ADIDAS U.S SALES

INTRODUCTION

PROBLEM STATEMENT

Scenario-

Mail from stakeholder

Dear Awesome Analyst,

Lately, I have been in numerous discussions about our product lineup. We have launched a sizable number of new products over the past year, and while I hear buzz around several of them, I am eager to know which ones truly shine in terms of sales.

It would be immensely helpful if you could provide insights into how our products have been performing. Are there specific ones that stand out and consistently dominate the sales charts? Understanding this could guide us in inventory decisions, marketing pushes, and even future product development.

For our next product strategy, having a clear view of our product hierarchy in terms of sales would be instrumental. Your experience in uncovering these gems from heaps of data is always something I look forward to.

Eagerly awaiting your insights

Best Regards,

Shawn Reece
Director of Product Strategy

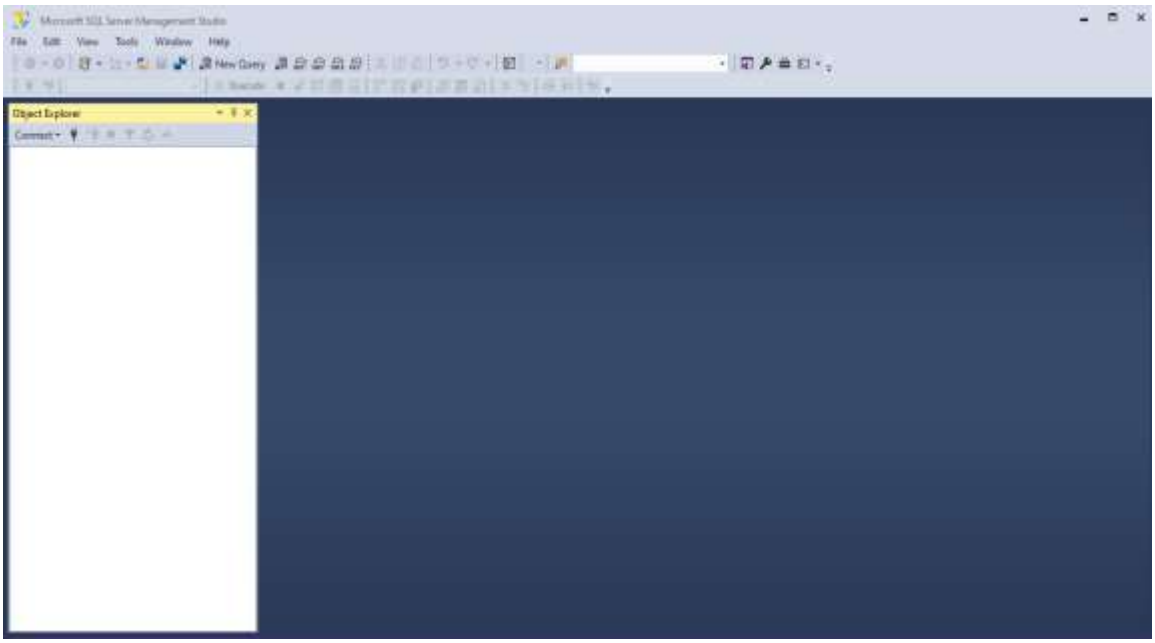
USER STORIES

1. Yearly Product Sales Overview: As the Director of Product Strategy, I want an Overview of sales for all products launched in the past year to grasp their overall performance.
2. Highlight Top Performers: As the Director of Product Strategy, I want a list of products that consistently top the sales charts to identify and celebrate our stars.
3. Visual Representation of Product Sales: As the Director of Product Strategy, I want a visual breakdown (like a bar chart) to clearly see the hierarchy of product sales.
4. Product Sales Trend Over Time: As the Director of Product Strategy, I want to observe the sales trends of newly launched products over time to determine if there's sustained interest or a decline.

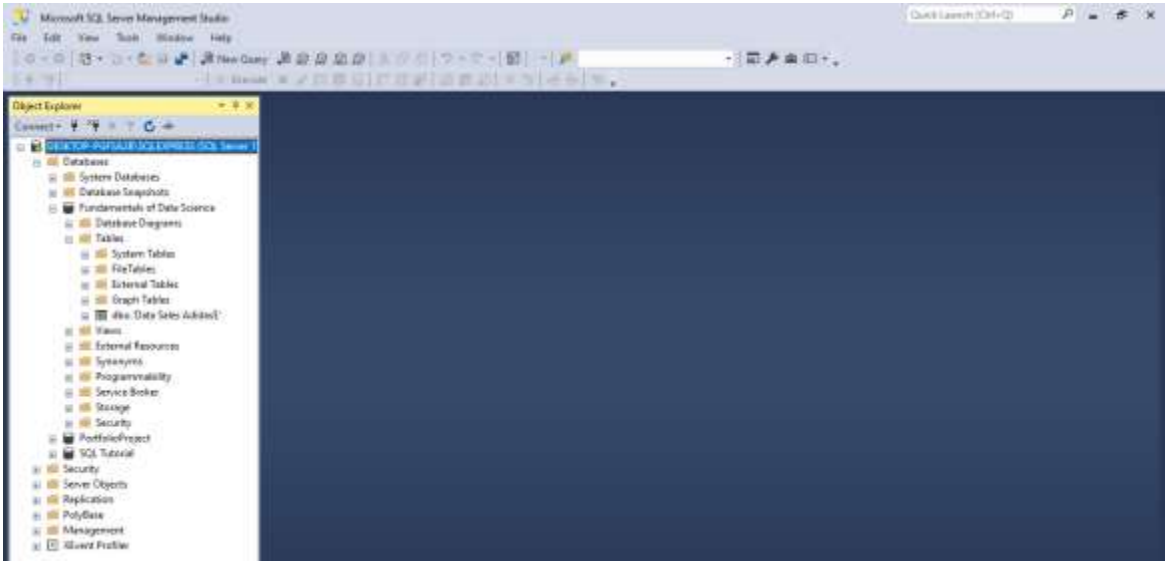
DATA EXPLORATION

I will leverage Microsoft SQL Server Management Studio for comprehensive data exploration and analysis. This powerful tool will facilitate in-depth examination and insightful analysis of the dataset, allowing for a thorough understanding of the underlying patterns and trends within the data.

Step 1: Importing Dataset to Microsoft SQL server Management Studio



I will be importing the excel file to the “Fundamentals of Data Science Folder”

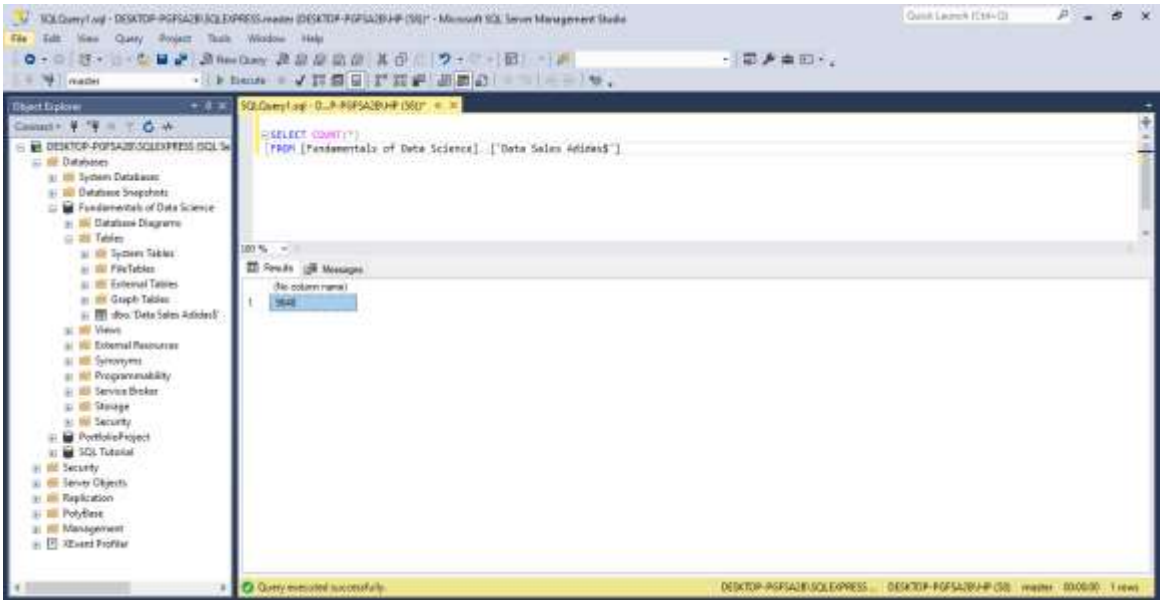


The dataset has been loaded into Microsoft SQL server Management Studio for further data analysis.

The above image shows that it has been imported successfully.

