

Let us help you bring  
your data to Life

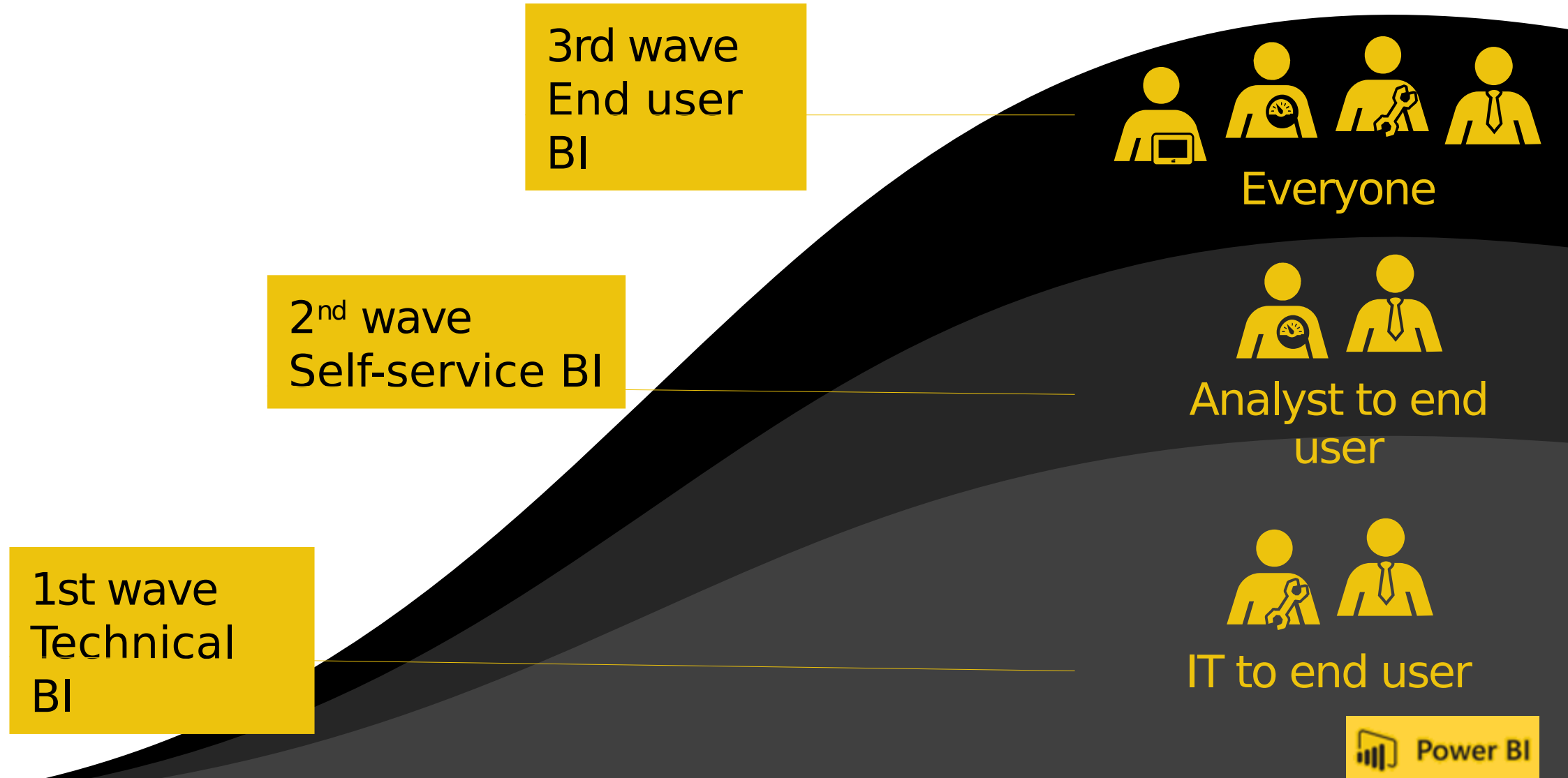


“The world is changing.  
Big will not beat small anymore.  
It will be the fast beating the slow.”

