dashboard that they can connect to their organization's data sources
- Insights on how best to automate tedious data workflows with web dashboards
- Overview of data sourcing, preparation, and visualization pitfalls
- Course notes, certificate of completion, and post-seminar email support for 1 year
- An engaging and practical training approach with a qualified instructor with relevant technical, business, and educational experiences

## Who This Is For

The target audience for this course is finance and business professionals, but the skills we teach here are transferable across many disciplines. If any of the following points apply to you, you will most likely find this course useful:



- In my current role, I spend a lot of time creating reports and/or surfacing the insights they contain.
- I often need to copy and paste data between different Excel spreadsheets to build simple charts on top of it.
- I'm responsible for manually updating the data sources for my team's regular snapshots and briefs, and want to reclaim that time.
- I want to conduct my organization's, team's, or own personal work more effectively by becoming more data-driven.
- I always want to have a current view on certain key metrics for which my company already stores relevant data.
- I want to learn how to incorporate data design and visualization principles into my core practice as a professional.

## Prerequisites

There are no prerequisites for this course, though some may find it helpful to have experience with Microsoft Excel and Power Query, as Power BI uses similar formulas and frameworks.

## Course and Contact Information

Level: Beginner

Duration: 1 day or 1 day course broken up in multiple days

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## Course Curriculum

- **Introduction**
  - Walkthrough - what is Microsoft Power BI?
  - Success stories and use cases
  - How companies and individuals have used dashboards successfully to become more data-driven
  - Initial Setup
  - Review of popular resources for Power BI
- **Connecting Data and Transforming Data in Power BI**
  - How does Power BI connect to our data?
  - How might we clean and transform our data to prepare it for a dashboard?
  - What is Power Query and how does it work?
  - Updating and modifying data loads
  - Customizing a table we've loaded
  - Customizing and adding columns to a table



- **Table Relationships and Data Models**
  - Introduction to the Relationships pane in Power BI
  - How does one establish relationships?
  - Cardinality of relationships
  - Fact and Dimension tables
  - Basic schema types (data models) and normalization
- **Data Analysis with DAX and M**
  - M and Power Query
  - DAX and the Data pane
  - When to use M and when to use DAX
  - Common M transformations
  - Common DAX transformations
  - Measures, filters, and contexts
- **Data Visualization**
  - Intro to the Report pane
  - Tiles, tabs, and filters
  - Common visualizations and their use cases
  - Formatting a visual
  - Slicers and Interactions
  - Styling and Accessibility
- **Summative Project, Exit Review, and Next Steps**

## Course Content Developers

### Jonathan Karp

Jon is a former science teacher and current business analyst at Teach For America, leading projects focused on data and foundational technologies. Since 2016, Jon has spearheaded efforts to revamp reporting, analytics, and data integration systems at TFA, including significant work with SQL, Power BI, and data modeling.

Prior to his work in IT, Jon taught for four years with Teach For America in St. Louis, MO, also serving as science department chair during his final year. He received a Bachelor of Science in Earth and Ocean Sciences from Duke University, where he cut his teeth on climate and chemical oceanography datasets.

### Neal Kumar, CFA

At Cognitir, Neal leads strategy & business development initiatives as well as product management.

Outside of Cognitir, Neal consults C-level teams and senior business managers on a variety of strategic topics ranging from M&A to marketing. He also leads training seminars (financial



modeling) for Wall Street Prep and has consistently received top reviews from attendees and created two training courses that were used in seminars worldwide. Before his consulting and training careers, Neal taught secondary mathematics in St. Louis Public Schools (USA) as a Teach for America Corps Member. Prior to joining Teach For America, Neal worked in investment banking at Lazard, JPMorgan, and Houlihan Lokey.

Neal received his MBA from London Business School (UK) and BBA in Finance from the University of Notre Dame (USA). He is also a CFA Charterholder and a Member of the CFA Institute Education Advisory Committee (EAC) Working Body where he helps shape CFA Program Content.

## David Haber

David has led programming workshops at the undergraduate and graduate levels, at blue chip companies, and world renowned management consulting firms.

David has experience working with both startups and large corporations. He has filled several leading roles in technology startups. David also worked on optimizing large-scale payment processing systems at Deutsche Bank in Singapore.

David holds an MEng (First-Class Honours) in Computer Science from Imperial College London (UK) where he focused on statistical machine learning. He presented his work at international conferences and won several awards for his work. During his studies, he also served as a teaching assistant at Imperial College where he helped undergraduate students master fundamental computer science concepts.