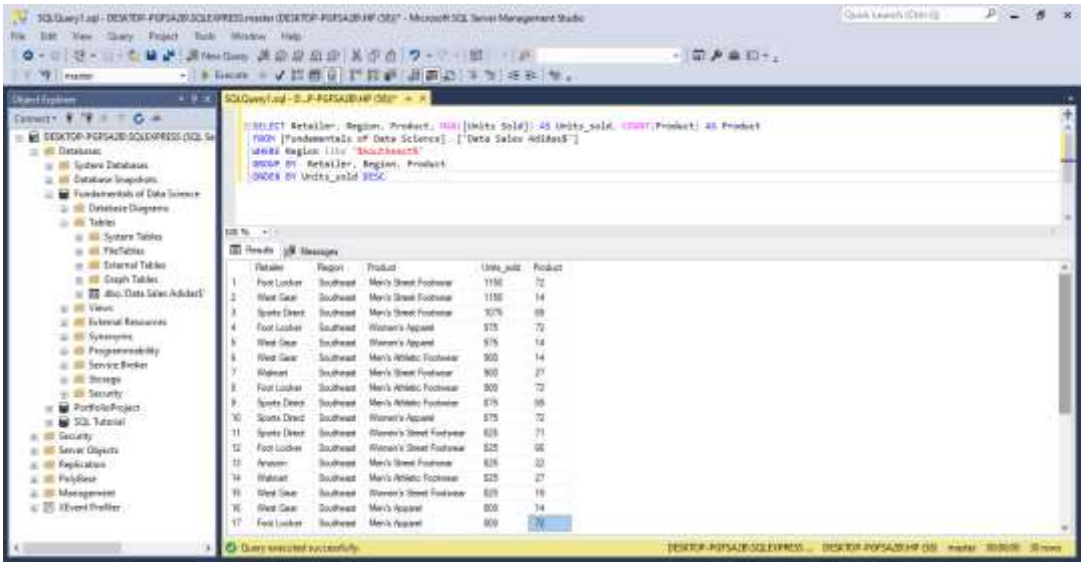
STEP 2: Primary analysis of database by running different SQL statements/queries.

1. To find out how the total number of records in the table.

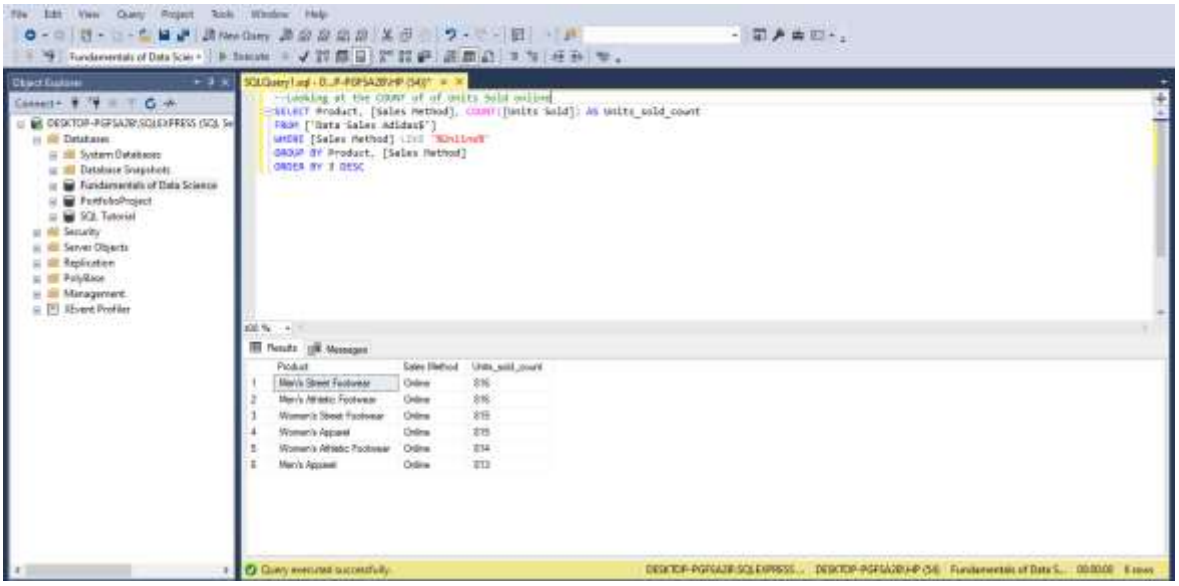


There are 9648 records in the dataset.

2. To find the Sold in the ‘Southeast’ and the product COUNT in this region.

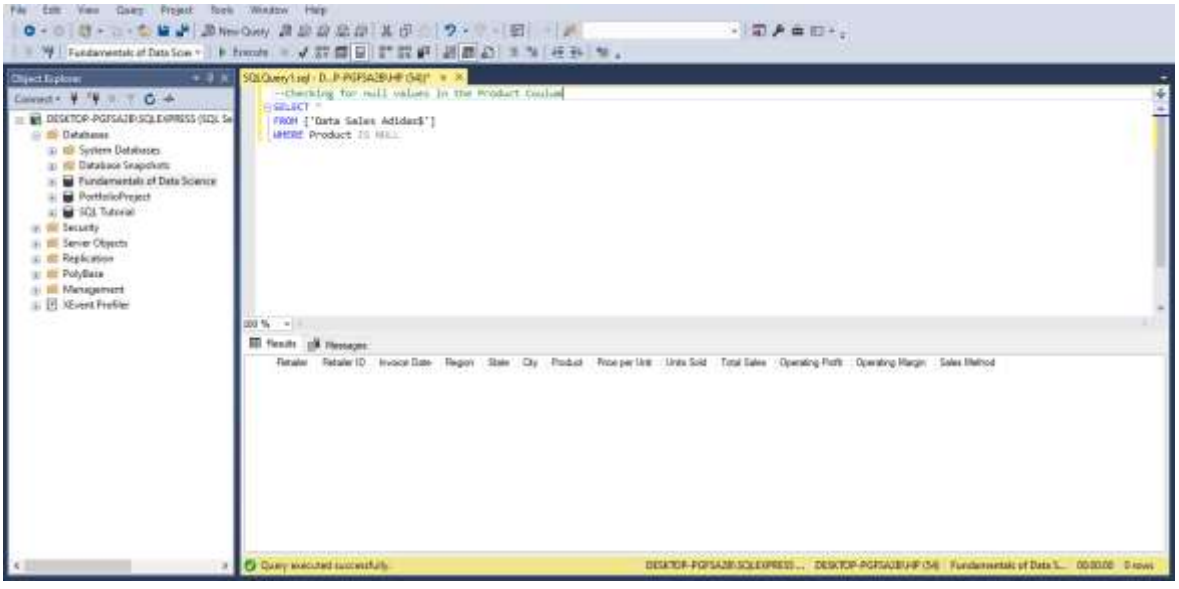


3. To find the COUNT of **units sold online** in descending order.



Based on the visual representation above, it is evident that Men's Street Footwear, along with Men's Athletic Footwear, emerged as the top-performing categories in the online sales channel. The graphical representation underscores their notable success, highlighting their significance in our online retail performance.

4. To Check for Null values in the Product column

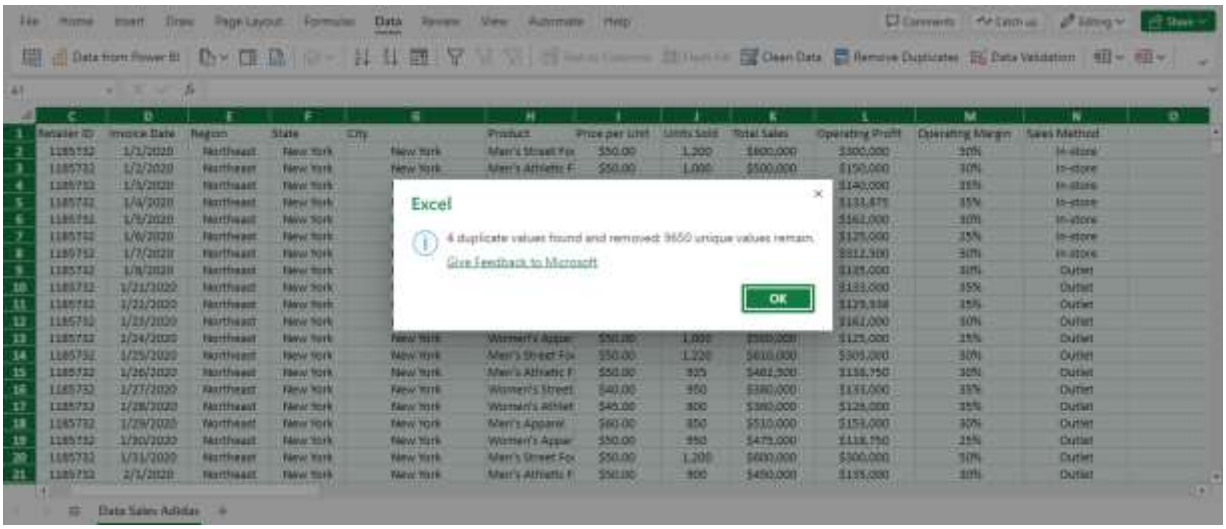


From the Image above, no null values were found.

