Exploratory Data Analysis with R

Microsoft Power BI - Part III

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Visualizing northwind data

- NorthWind Dashboard in Power BI https://github.com/asyaparfenova/dashboard_NorthWind_Database/blob/main/PowerBI/PowerBI_dashboard.md

Transform Data

- Import the data from the `northwind` database
  - Choose the 3 tables only and click `Transform Data`

Transform Data - Table `order_details`

- Expand table `orders`
  - We can always come back to update the data transform by clicking Home -> `Transform data`

Transform Data - Table `order_details`

- Then we expand table `customers`

Transform Data - Table `order_details`

- Then we expand table `employees`

Transform Data - Table `order_details`

- Then we expand table `shippers` and rename the column as `shipper_company_name`

Transform Data - Table `order_details`


```
= Table.RenameColumns(#"Expanded public.shippers",{{"company_name.1", "shipper_company_name"}})
```

	ee_id	last_name	first_name	title	shipper_company_name
1	5	Buchanan	Steven	Sales Manager	Federal Shipping
2	5	Buchanan	Steven	Sales Manager	Federal Shipping
3	5	Buchanan	Steven	Sales Manager	Federal Shipping
4	6	Suyama	Michael	Sales Representative	Speedy Express
5	6	Suyama	Michael	Sales Representative	Speedy Express
6	4	Peacock	Margaret	Sales Representative	United Package
7	4	Peacock	Margaret	Sales Representative	United Package

Transform Data - Table `order_details`

- Then we remove table `products`

Transform Data - Table `categories`

- Remove column `picture`

Transform Data - Table `categories`

- Expand table products
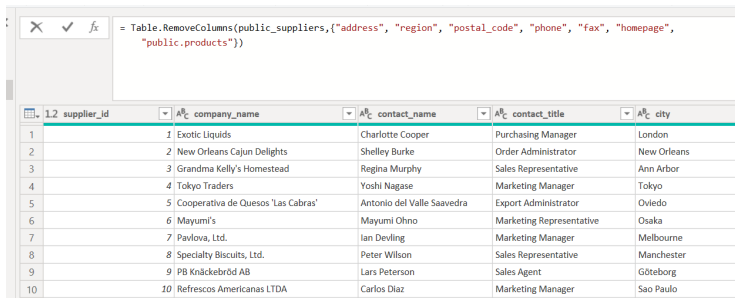
Transform Data - Table `suppliers`

- Keep only the following columns
  - `company_name`
  - `contact_name`
  - `contact_title`
  - `city`
  - `country`

Load Data

- Load data

Data model

- Correct the data model if necessary
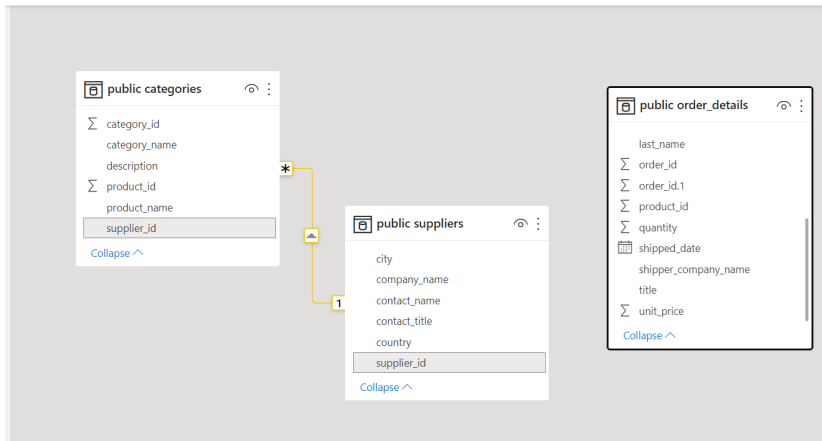
Data model
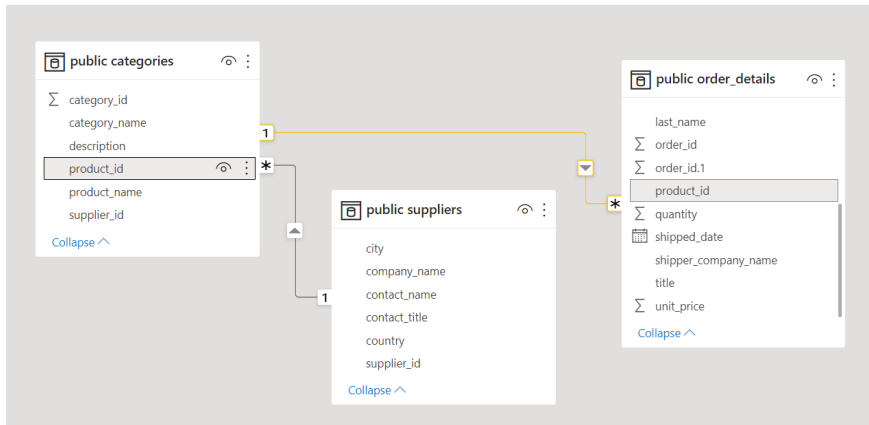
Adding new columns and new measures

- discount -> percent of discount %

- New column Gross Revenue: Gross Revenue = 'public order_details'[unit_price] * 'public order_details'[quantity]