Rupert Murdoch

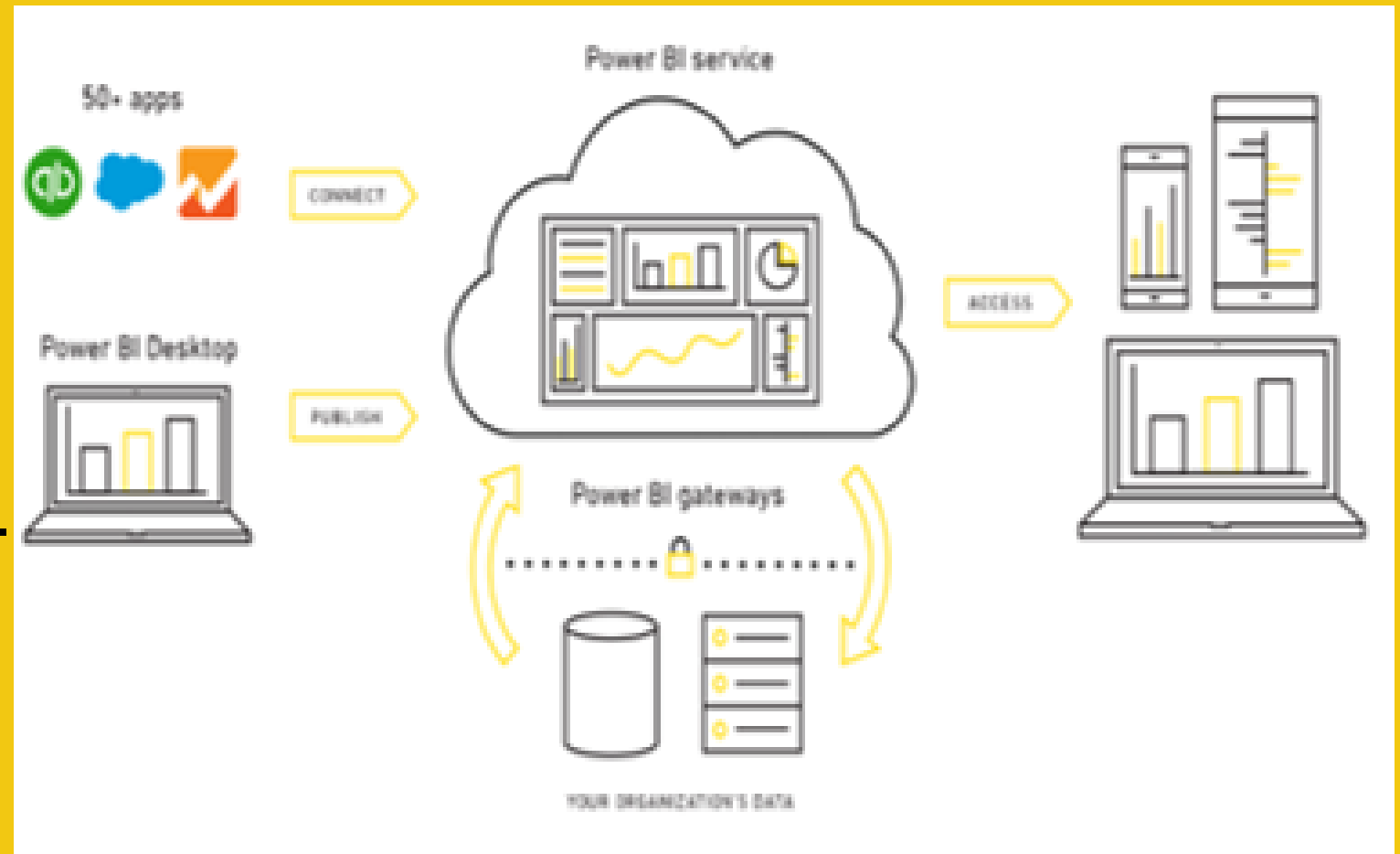


# Today, BI extends to everyone



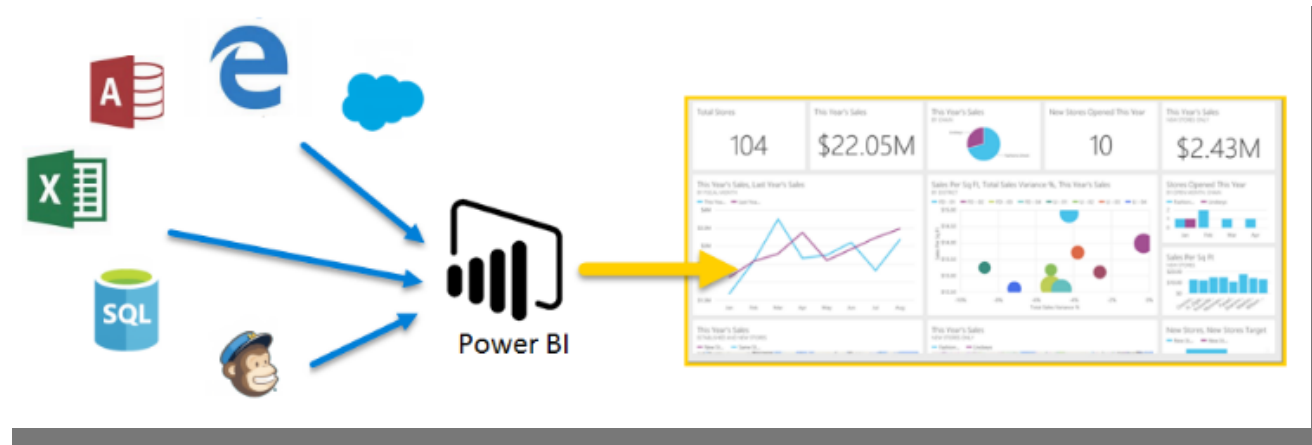
# Agenda

- Introduction.
- What's PowerBI?
- What's New in PowerBI.
- Query Editor Introduction.
- Relationships introduction.
- DAX introduction.
- Visualisation introduction.
- PowerBI platform introduction.



# Why Do you Want to Learn PowerBI?

- There are other tools available eg Tableau, QlikSense/view, OBIEE, Informatica etc.
- Business Intelligence is dead, Augmented Intelligence is the new flavour.



# WHY FREE?



## How can you Learn PowerBI?

- Use Sam.
- PowerBI Youtube videos.
- PowerBI meetup group <https://www.meetup.com/powerbidax/>
- PowerBI daily downloads <https://onedrive.live.com/?authkey=%21AAgrneBx3oI8Rak&id=B5A9CCD6892588B1%21104&cid=B5A9CCD6892588B1>
- PowerBI Radio channel <https://crm.audio/category/powerbi/>
- PowerBi Slack channel [https://join.slack.com/t/pbidax/shared\\_invite/enQtMjg3ODg0NDE0Mzg5LTIINGY4Mzc3ZDc5NDhkZDE1ZGUyN2Y2MmRhNjlxZGE1ZDBmZjE4OWNmYmZiNWlxYjgxOWVjNDM3MTU1NGFhOWQ](https://join.slack.com/t/pbidax/shared_invite/enQtMjg3ODg0NDE0Mzg5LTIINGY4Mzc3ZDc5NDhkZDE1ZGUyN2Y2MmRhNjlxZGE1ZDBmZjE4OWNmYmZiNWlxYjgxOWVjNDM3MTU1NGFhOWQ)
- PowerBI Whatsapp group <https://chat.whatsapp.com/34s8dOL0TeVgupcChEK97e>
- PowerBI Youtube channel <https://www.youtube.com/channel/UCFqbaq0ITII8QM4E0XhmM8sw>

# What will you achieve with PowerBI

## Top Tier Companies using PowerBI

The following is a list of top brands or large organizations

1. Facebook - For behavior analysis related to status updates and profile pictures.
2. Google - For advertising effectiveness and economic forecasting.
3. Twitter - For data visualization and semantic clustering
4. Microsoft -
5. Uber - For statistical analysis
6. Airbnb - Scale data science.
7. IBM -
8. ANZ - For credit risk modeling
9. HP
10. Ford
11. Novartis
12. Roche
13. New York Times - For data visualization
14. Mckinsey
15. BCG
16. Bain



## What will you achieve with PowerBI Course

You will learn MS Excel and DAX free along with PowerBI.

DATA minning , DATA minting ,DATA visualisation help others using R.

Can be a speaker to attract new possibilities in Data sector.

Able to develop new dashboards for sharing your expertise in data.

Can be an active community in Nordic PowerBI Group.

Of course, yes

**Jobfinder** **Jobindex**



## Who this Course is for?

- Business Intelligence Developers.
- Business Intelligence Consultants.
- Data Enthusiasts.
- Business Intelligence Architects.
- Decision Makers.
- PowerBI application developers.
- Business Analysts want to play with data and develop new tricks.

Any Experience Level on Data or Information Technology or Excel

Between 0-15 years of Industry experience holders.