DATA CLEANING

I will conduct data cleaning using Excel to enhance the quality and integrity of our dataset. Through meticulous scrutiny and correction of inconsistencies, errors, and missing values, I aim to ensure that our data is accurate, reliable, and ready for analysis. This process will contribute to a more robust and trustworthy dataset, laying a solid foundation for subsequent analyses and data-driven decision-making.

STEP 1: Check for duplicate data and Remove duplicates.



From the Image above 4 duplicates were found and removed.

Step 2: Updating values to better align with the analysis

After thorough observation, it has come to my attention that the 'Price per unit' column contains inaccuracies. To rectify this, I have developed a simple formula to calculate and correct the accurate values for the 'Price per unit sold' column."

$$\mathrm{Pr}\,i\,ce\;=\;\frac{Total\;Sales}{Unit\;Sold}$$

Example

$\mathrm{Pr}\,i\,ce\;per\;unit$ for the Product “Men’s Street Footwear” can be calculated as:

$$Total\;Sales\;=\;600000$$

And

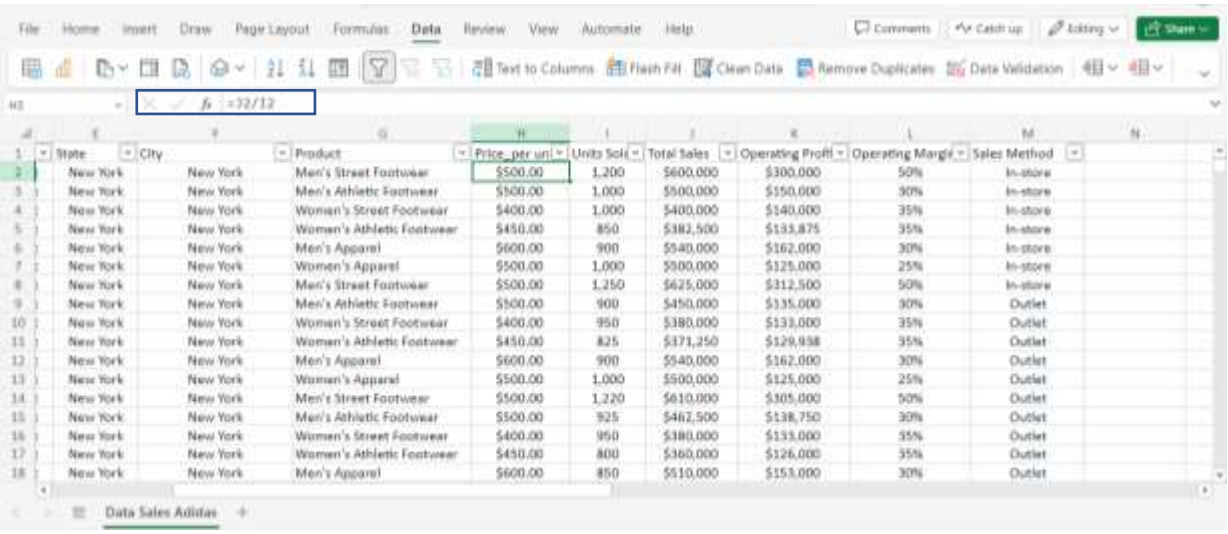
$$Units\;Sold\;=\;1200$$

Therefore

$$\Pr i\,ce\ per\ unit\ = \frac{600000}{1200}$$
$$= 500$$

Our recorded value is $500, which represents a correction from the previously entered $50. This adjustment ensures the accuracy of our financial data."

I will now employ an Excel formula to automate the process of identifying and removing duplicates, ensuring a more efficient and accurate data cleaning operation.

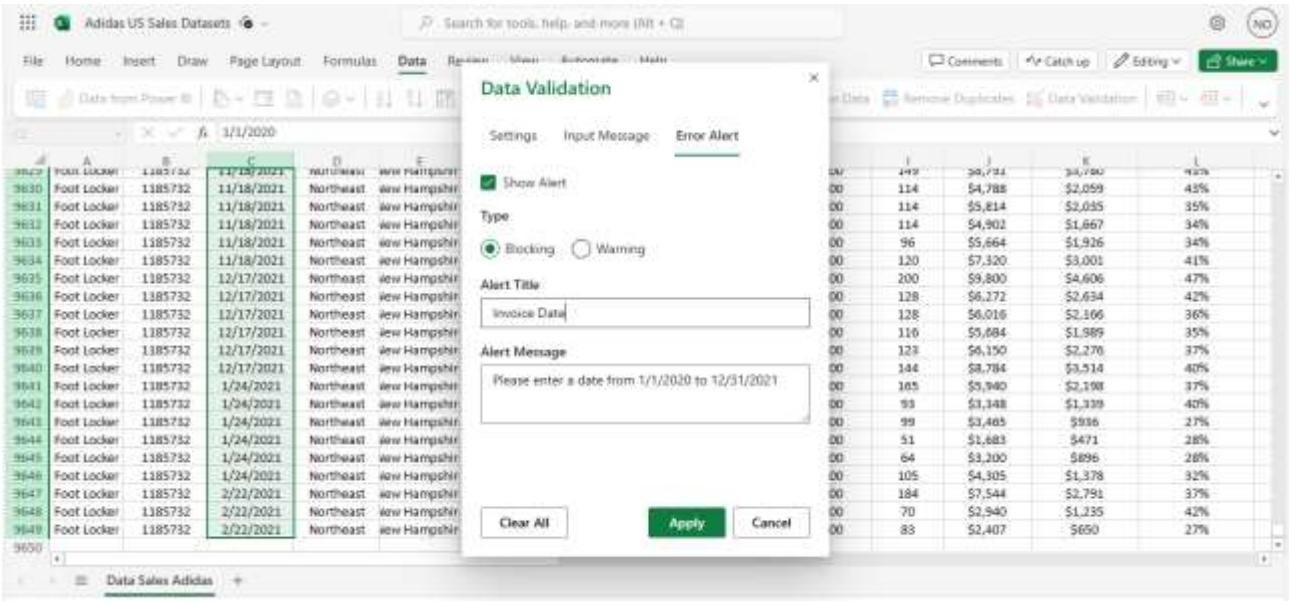


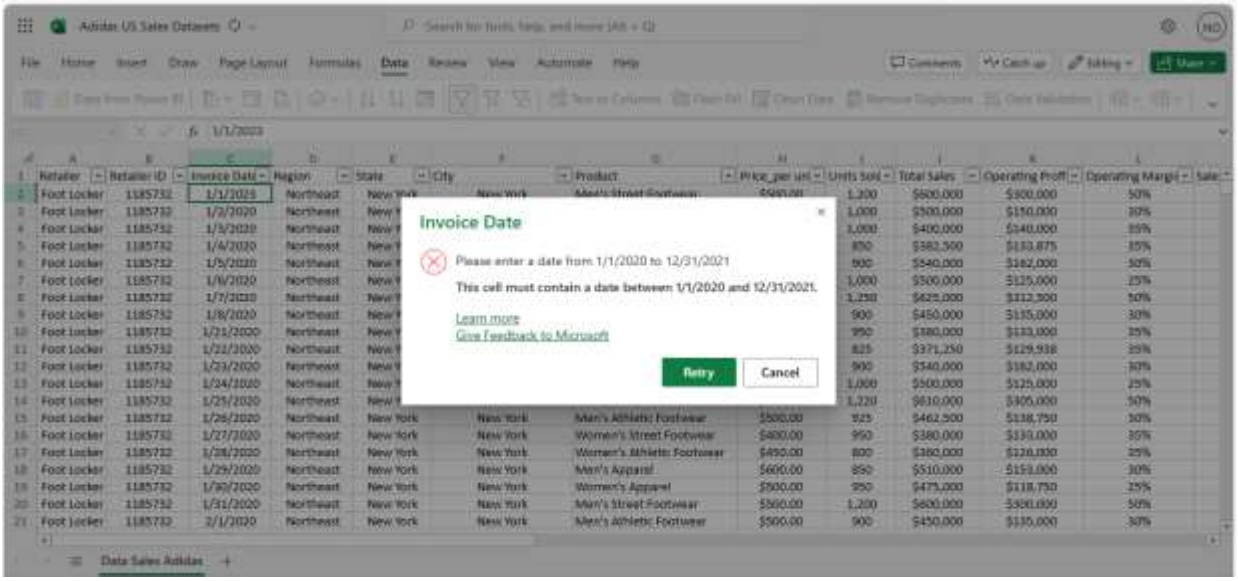
From the Image above you can see the highlighted formula. The value of only the first column was updated. All I had to do was simply double-click the fill handle to fill down the rest of the cells.

