Maven Market Project with Power BI

Part 1 (Connect and shape the data) :

1) I connected to the MavenMarket_Customers csv file :
   - I renamed the table to customers.
   - I confirmed that data types are accurate
   - I added a new column named “full_name” to merge the “first_name” and “last_name” columns, separated by space.
   - I created a new column named “birth_year” to extract the the year from the “birthdate” column
   - I created a calculated column named “has_children” which equals “N” if “total_children” = 0, otherwise “Y”.

2) I connected to the MavenMarket_Products csv file :
   - I renamed the table to Products
   - I confirmed that data types are accurate
   - I added a calculated column named “discount_price”, equal to 90% of the original retail price.
   - I replaced “null” values with zeros in both the “recyclable” and “Low-fat” columns.

3) I connected to the MavenMarket_Stores csv file :
   - I renamed the table to Stores
   - I confirmed that data types are accurate
   - I added a calculated column named “full_address”, by merging “store_city”, “store_state” and “store_country”.
   - I added a calculated column named “area_code”, by extracting the characters before the “-” in the “store_phone” field.

4) I connected to the MavenMarket_Regions csv file :
   - I renamed the table to Regions
   - I confirmed that data types are accurate

5) I connected to the MavenMarket_Calendar csv file :
   - I renamed the table to Calendar
   - I used the date tools in the query editor to add the following columns :
     1. Start of week (starting Sunday)
     2. Name of day
     3. Start of month
     4. Name of month
     5. Quarter of year
     6. Year

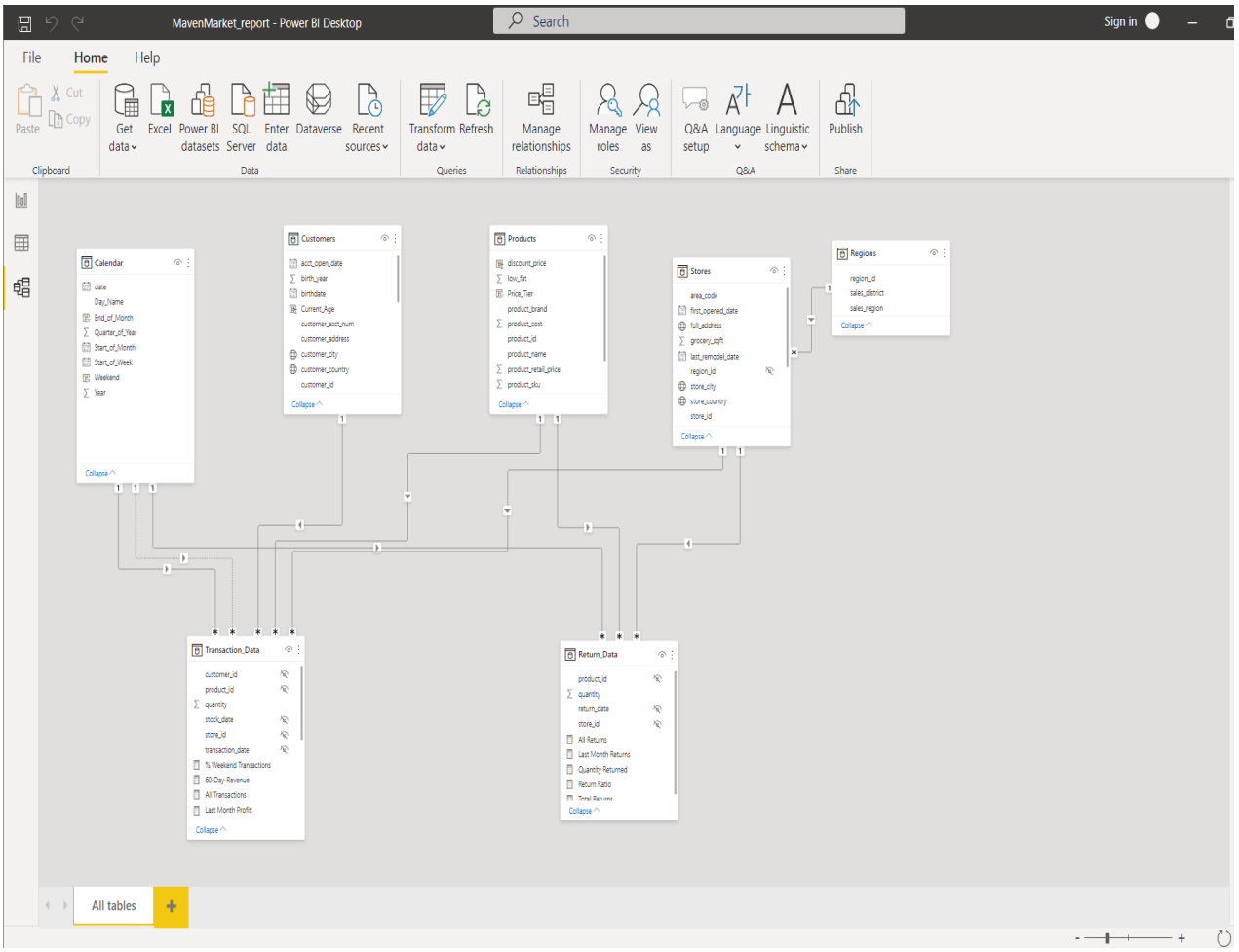
6) I connected to the MavenMarket_Returns csv file :
   - I renamed the table to Returns
   - I confirmed that data types are accurate