# Sam Chatterjee



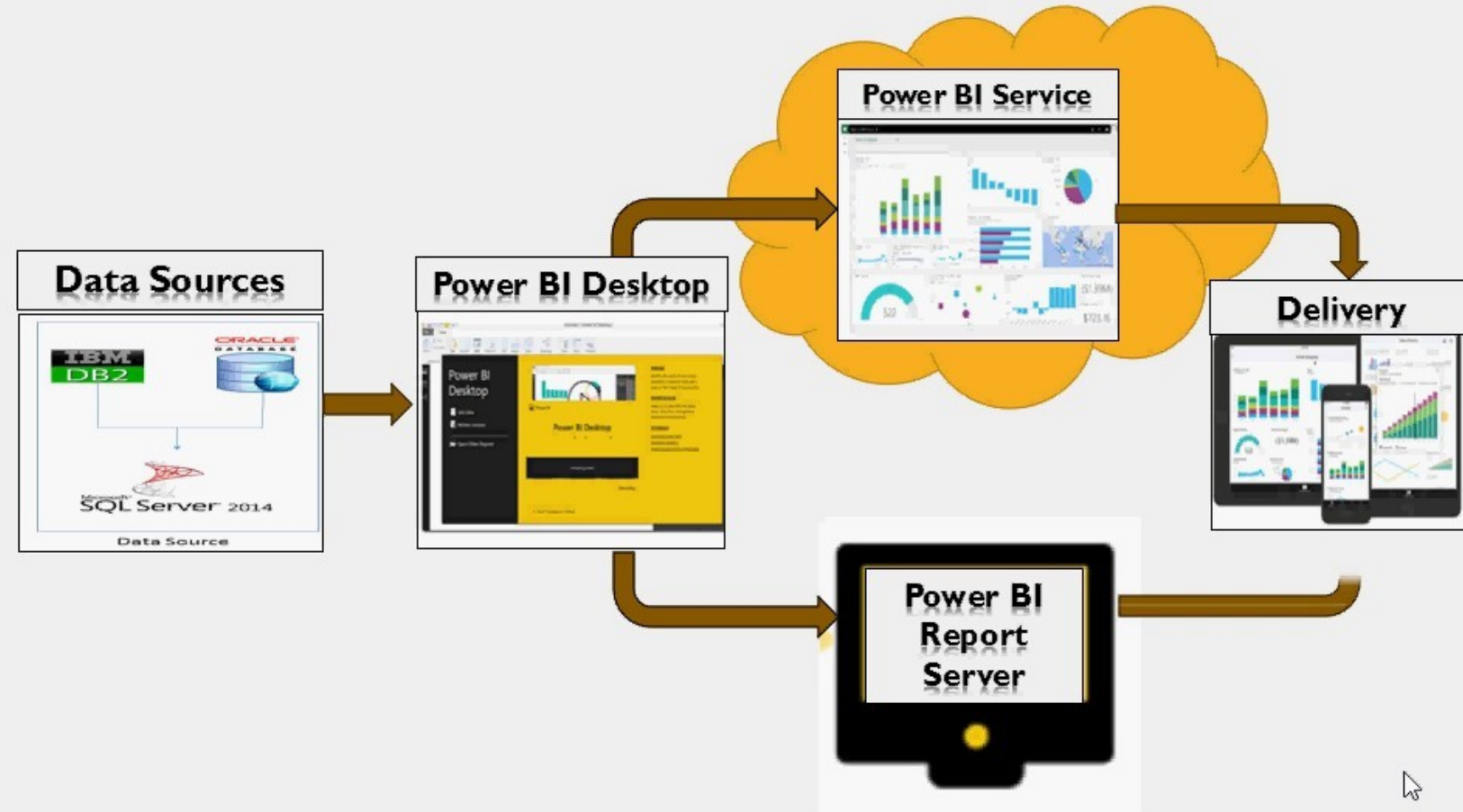
Business Intelligence Developer at H&M, Denmark.

- Speaker in Microsoft, lyngby 2017.
- Meetup groups in PowerBI Denmark, Norway, Australia.
- Youtube channel in sambidata.
- Whatsapp group on Global PowerBI and R ML .



# What's PowerBI?

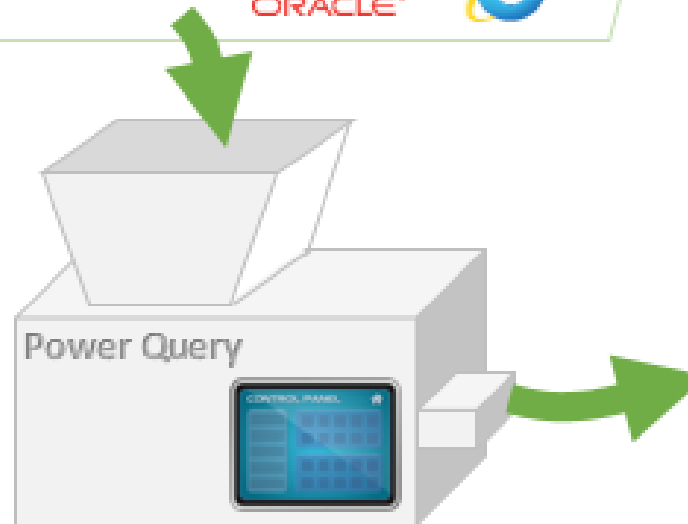
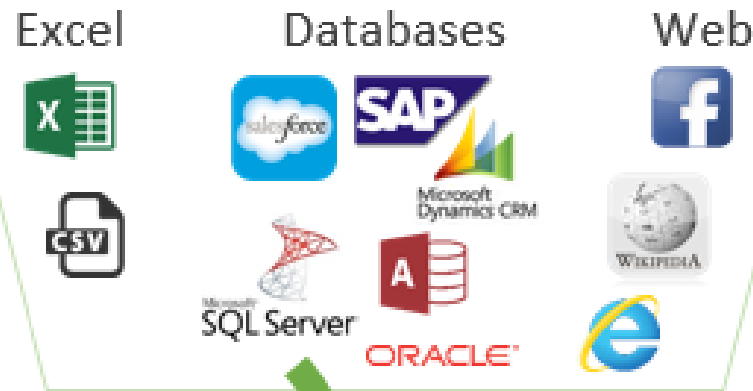
## MS Power BI Architecture



# Power Query

## Power Query Transforms Your Data

### 1. Add data from almost any source



### 2. Transform it with Power Query

### 3. Output to Excel

|    | A            | B      | C            |
|----|--------------|--------|--------------|
| 1  | Product Name | Month  | Sales Amount |
| 2  | Product A    | Jan-14 | 192.375      |
| 3  | Product A    | Feb-14 | 285.75       |
| 4  | Product A    | Mar-14 | 38.25        |
| 5  | Product A    | Apr-14 | 200.25       |
| 6  | Product A    | May-14 | 221.625      |
| 7  | Product A    | Jun-14 | 349.875      |
| 8  | Product A    | Jul-14 | 165.375      |
| 9  | Product A    | Aug-14 | 499.5        |
| 10 | Product A    | Sep-14 | 40.5         |
| 11 | Product A    | Oct-14 | 259.875      |
| 12 | Product A    | Nov-14 | 343.125      |