Step 3: Data Validation

Important definitions

In this step, I will perform validation on the Invoice date, restricting it to accept only dates falling within the range of 1/1/2020 to 12/31/2021. Any input outside this specified range will trigger an error message to ensure data integrity and accuracy.

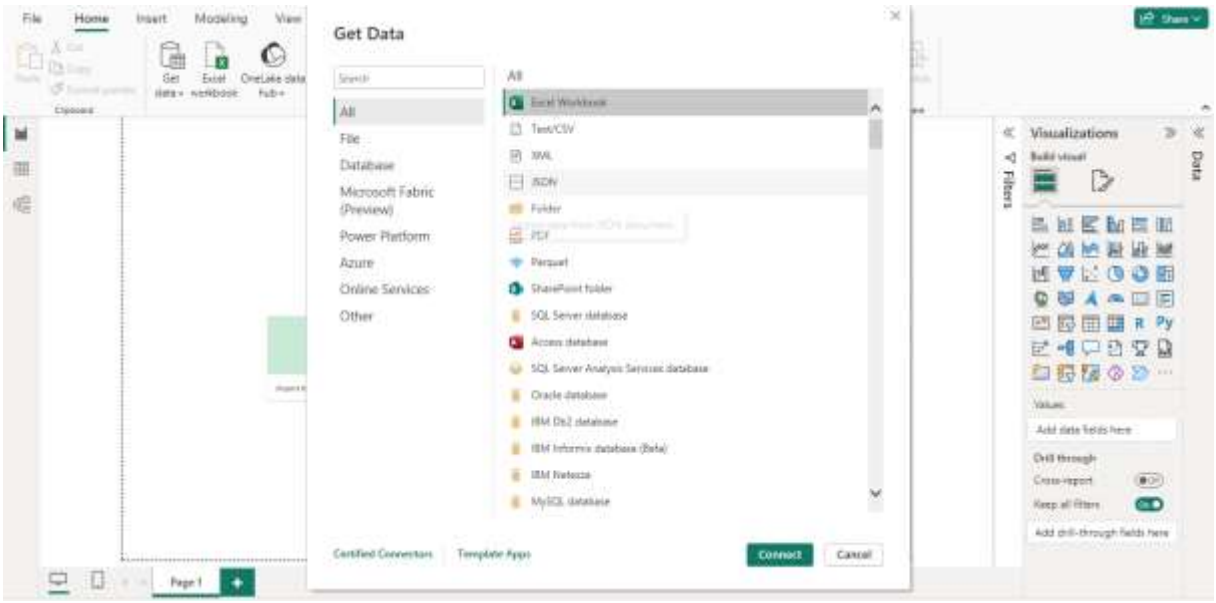




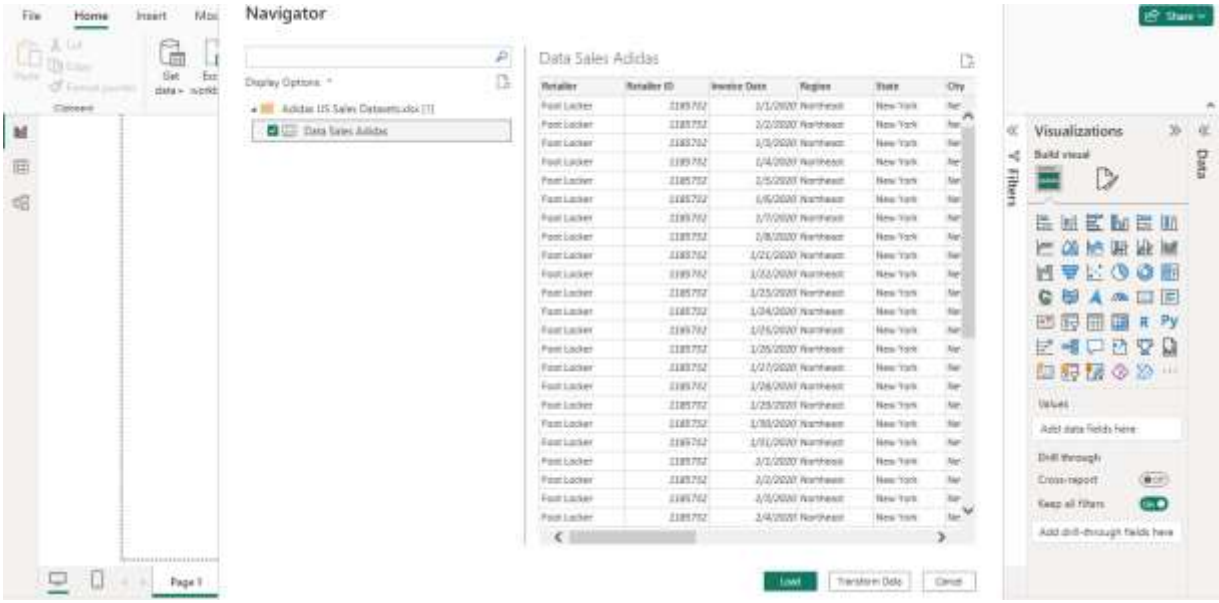
I inputted a date that is not between 1/1/2020 and 12/31/2021 and I got an error message saying, “This cell must contain a date between 1/1/2020 and 12/31/2021”. This means that the Invoice date column has been validated successfully.

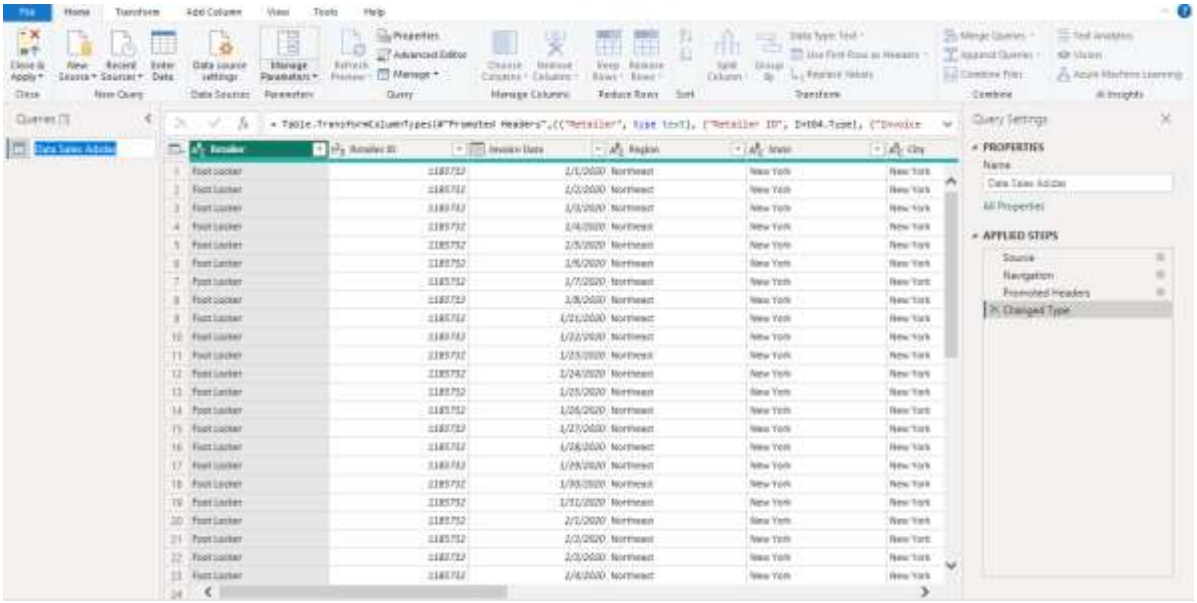
ETL (Extract Transform Load) with Power BI