7) I added a new folder on my documents named "**MavenMarket Transactions**", containing both the **MavenMarket_Transactions_1997** and **MavenMarket_Transactions_1998** csv files
   - I connected the folder path and chose “Edit”.
   - I clicked the “Content” column header to combine the files, then I removed the “Source.Name” column.
   - I renamed the table to “Transaction_Data”.
   - I confirmed that the data types are accurate.

Part 2 (Create the Data Model) :

1) In the RELATIONSHIPS view, I arranged my tables with the lookup tables above the data tables.

- I connected Transaction_Data to Customers, Products and Stores using valid primary/foreign keys.
- I connected Transaction_Data to Calendar using both date fields, with an inactive “stock_date” relationship.
- I connected Return_Data to Products, Calendar and Stores using valid primary/foreign keys.
- I connected Stores to Regions as a “snowflake” schema.
- I confirmed all relationships follow one-to-many cardinality, with primary keys on the lookup side and foreign keys on the data side. And I also confirmed that all filters are one-way.



Part 3 (Adding DAX Measures) :

1) In the DATA view, I added the following calculated columns:

- In the Calendar table, I added a column named "*Weekend*"
  - Equals "*Y*" for Saturdays or Sundays (otherwise "*N*")
- In the Calendar table, I added a column named "*End of Month*"
  - Returns the last date of the current month for each row
- In the Customers table, I added a column named "*Current Age*"
  - Calculates current customer ages using the "*birthdate*" column and the TODAY() function
- In the Customers table, I added a column named "*Priority*"
  - Equals "*High*" for customers who own homes and have Golden membership cards (otherwise "*Standard*")
- In the Customers table, I added a column named "*Short_Country*"
  - Returns the first three characters of the customer country, and converts to all uppercase
- In the Customers table, I added a column named "*House Number*"
  - Extracts all characters/numbers before the first space in the "*customer_address*" column (*hint: use SEARCH*)
- In the Products table, I added a column named "*Price_Tier*"
  - Equals "*High*" if the retail price is >$3, "*Mid*" if the retail price is >$1, and "*Low*" otherwise
- In the Stores table, I added a column named "*Years_Since_Remodel*"
  - Calculates the number of years between the current date (TODAY()) and the last remodel date

2) In the **REPORT** view, I added the following **measures** :

- I created a new measures named "**Quantity Sold**" and "**Quantity Returned**" to calculate the sum of quantity from each data table

  Spot check: *You should see total Quantity Sold =* ***833,489*** *and total Quantity Returned =* ***8,289***

- I created a new measures named "**Total Transactions**" and "**Total Returns**" to calculate the count of rows from each data table
- I created a new measure named "**Return Rate**" to calculate the ratio of quantity returned to quantity sold (format as %)
- I created a new measure named "**Weekend Transactions**" to calculate transactions on weekends
- I created a new measure named "**% Weekend Transactions**" to calculate weekend transactions as a percentage of total transactions (format as %)
- I created new measures named "**All Transactions**" and "**All Returns**" to calculate grand total transactions and returns (regardless of filter context)
- I created a new measure to calculate "**Total Revenue**" based on transaction quantity and product retail price, and format as $ (***hint:*** *you'll need an iterator*)
- I created a new measure to calculate "**Total Cost**" based on transaction quantity and product cost, and format as $ (***hint:*** *you'll need an iterator*)
- I created a new measure named "**Total Profit**" to calculate total revenue minus total cost, and format as $
- I created a new measure to calculate "**Profit Margin**" by dividing total profit by total revenue calculate total revenue (format as %)
- I created a new measure named "**Unique Products**" to calculate the number of unique product names in the **Products** table

- I created a new measure named "**YTD Revenue**" to calculate year-to-date total revenue, and format as $
- I created a new measure named "**60-Day Revenue**" to calculate a running revenue total over a 60-day period, and format as $
- I created new measures named "**Last Month Transactions**", "**Last Month Revenue**", "**Last Month Profit**", and "**Last Month Returns**"
- I created a new measure named "**Revenue Target**" based on a 5% lift over the previous month revenue, and format as $

Part 4 (Building the Report) :