# Power Query-II

Untitled - Query Editor

File Home Transform Add Column View Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Properties Advanced Editor Manage Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Text Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Combine

Queries [3] Product Categories financials Sheet1

|    | Segment          | Country                  | Product   | Discount Band | Units Sold | Manufacturing Price | Sale Price |
|----|------------------|--------------------------|-----------|---------------|------------|---------------------|------------|
| 1  | Government       | Canada                   | Carretera | None          | 1618.5     | 3                   |            |
| 2  | Government       | Germany                  | Carretera | None          | 1321       | 3                   |            |
| 3  | Midmarket        | France                   | Carretera | None          | 2178       | 3                   |            |
| 4  | Midmarket        | Germany                  | Carretera | None          | 888        | 3                   |            |
| 5  | Midmarket        | Mexico                   | Carretera | None          | 2470       | 3                   |            |
| 6  | Government       | Germany                  | Carretera | None          | 1513       | 3                   |            |
| 7  | Midmarket        | Germany                  | Montana   | None          | 921        | 5                   |            |
| 8  | Channel Partners | Canada                   | Montana   | None          | 2518       | 5                   |            |
| 9  | Government       | France                   | Montana   | None          | 1899       | 5                   |            |
| 10 | Channel Partners | Germany                  | Montana   | None          | 1545       | 5                   |            |
| 11 | Midmarket        | Mexico                   | Montana   | None          | 2470       | 5                   |            |
| 12 | Enterprise       | Canada                   | Montana   | None          | 2665.5     | 5                   |            |
| 13 | Small Business   | Mexico                   | Montana   | None          | 958        | 5                   |            |
| 14 | Government       | Germany                  | Montana   | None          | 2146       | 5                   |            |
| 15 | Enterprise       | Canada                   | Montana   | None          | 345        | 5                   |            |
| 16 | Midmarket        | United States of America | Montana   | None          | 615        | 5                   |            |
| 17 | Government       | Canada                   | Paseo     | None          | 292        | 10                  |            |
| 18 | Midmarket        | Mexico                   | Paseo     | None          | 974        | 10                  |            |
| 19 | Channel Partners | Canada                   | Paseo     | None          | 2518       | 10                  |            |
| 20 | Government       | Germany                  | Paseo     | None          | 1006       | 10                  |            |
| 21 | Channel Partners | Germany                  | Paseo     | None          | 367        | 10                  |            |
| 22 | Government       | Mexico                   | Paseo     | None          | 883        | 10                  |            |
| 23 | Midmarket        | France                   | Paseo     | None          | 549        | 10                  |            |
| 24 | Small Business   | Mexico                   | Paseo     | None          | 788        | 10                  |            |
| 25 | Midmarket        | Mexico                   | Paseo     | None          | 2470       | 10                  |            |

16 COLUMNS, 700 ROWS

QUERY SETTINGS

PROPERTIES

Name

financials

All Properties

APPLIED STEPS

Source

Navigation

Changed Type

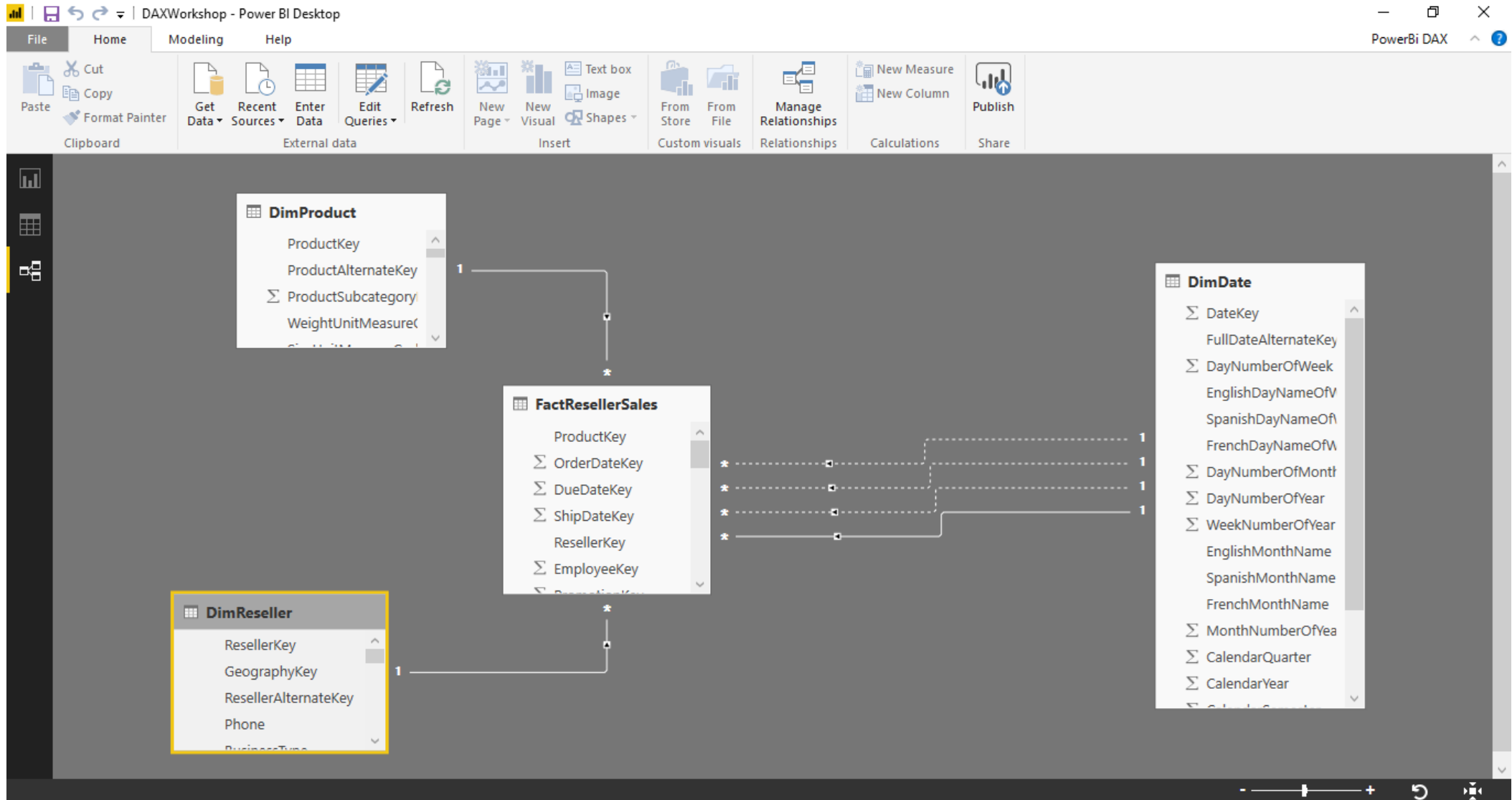
Power BI



## Power Query-III

- **Common Data Tasks Made Easy.**
- **Overview of the Power Query Add-in Menus**
- **Unpivot Data for Pivot Tables**
- **Append (Combine) Tables with Power Query.**
- **Merge Tables - A VLOOKUP Alternative**
- **Create Custom Functions**
- **Power Query Records Your Steps & Automates Processes**