- New column Discount ($): Discount ($) = 'public order_details'[Gross Revenue] * 'public order_details'[discount %]

- New column Net Revenue: Net Revenue = 'public order_details'[Gross Revenue] - 'public order_details'[Discount ($)]

Adding new columns and new measures

- New measure `Orders`: `Orders = DISTINCTCOUNT('public order_details'[order_id])`

- New measure `Net Revenue per order`: `Net Revenue per order = DIVIDE(SUM('public order_details'[Net Revenue]), 'public order_details'[Orders], BLANK())`
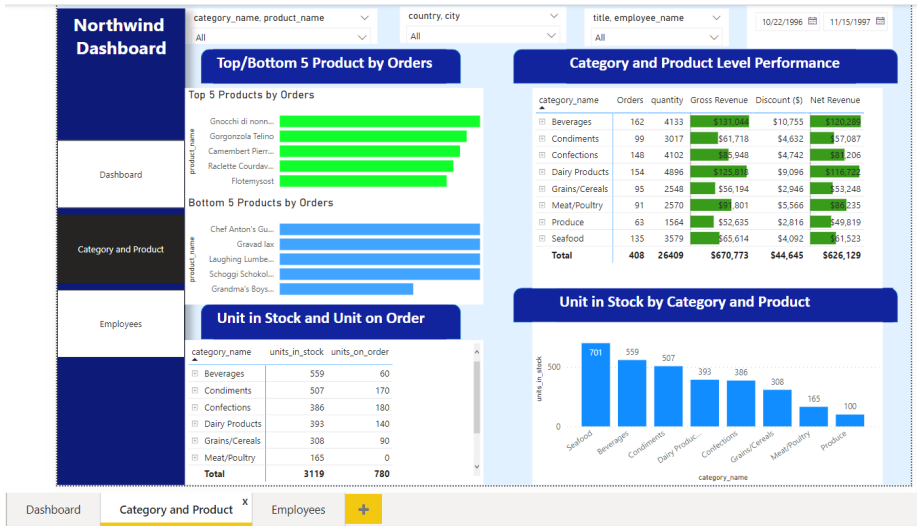
Visualization

- Follow the video Beautiful Power BI Dashboard with Northwind Database https://www.youtube.com/watch?v=czON7fhEuYI&t=1599s starting from 28:00. But
  - We do not use any background picture
  - We create a 3-page report with page navigators
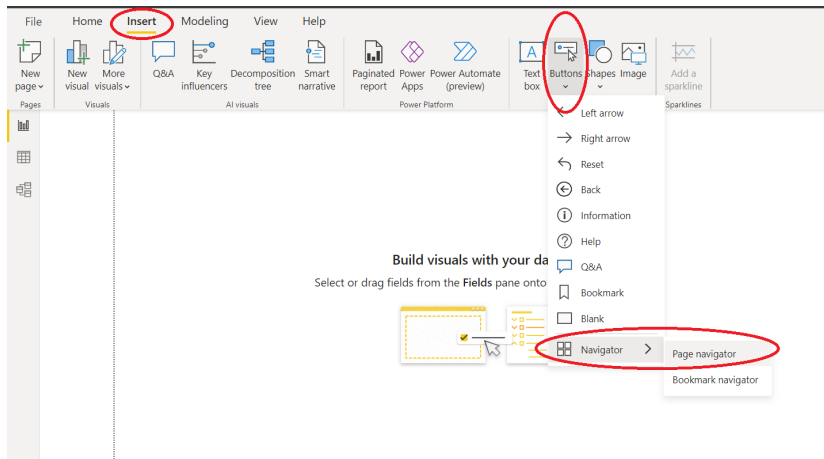
Visualization
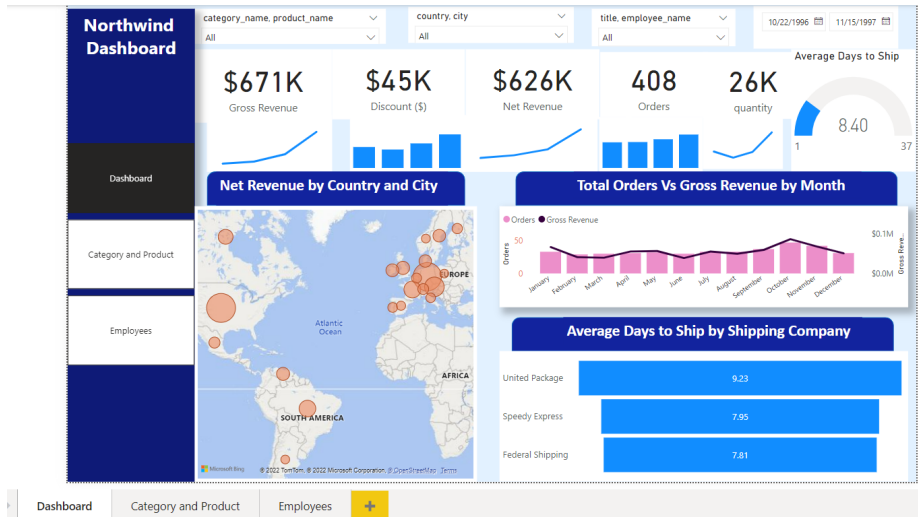
Visualization

Visualization

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