Step 1: Loading the data into the Power BI desktop



Here, we will be loading the data (which is in an excel file) into Power BI

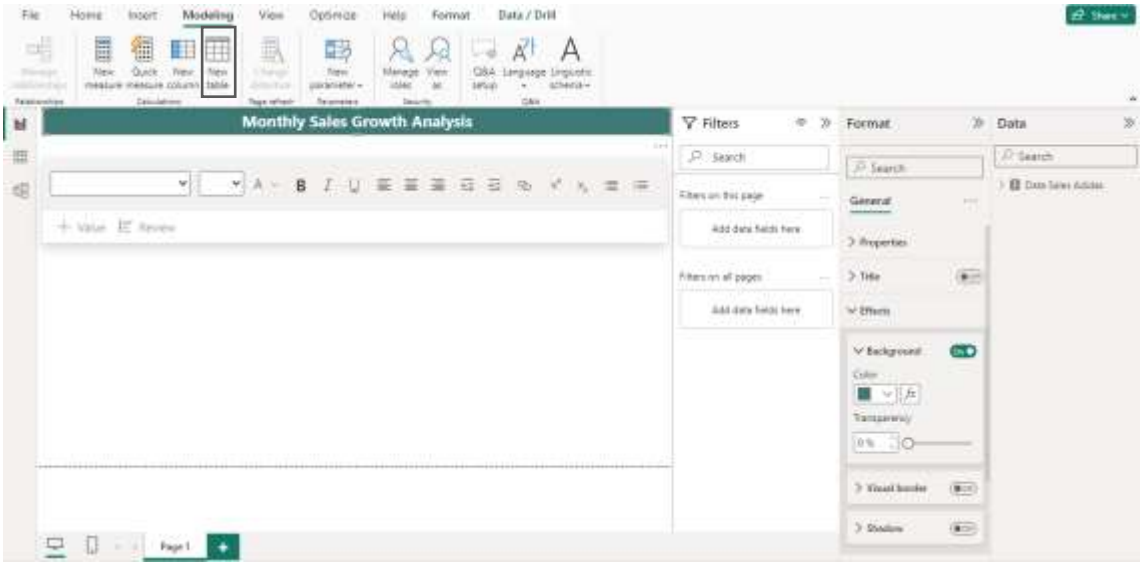




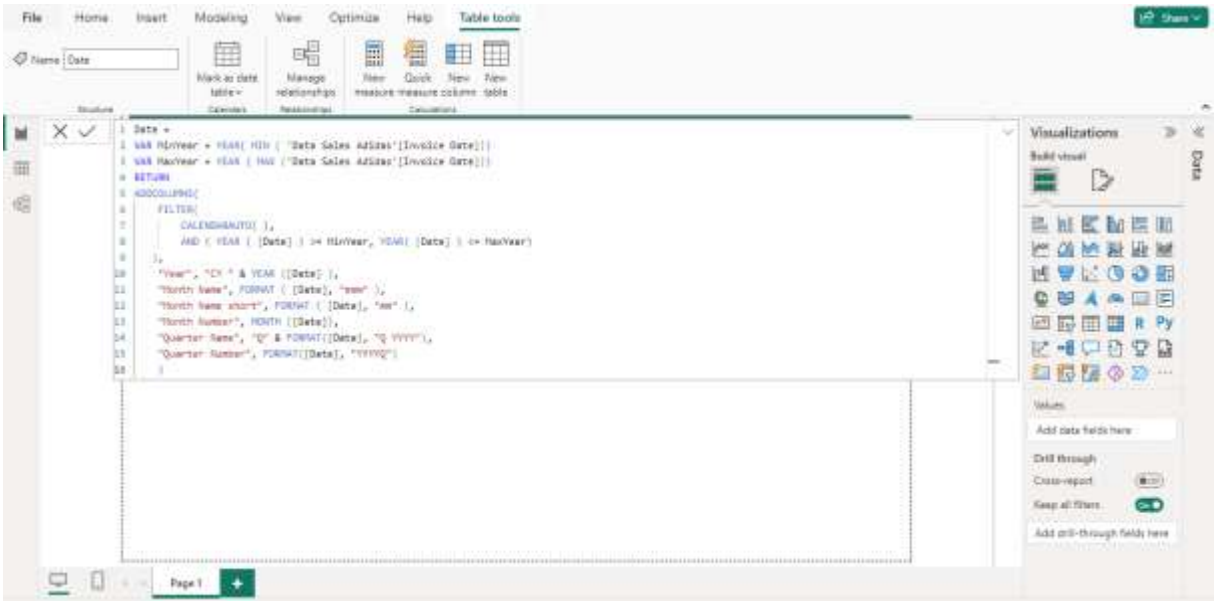
Step 2: Transforming the data with the help of Power Query

When we click on the transform data option, we would be directed to Power Query editor. Power Query editor is where we perform ETL. Here, we can perform data transformation I.e., Data transformation such as Data cleaning, Data wrangling and Data munging. We write a DAX expression to create a new date table

I. Select Modelling and click on new table



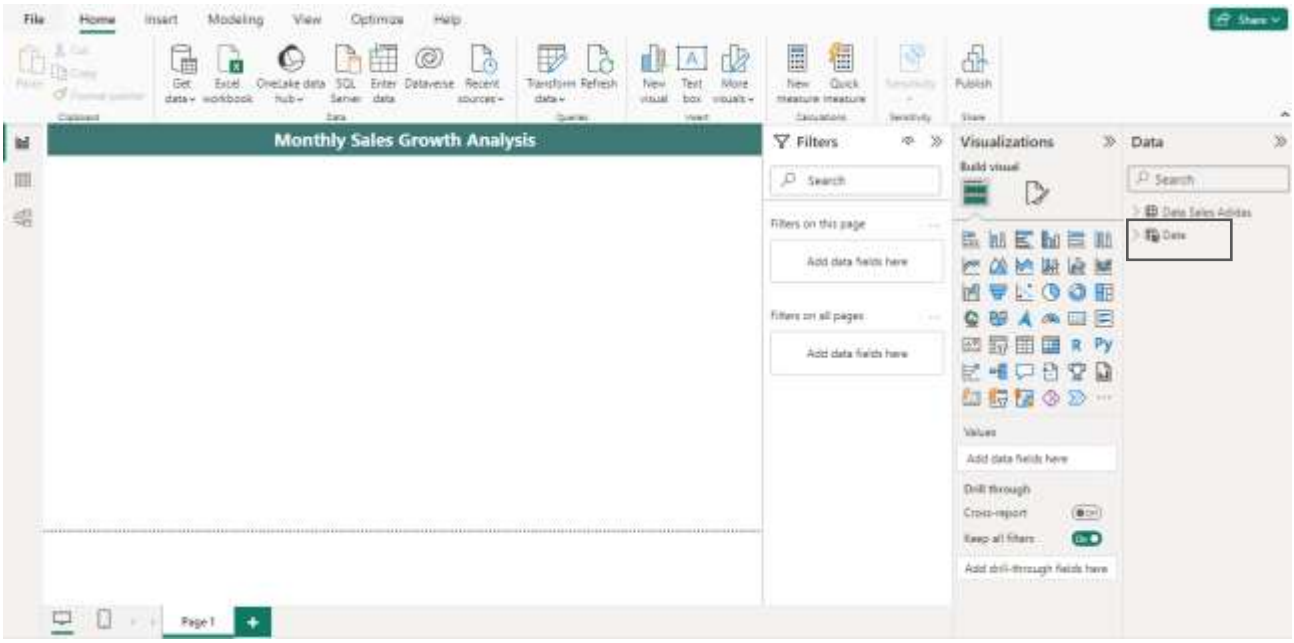
II. **Write the DAX formula or code to create the table**



The image above shows the code for the calculated table in DAX. The code generates a table with columns for Calendar Year, Month Name, and Month Number based on the minimum and maximum years from the 'Data Sales Adidas' table.

Here is a breakdown of the code:

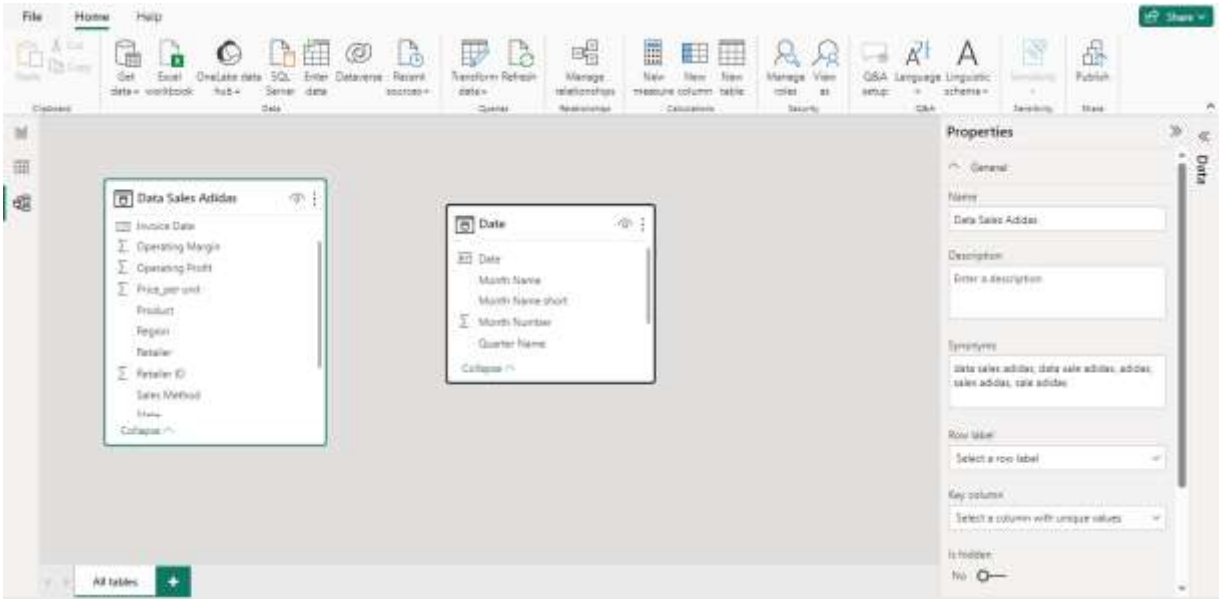
- MinYear and MaxYear are variables that store the minimum and maximum years from the 'Data Sales Adidas' table using the YEAR function.
- The FILTER function is used on the CALENDARAUTO table to filter the dates based on the condition that the year should be between MinYear and MaxYear.
- ADDCOLUMNS is used to add new columns to the filtered calendar table. The new columns include "Calendar Year," "Month Name," and "Month Number."
- "Year" is a text column prefixed with "CY " and the year of the date.
- "Month Name" is a text column formatted to display the three-letter abbreviation of the month.
- "Month Name short", FORMAT ([Date], "mm"): Adds a column named "Month Name short" with the two-digit month number.
- "Month Number" is a numeric column representing the month number extracted from the date.
- "Quarter Name", "Q" & FORMAT([Date], "Q YYYY"): This creates a new column "Quarter Name" with a custom quarter format.
- "Quarter Number", FORMAT([Date], "YYYYQ"): This creates a new column "Quarter Number" with the numeric quarter value.