# PowerPivot + Relationship Introduction



## PowerPivot + Relationship Introduction-II

- Powerpivot is a datamodelling engine which works on xvelocity in memory based tabular modeling engine.
- The in-memory engine gives a fast response time and modeling engine to develop starschema.
- It helps to calculated measures and columns.
- It deploys a powerful language DAX.

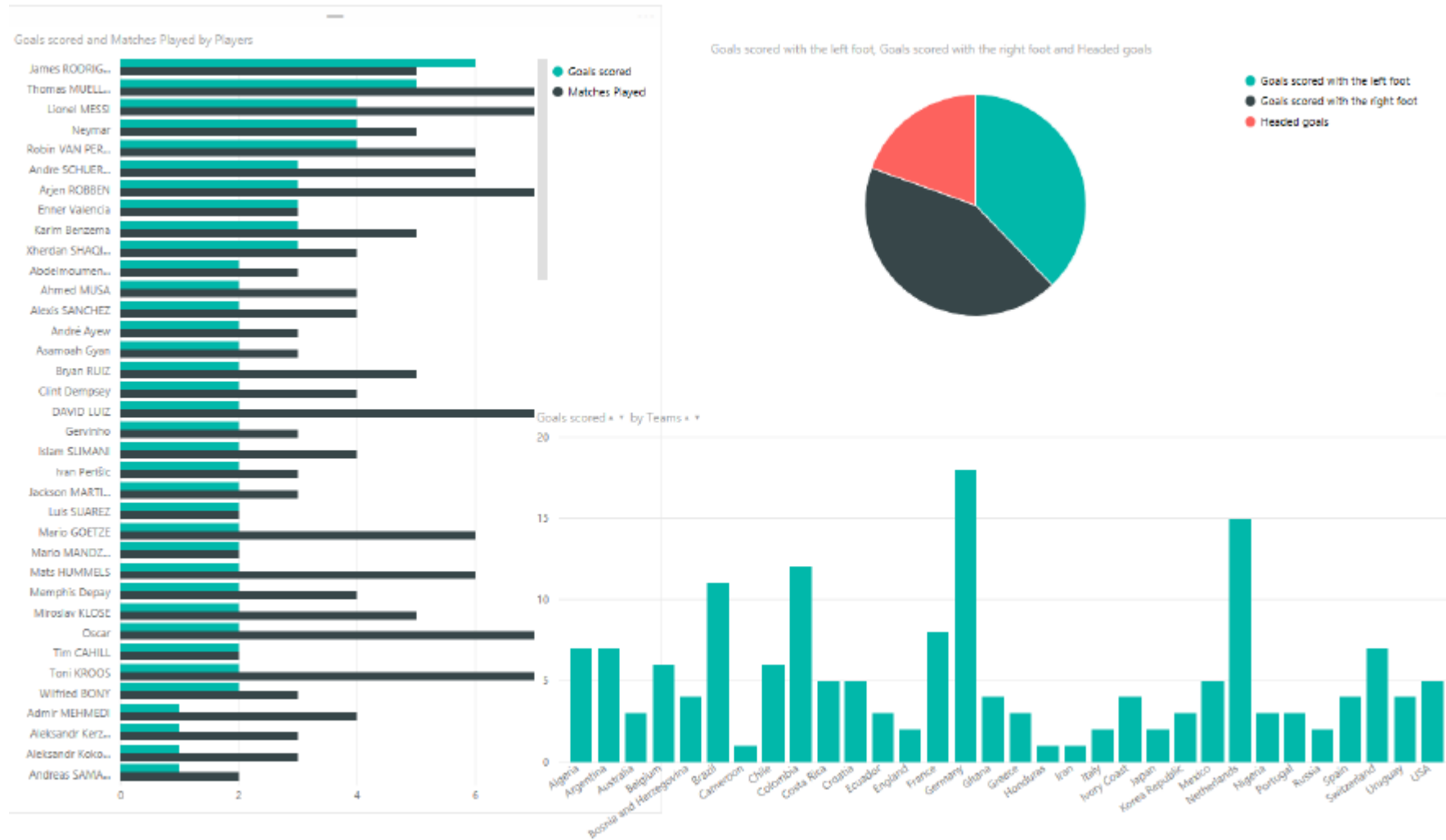
# DAX Introduction

```
evaluate
(
    generate
    (
        Filter
        (
            calculateTable
            (
                summarize
                (
                    DimSalesTerritory
                    ,DimSalesTerritory[SalesTerritoryGroup]
                )
            ), DimSalesTerritory[SalesTerritoryGroup]="North America"
        )
    ), --Table 1
)
```

# DAX Introduction

- DAX (Data Analysis Expressions) is a formula language that helps you create new information from the data that already exists in your Data Model.
- DAX formulas enable you to perform data modeling, data analysis, and use the results for reporting and decision making.
- It is a collection of functions, operators, and constants that can be used in a formula or expression to calculate and return one or more values.
- DAX is the formula language associated with the Data Model of Excel Power Pivot.
- DAX includes some of the functions that are used in Excel formulas, but with modified functionality and additional functions that are designed to work with relational data and perform dynamic aggregation.