1) I inserted a Matrix visual to show Total Transactions, Total Profit, Profit Margin, and Return Rate by Product_Brand (*on rows*)

- Add conditional formatting to show data bars on the Total Transactions column, and color scales on Profit Margin (*White to Green*) and Return Rate (*White to Red*)
- Add a visual level Top N filter to only show the top 30 product brands, then sort descending by Total Transactions

2) I added a KPI Card to show Total Transactions, with Start of Month as the trend axis and Last Month Transactions as the target goal

- I updated the title to "*Current Month Transactions*", and format as you see fit
- I created two more copies: one for Total Profit (*vs. Last month Profit*) and one for Total Returns (*vs. Last Month Returns*)
    - I made sure to update titles, and change the Returns chart to color coding to "*Low is Good*"

3) I added a Map visual to show Total Transactions by store city

- I added a slicer for store country
    - Under the "selection controls" menu in the formatting pane, I activated the "*Show Select All*" option
    - I changed the orientation in the "General" formatting menu to horizontal and resized it to create a *vertical* stack (rather than a list)

4) Next to the map, I added a Treemap visual to break down Total Transactions by store country

- I pulled in store_state and store_city beneath store_country in the "Group" field to enable drill-up and drill-down functionality

5) Beneath the map, I added a Column Chart to show Total Revenue by week, and formatted it as you see fit

- I added a report level filter to only show data for 1998
- I updated the title to "*Weekly Revenue Trending*"

6) In the lower right, I added a Gauge Chart to show Total Revenue against Revenue Target (*as either "target value" or "maximum value"*)

- I added a visual level Top N filter to show the latest Start of Month
- I removed data labels, and I updated the title to "*Revenue vs. Target*"

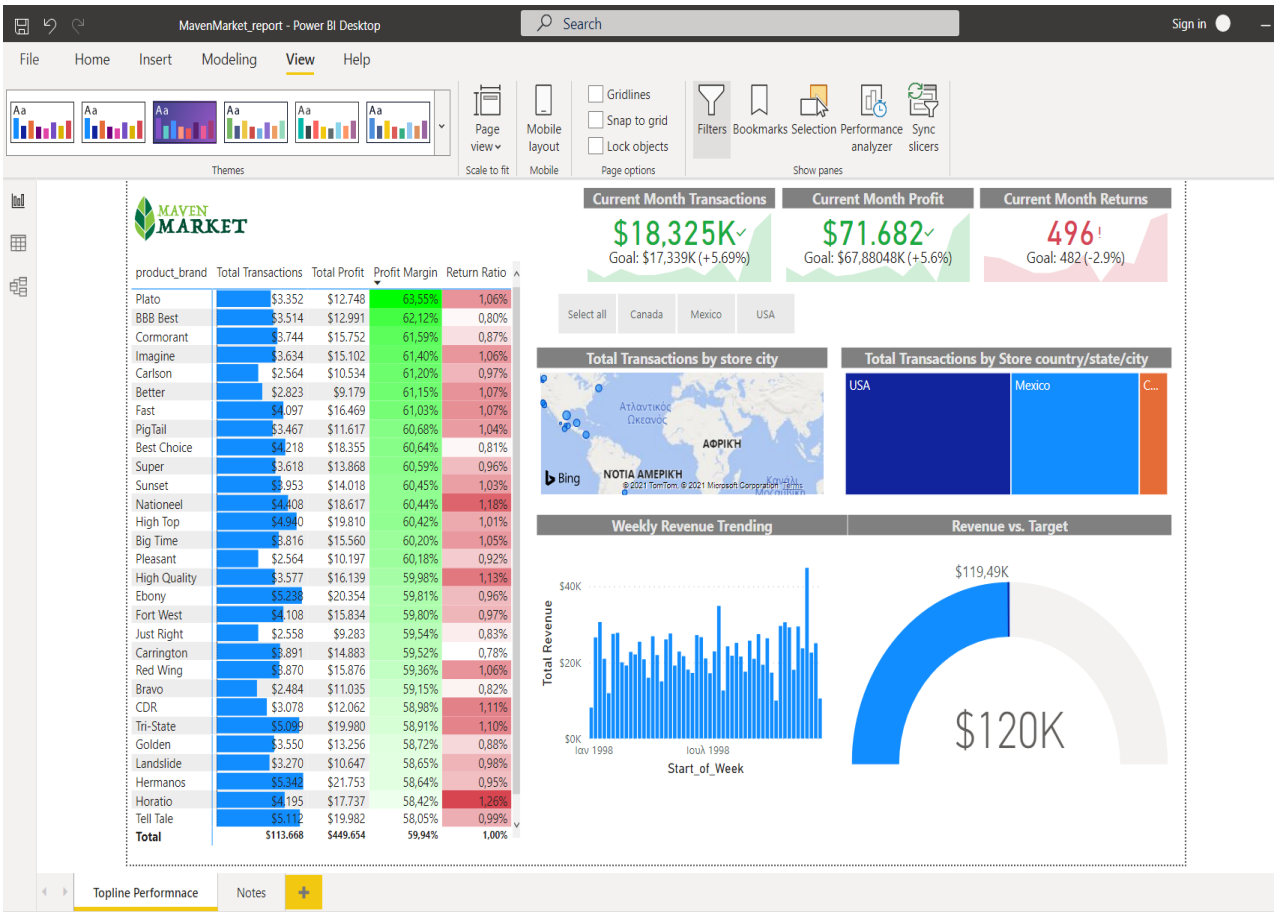
7) I added 4 bookmarks :