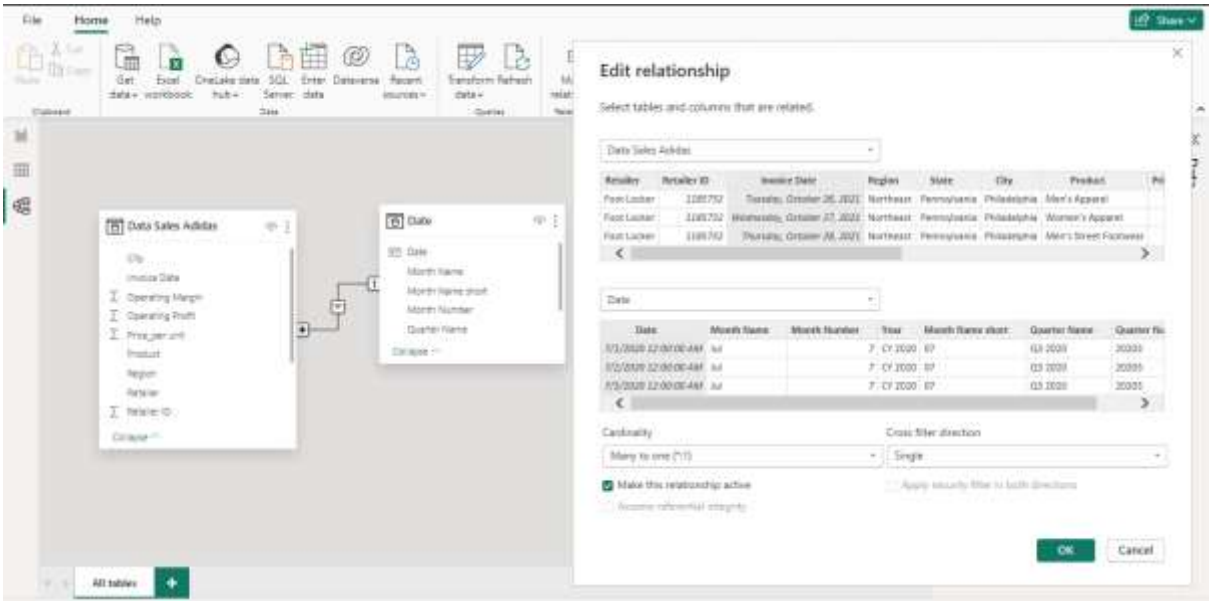
The image above shows that a new table called **date** has been generated.

III. Create a Relationship

Now, we will establish a relationship between the two tables, enhancing the integrity and efficiency of our data model. This relationship will enable seamless interaction and analysis across the connected tables, fostering a more cohesive and insightful dataset."



When we click on the model option, we will get the relationship above. We can then go ahead to create a relationship or join the two tables.



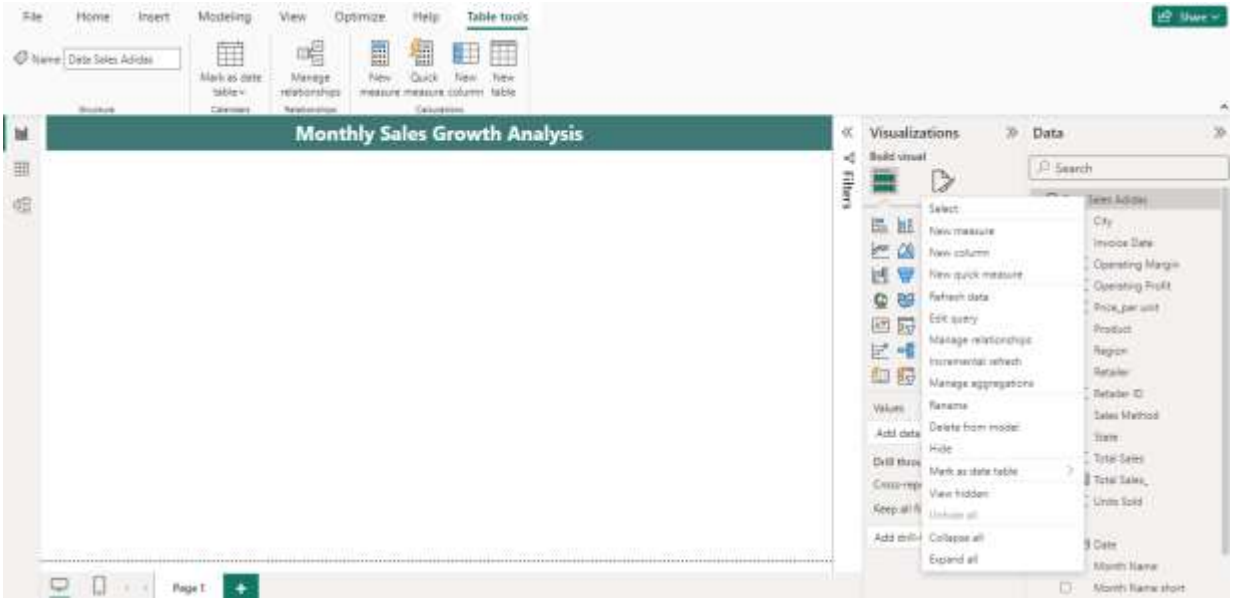
From the image above, the relationship has been created successfully.

IV. Creating Measures

Important Definitions

Power BI Measures are a method of establishing calculations in a DAX model that allows us to calculate values based on several rows from a table rather than on each row individually. Calculated Measures are Power BI Measures that are created by using DAX expressions to calculate new values from an existing table.

In this step, we will create a measure to compute the total sales by summing the values in the 'Total Sales' column of the 'Data Sales Adidas' table. Simply put, this measure aggregates all individual values in the 'Total Sales' column, providing a comprehensive total sales figure for the entire dataset