# PowerView

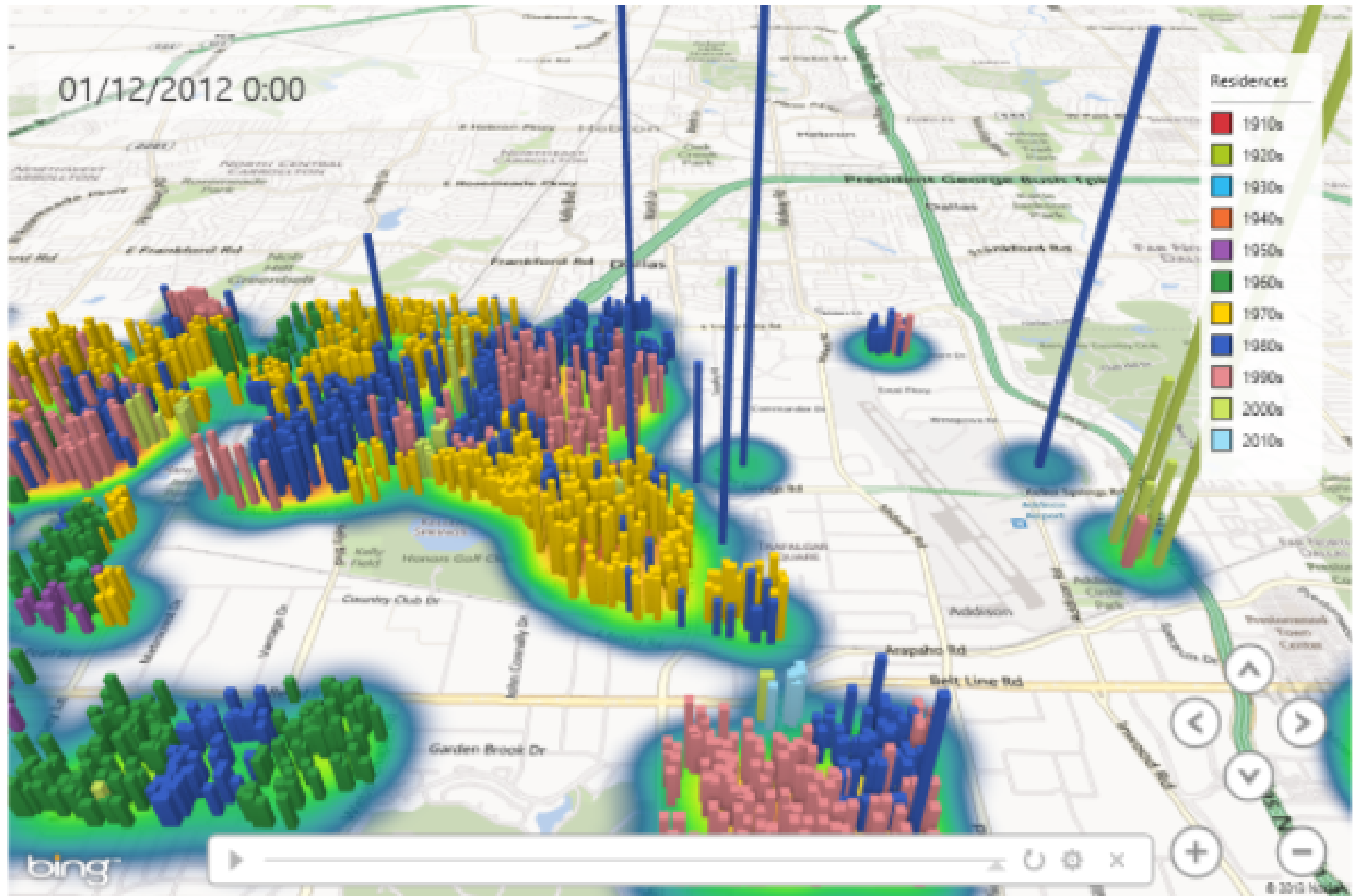




## PowerView-II

- It is an interactive data visualisation that can connect to data sources.
- It fetches metadata to be used for data analysis graphically.
- It has many visualisation tools, charts, bar graphs, spiral, heatmap, slicers etc.
- It has slicing and dicing the data.
- These are interactive, that can highlight part of the data.

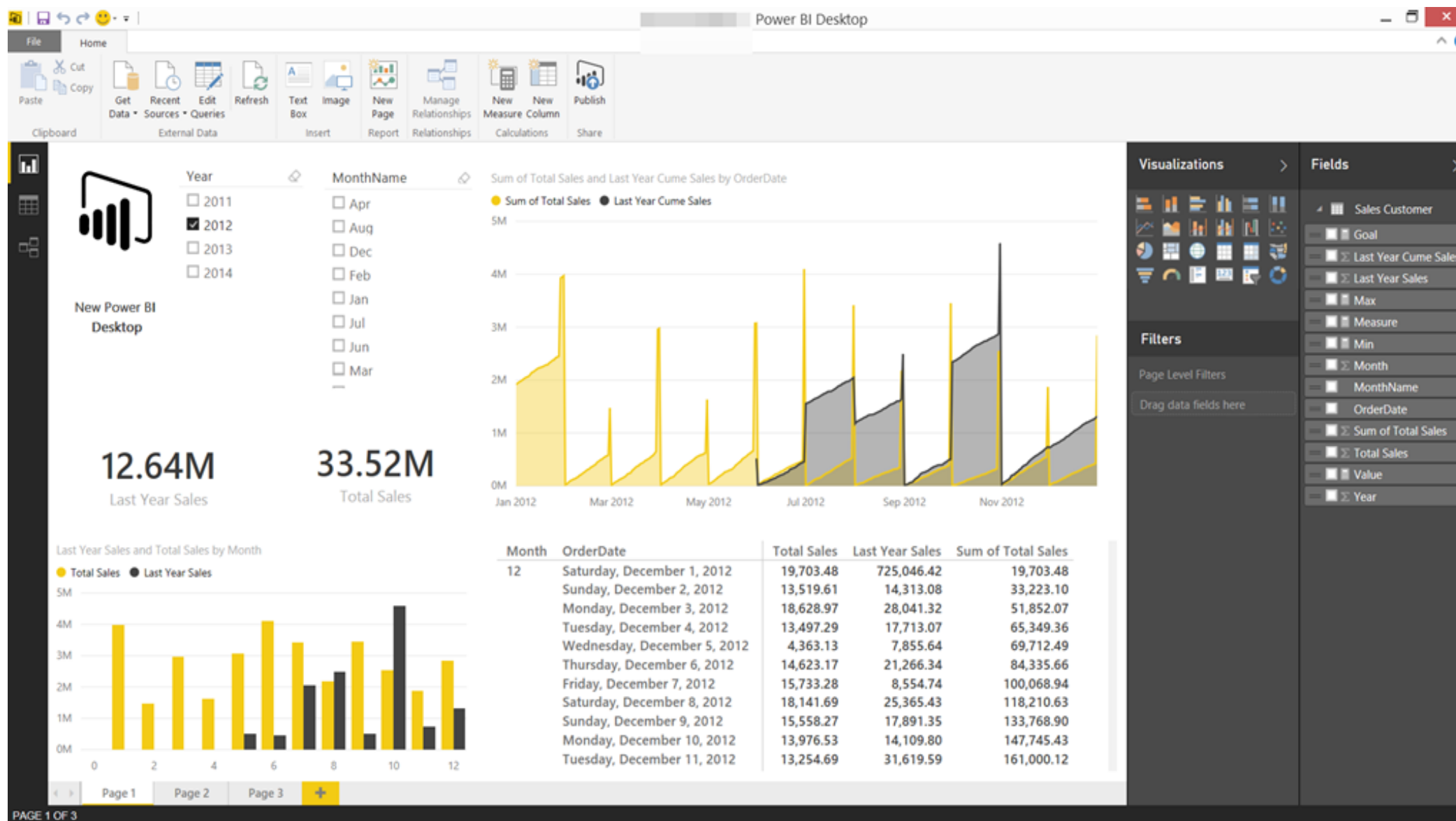
# Power Map



## PowerMap

- It is for visualising Geo-spatial information in 3D mode.
- We can visualise two measures as height of a column in 3D and heatmap.
- It can based as country, city, state, street address.
- Power Map works with Bing maps to get best visualisation.
- It is an add-ins for excel 2013 and embedded in excel 2016.