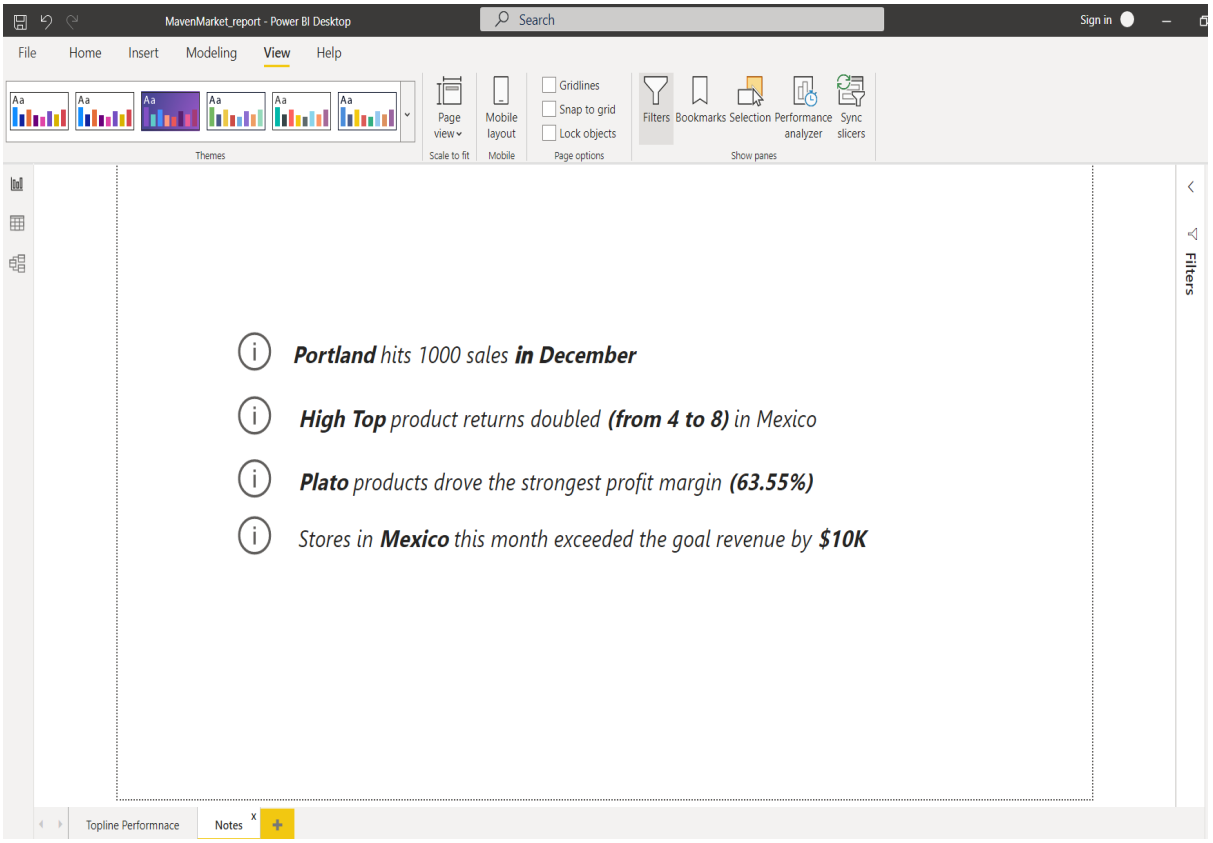
- Portland 1000 sales

- Mexico target
- High top Returns
- Plato Products

8) I added a new report page named “Notes” :

- I added a button and I used the "*Action*" properties to link it to the bookmarks I created.




MavenMarket_report - Power BI Desktop
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Scale to fit
Mobile layout
Mobile
Gridlines
Snap to grid
Lock objects
Page options
Filters
Bookmarks
Selection
Performance analyzer
Sync slicers
Show panes
Filters
Portland hits 1000 sales in December
High Top product returns doubled (from 4 to 8) in Mexico
Plato products drove the strongest profit margin (63.55%)
Stores in Mexico this month exceeded the goal revenue by $10K
Topline Performnace
Notes