*June 2025*

*Northwind Traders Power BI Process Document*

The Northwind Traders Power BI Project illustrates my most complete expression of understanding of Power BI to date. This evolution has involved incorporating recent and new knowledge from the Microsoft Power BI Data Analyst Associate course. The course has allowed me to appreciate the following – 1) the total journey or roadmap from getting data, to modeling data, to visualizing and analyzing data and to managing the Power BI assets, 2) the ways in which the course has complemented my previous understanding of Power BI, 3) aspects of my previous learnings that were not explicitly covered in the course, but are no less important to the Power BI process. This third point may speak to the importance of learning from multiple sources. In all, I think that my learning was done in the most logical order with the Microsoft course acting in a complimentary fashion. It was important however rudimentary to first achieve some familiarity with how to use Power BI to build reports. The Microsoft course does not really teach that as it is mostly a step-by-step knowledge approach through the data journey.

The following are random notes pertaining to the Northwind Traders Power BI Project following the first three learning paths of the Microsoft course.

Prepare data for analysis with Power BI

* Consult the data dictionary to understand the data.
* In Power Query, create a parameter to dynamically change the data source (a parameter seems to be automatically disabled from load).
* Unselect ‘Auto date/time’ for the purpose of creating a customized date table.
* Disable cross highlighting/filtering by default in order to customize cross highlighting/filtering of the report.
* Clean the data in Power Query.
* Create a date table in Power Query.

Model data with Power BI

* After reviewing the initial semantic model in Model view, merge the ‘orders’ and ‘order\_details’ tables in Power Query (in hindsight, I could have merged the ‘categories’ and ‘products’ tables).
* Create a parent/child hierarchy in the ‘employees’ table.
* Apply the following conventions,
  + Data view > MonthName > Column Tools > Sort by MonthNum
  + Data view > DayName > Column Tools > Sort by DayofWeek
  + Data view > ‘DimDate’ > Table Tools > Mark as data table
  + Hide the foreign keys on the many side of the relationships.
  + Hide table columns that make up measures.
  + Make the fact table (‘Fact Orders’) solely a measures table (calculator icon).
* Role playing – ‘Dim Date’ can play the role of orderDate or shippedDate from ‘Fact Orders’. In the end, I created a one-to-many relationship between Dim Date (date) and orderDate.
* Think about the following questions,
  + Are there any noticeable sales trends over time?
  + Which are the best and worst selling products?
  + Can you identify any key customers?
  + Are shipping costs consistent across providers?
* Throw simple metrics on a report page to get a feel for the data set and to ensure the validity of the data set.
* Create calculated columns, calculated tables and (quick) measures to showcase the questions.
* Research incomplete understanding of how to use DAX to return specific results.
* Use DAX Formatter by SQLBI to format code.

Build Power BI visuals and reports

* Create report pages (the report) with specific visual types to tell a certain data story.
* Use the visual ‘header icon’ ‘help tooltip’ to assist the report consumer.
* Use the visual drill down/up.
* Filter visuals using Top N (top and bottom).
* Control cross-filtering.
* Create a ‘Year Slicer’ and sync it to two other report pages.
* Create a bookmark as ‘Reset Year Slicer’, create a button and activate it.
* Create a bookmark as ‘Page Navigation’, create a button and activate it.
* Create tooltip with additional data.