# PowerBI Desktop



## Power Q & A

The image shows a screenshot of the Power BI web interface. At the top, there is a black header bar with the Power BI logo (a 3x3 grid of yellow squares) on the left and the text 'Power BI' in white. Below the header, the main content area has a dark grey sidebar on the left with a hamburger menu icon. The main area displays a dashboard titled 'Retail Analysis Sample'. A prominent feature is a light grey search bar with a speech bubble icon and the text 'Ask a question about your data', which is highlighted with a thick pink border. Below this search bar, there are two large white cards. The left card is titled 'Total Stores' and 'NEW & EXISTING STORES', and it displays the number '104'. The right card is titled 'This Year's' and 'NEW & EXISTING', and it displays a partial number '9'. In the bottom right corner, there is a small yellow icon of a bar chart and the text 'Power BI'.

Power BI

Retail Analysis Sample

Ask a question about your data

Total Stores  
NEW & EXISTING STORES

104

This Year's  
NEW & EXISTING

9

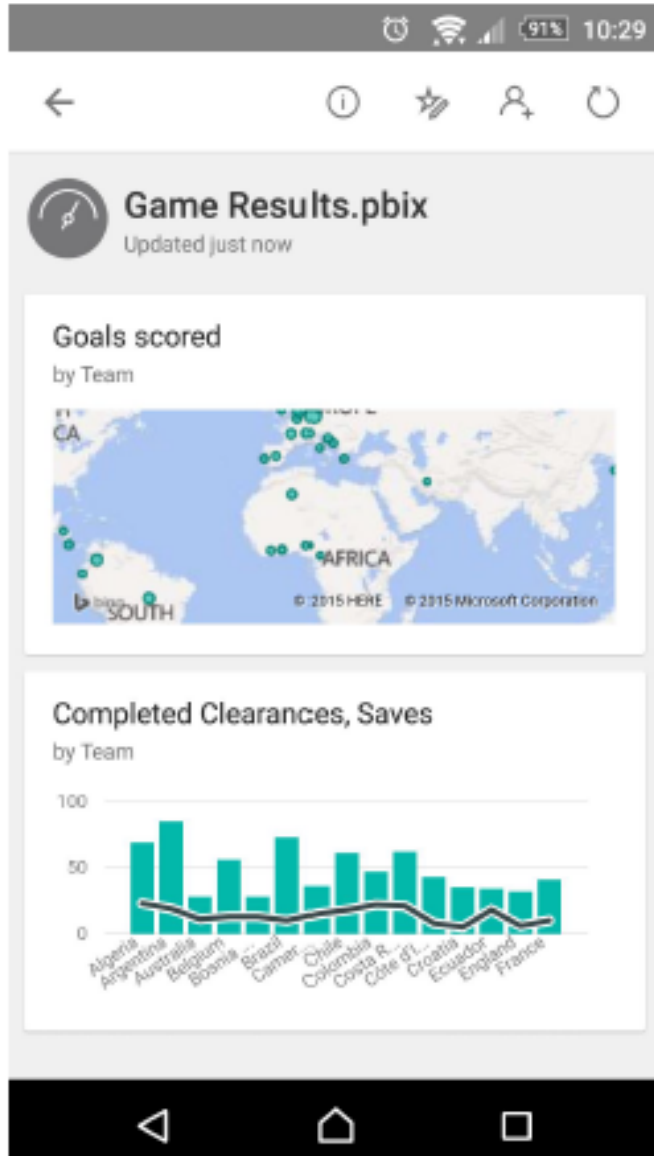
Power BI

## PowerBi Q&A-II

- It is a natural language engine for questions and answers to your data model.
- Once you built data model and deployed into powerbi website.
- It works with Power Q&A and works with Power View for the data visualisations.



# PowerBI Mobile Apps



- These mobile apps for three main OS providers, Android, Apple and Windows.
- We can share the interactive reports using mobile app.

# What is NEW in PowerBI

## DECEMBER 2017

### Reporting

- Q&A for report creation (preview)
- Cross-highlighting for bookmarks
- More bookmark flexibility
- Field properties pane and field descriptions
- Scatter visual from x- & y-axis groupings
- High density sampling for maps based on latitude and longitude
- Responsive slicers
- New custom visuals
  - Card Browser
  - Table Heatmap
  - Data Image by CloudScope
  - Power KPI Matrix
  - Text Filter
  - ChartAccent – LineChart