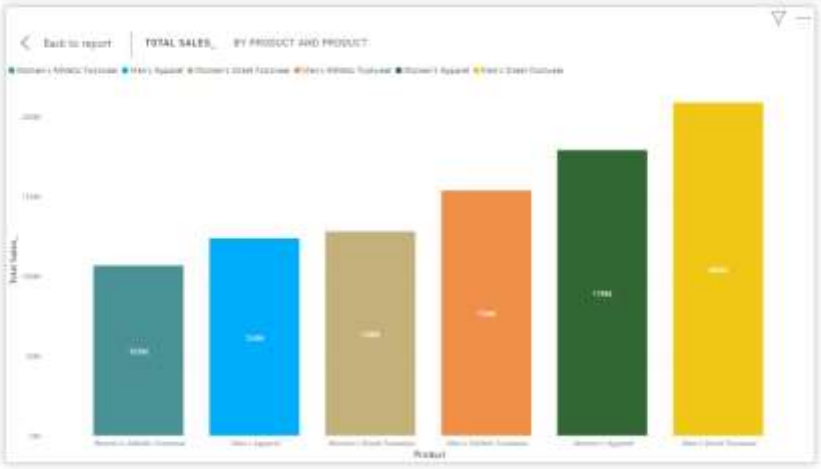
VISUALIZATION

Building a Dashboard/Report

INSIGHTS

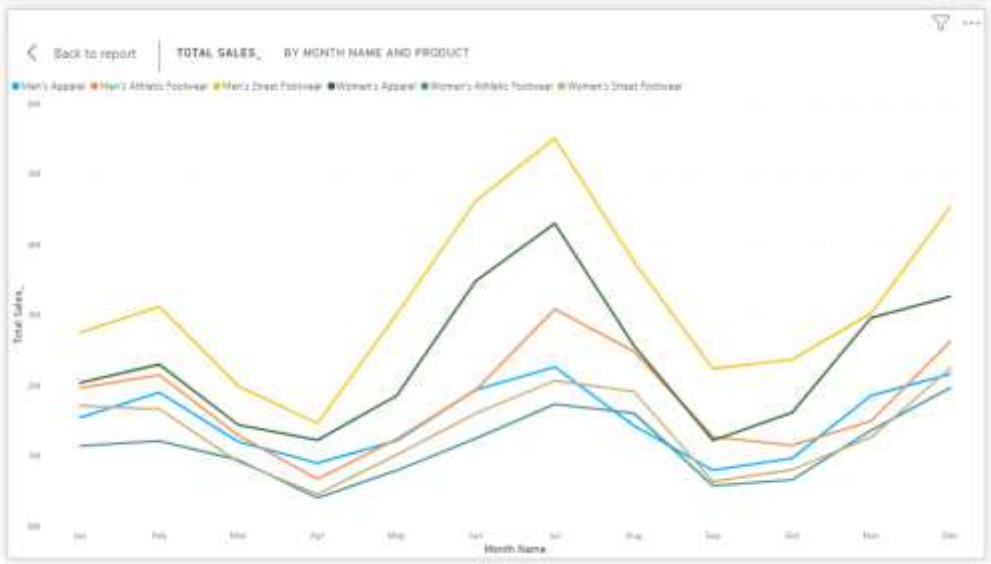
I will extract valuable insights from the dashboard to inform and guide data-driven decision-making. By leveraging the comprehensive data visualization and analytics available, I aim to make informed, strategic choices that align with our organizational goals. This process will empower me to capitalize on key trends, identify areas for improvement, and enhance the effectiveness of our decision-making processes. Through a data-driven approach, I seek to unlock actionable intelligence from the dashboard, translating information into impactful and strategic decisions for the benefit of our organization.

Total Sales by Product



The top sales product is **Men's Street Foot** ware in all the Regions except the South where **Women's Apparel** had more sales. The lowest sales product was **Women's Athletic Footwear** across all the **regions.**

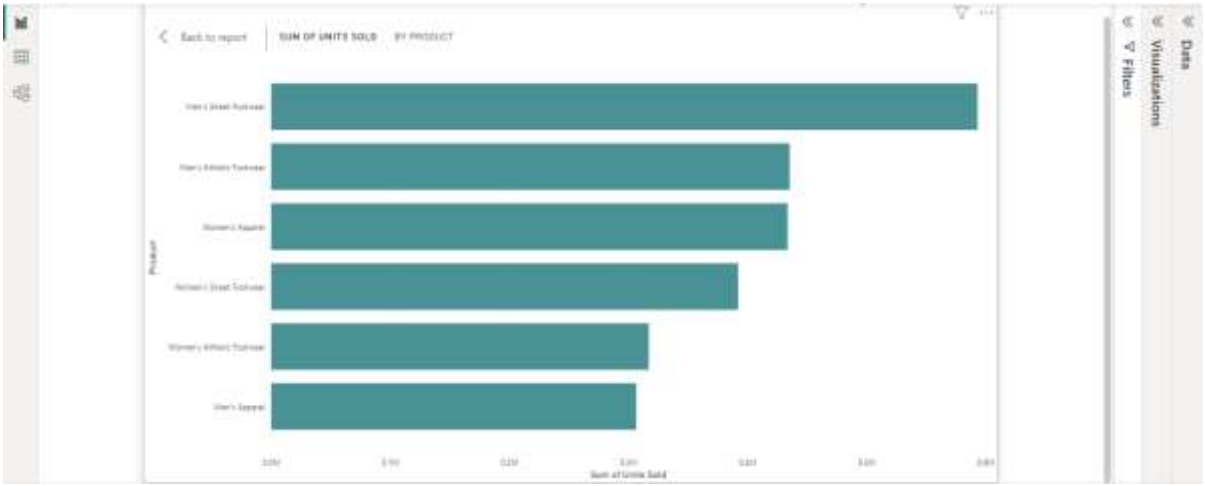
Total Sales by Month and Product



In the **Midwest** and **West**, the most sales were recorded in **July**. In t**he Northwest,** the highest sales were **in December.** The most sales recorded in th**e South** and **Southeast** were in **September.**

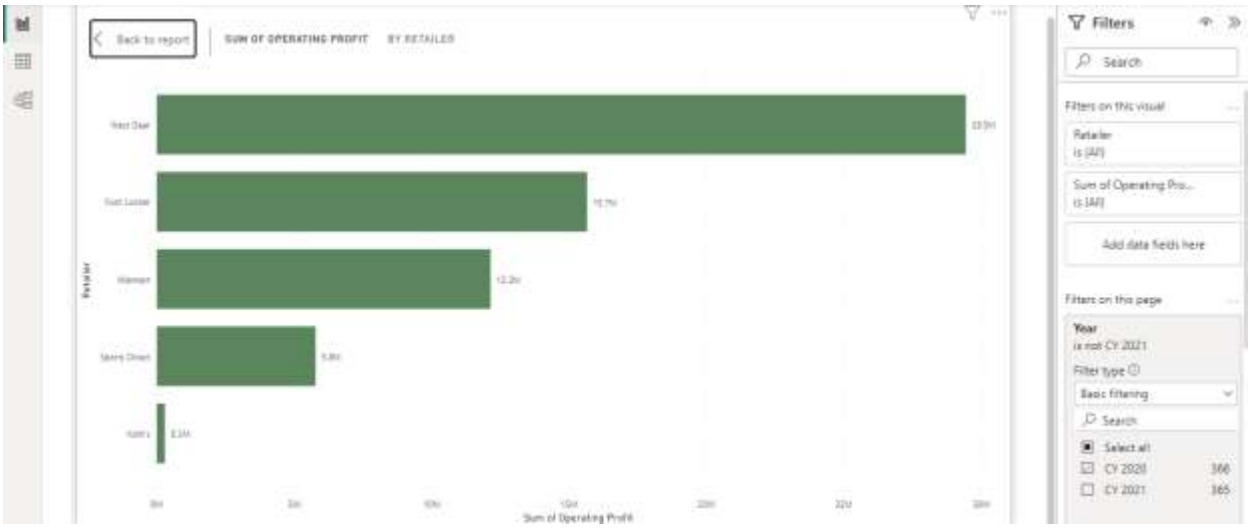
The matrix visually represents total sales for each month, with July standing out as the highest-performing month, closely followed by August. The matrix is formatted conditionally, where darker cell colors indicate higher product sales for each respective month. Notably, the analysis reveals Men's Street Footwear as the top performer, consistently demonstrating strong sales across the months."

Sum of Units Sold by Product

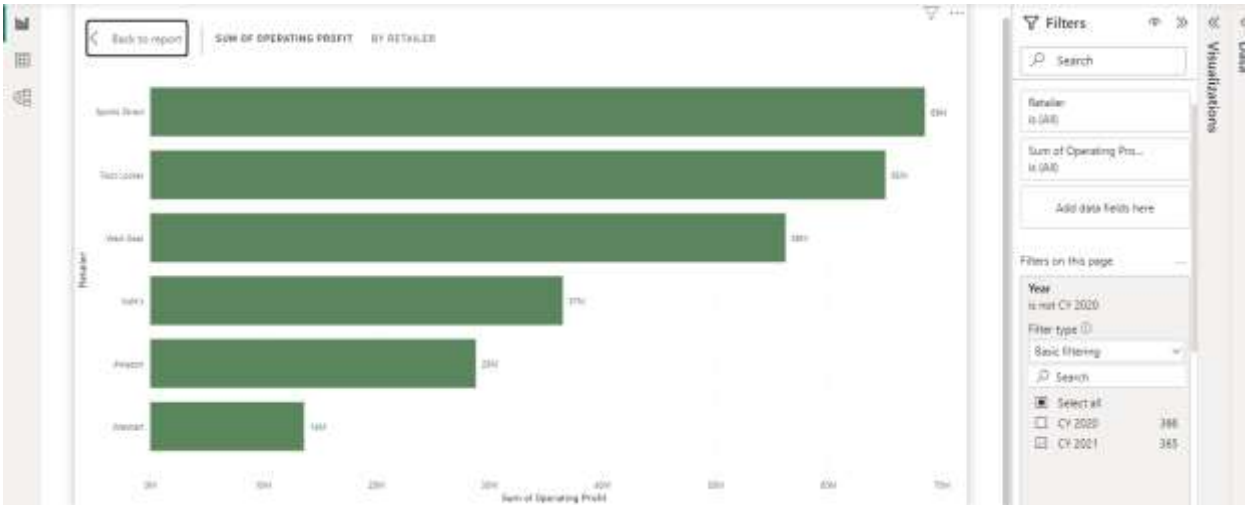


Men's Street Footwear recorded the highest units sold across all regions, with Men's Athletic Footwear securing the second position in total sales. Notably, in the Northeast region, Women's Apparel emerged as the second-highest category in terms of units sold, highlighting regional variations in consumer preferences.