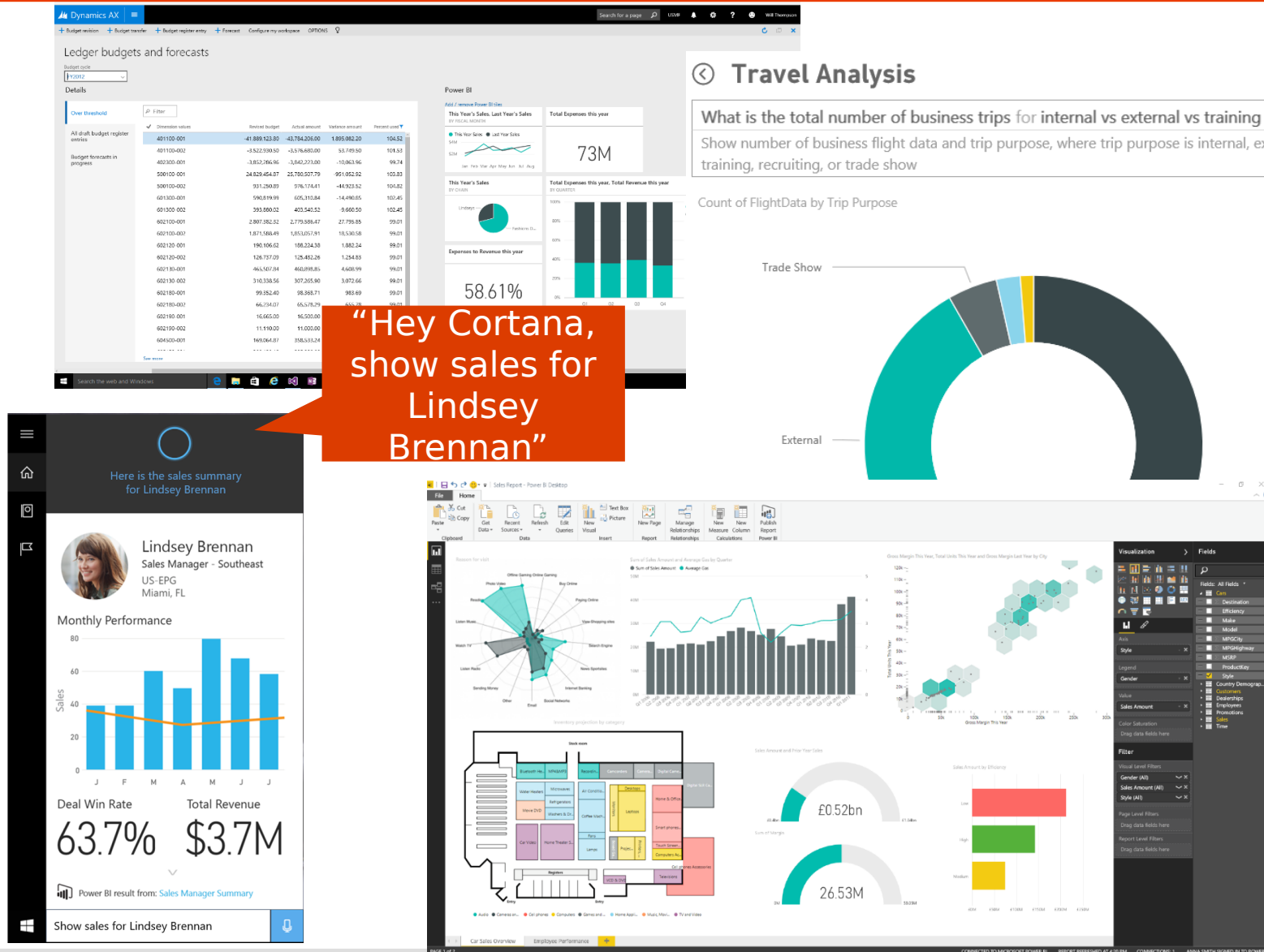
### Analytics

- Drill filters other visuals

### Data connectivity

- Adobe Analytics connector (preview)
- HDInsight Interactive Query connector
- Data.World connector
- SAP BW connector improvements:
  - Support for connecting to an SAP BW Message Server
  - Support for Windows Authentication
- IBM Netezza connector is now generally available

# New User Experiences



## Power BI

**Natural Language Query** – ask questions of your data in natural language with Q&A.

**Cortana integration** – with Power BI allows Cortana to access your business data.

**Quick Insights** – discover patterns and trends in your data automatically.

**Custom Visualizations** – gain new perspective with custom visualizations that bring data to life

**Integrated into your apps** – integrate Power BI visualizations into your applications.

# Power BI Solution is like Baking Cookies... Yum!

Power Query



1. Prepare the cookies...

Power Pivot  
Pivot Tables



2. Bake them...

Power View  
Power Map



3. Present & share

## Downloads

- To install PowerBI from Microsoft

[https://powerbi.microsoft.com/en-us/desktop/?WT.mc\\_id=Blog\\_Desktop\\_Update](https://powerbi.microsoft.com/en-us/desktop/?WT.mc_id=Blog_Desktop_Update)

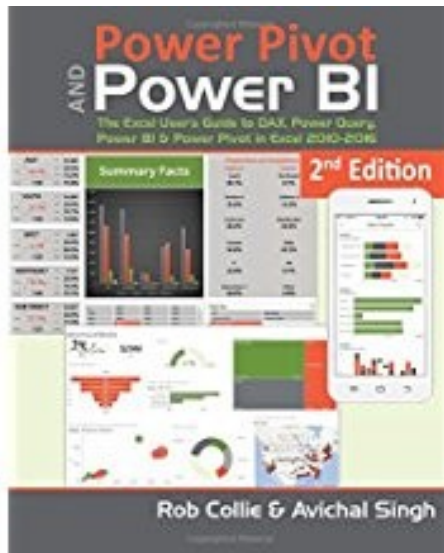
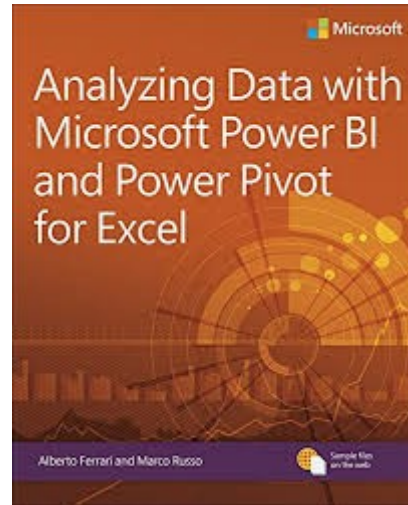
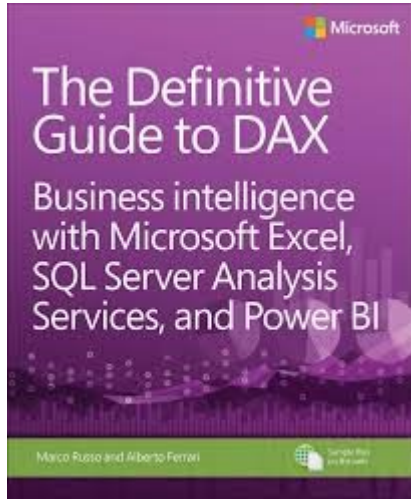
- Microsoft One drive

<https://onedrive.live.com/?authkey=%21AAgrneBx3oI8Rak&id=B5A9CCD6892588B1%21104&cid=B5A9CCD6892588B1>

- Microsoft Onedrive data sets

<https://onedrive.live.com/?id=7B84B0F2C239489A%212078&cid=7B84B0F2C239489A>

# Resources



Get Power BI (Free)

<http://tinyurl.com/hj5hdg6>

Power BI Jump Start

<http://bit.ly/1ktON16>

Power BI Getting Started <http://bit.ly/1FF88KA>

Power BI Team Blog

<http://bit.ly/1vwbTLG>

Power BI Channel 9

<http://bit.ly/1a9Q0gv>

Power BI  
[powerbi.microsoft.com](https://powerbi.microsoft.com)

<https://>



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bring your data  
to **life**

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