Sum of operating profit by retailer

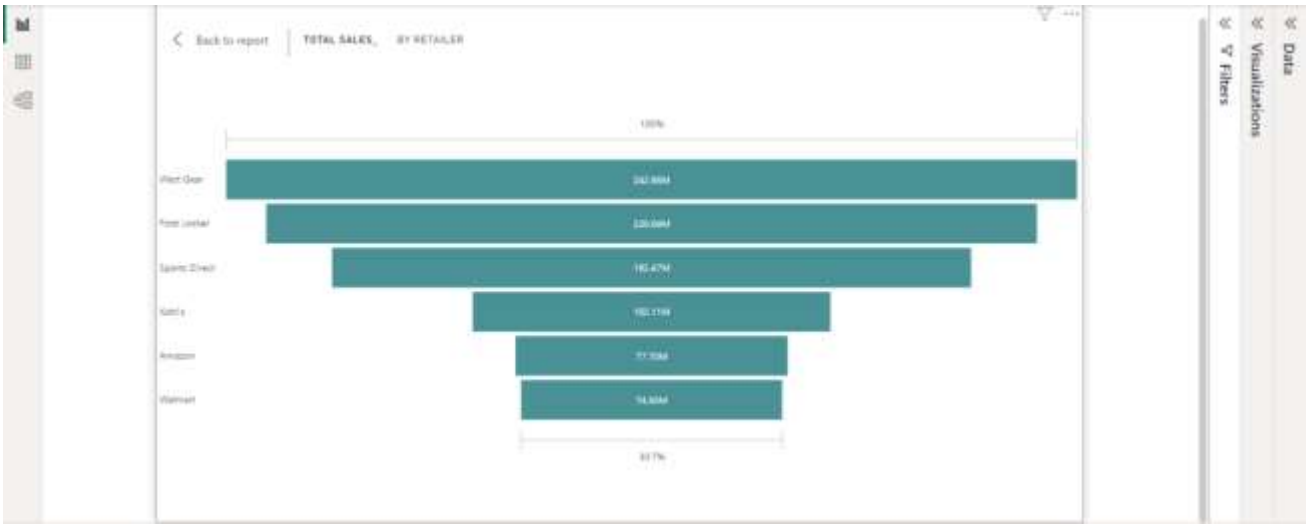


Based on the visual representation above, it is evident that in 2020, Gear Retailer generated the highest profits, while Kohl recorded the least profits. This insight highlights the notable variance in financial performance among retailers during the specified period.



In 2021, **Sports Direct** generated the highest profits and **Walmart** recorded the least profits.

Total sales by retailer



From the image above, West Gear emerged as the top performing Retailer with Walmart having the least performance.

CONCLUSION

In, The Top performer is the Men's Street footwear, and the least performer is the Women's athletic footwear. Most Sales were recorded in the third quarter of the year while the lowest sales were recorded in the first quarter. The Top Retailer is West Gear as it recorded the most sales and profits, while the least Retailer is Walmart as it recorded the least sales and profits. In 2020, about 182 million sales were recorded. In 2021 approximately 717.82 were recorded. This is about a 294% increase in sales in a year. My thought is that sales were hindered by Covid in 2020.

In a nuanced analysis of our sales data, several key trends and performance indicators have become known, each holding valuable implications for our strategic direction moving forward.

Performance Disparities Between Product Categories:

Men's Street Footwear emerges as the undeniably top performer, outshining all other categories. The robust sales in this segment underscore a resonance with our target market, indicating a potential avenue for further growth through strategic expansion, collaborations, and targeted marketing efforts. On the other hand, Women's Athletic Footwear, identified as the least performer, requires immediate attention and a focused revitalization strategy. Market research and innovative product development tailored to changing consumer preferences could be instrumental in reinvigorating this category.

Seasonal Fluctuations Impacting Sales:

The observed quarterly sales fluctuations, with a peak in the third quarter and a dip in the first quarter, suggest a need for a nuanced approach to our seasonal sales strategy. By aligning marketing campaigns, product releases, and promotional activities with these seasonal trends, we can optimize resource allocation, maintain momentum during peak periods, and strategically stimulate demand during slower quarters.

Retailer Performance Variances:

West Gear stands out as the top retailer, demonstrating impressive sales and profits. This highlights the potential for strategic collaboration and partnership expansion with high-performing retailers. Conversely, Walmart, recording the least sales and profits, requires a comprehensive analysis to identify the root causes of underperformance. Collaborative efforts with underperforming retailers should be explored to enhance their strategies and improve mutual outcomes.

Navigating the Impact of External Factors:

The staggering 294% increase in sales from 2020 to 2021 is a remarkable turnaround. While we attribute this growth to a range of factors, it is imperative to delve deeper into the assumed hindrance caused by COVID-19 in 2020. A thorough analysis of consumer behavior, supply chain disruptions, and shifts in market dynamics during the pandemic will provide valuable insights. This understanding will not only help fortify our resilience against future disruptions but will also inform adaptive strategies for evolving market conditions.

RECOMMENDATION

Considering these findings, a strategic approach is recommended:

I recommend innovative marketing campaigns or promotion by Walmart in other regions apart from the south because it had a satisfactory performance there. Also, more marketing campaigns or promotions should be done by Amazon and Kohl in all regions apart from the South and Northeast, respectively.

1. Strategic Focus on Men's Street Footwear:

Given that Men's Street Footwear emerged as the top-performing category, it is recommended to strategically focus on expanding and innovating within this segment. This may involve introducing innovative designs, collaborating with influencers, or optimizing marketing strategies to further boost sales and capitalize on the existing momentum. By understanding

the factors that contribute to the success of this category, the company can tailor its approach to meet customer preferences and sustain the upward trajectory.

2. Revitalizing Women's Athletic Footwear:

The observation that Women's Athletic Footwear was the least performer signals an opportunity for targeted intervention. To revitalize this category, conduct in-depth market research to identify shifting consumer preferences and emerging trends in athletic footwear. Introduce new and appealing designs, leverage partnerships with fitness influencers, and implement targeted marketing campaigns to enhance visibility and attract the female demographic. This proactive approach can potentially turn around the performance of Women's Athletic Footwear.

3. Seasonal Sales Strategy Adjustment:

The quarterly sales analysis indicates significant variations in performance, with the third quarter leading in sales and the first quarter lagging behind. To optimize seasonal sales, consider adjusting inventory levels, marketing efforts, and promotional activities to align with these trends. Implementing targeted strategies, such as seasonal promotions or exclusive releases, can help maintain momentum during peak sales periods and stimulate demand during slower quarters.

4. Retailer Partnership Optimization:

The disparity between the top retailer, West Gear, and the least retailer, Walmart, suggests a need for strategic optimization of retailer partnerships. Strengthen collaboration with high-performing retailers to capitalize on their success and explore opportunities for mutually beneficial initiatives. For underperforming retailers, conduct a thorough analysis to identify the root causes of lower sales and profits. Work collaboratively with these retailers to address challenges, potentially adjusting marketing strategies or providing additional support to enhance their performance.

5. Continuous Monitoring and Adaptation:

The remarkable 294% increase in sales from 2020 to 2021 highlights the impact of external factors, particularly the assumed hindrance caused by COVID-19 in 2020. To build resilience against future disruptions, establish a robust system for continuous monitoring of external factors and market dynamics. Regularly assess consumer behavior, economic conditions, and industry trends to adapt swiftly to changing circumstances. This proactive approach will position the company to capitalize on emerging opportunities and mitigate risks.

6. Investigate COVID-19 Impact in 2020:

Given the assumption that sales were hindered by COVID-19 in 2020, conduct a detailed analysis to understand the specific impacts on consumer behavior, purchasing patterns, and product categories. Evaluate how the company adapted its strategies during the pandemic and identify lessons learned. Use these insights to develop contingency plans and adaptive strategies for future disruptions. Additionally, communicate transparently with stakeholders about the company's resilience strategies, emphasizing the ability to navigate challenging external environments.

7. Strengthen E-Commerce Capabilities:

The observed increase in online sales during and after the COVID-19 pandemic suggests the growing importance of e-commerce. Strengthen the company's online presence, optimize the e-commerce platform, and invest in digital marketing to capture the expanding online market. By enhancing the online shopping experience, the company can tap into a broader customer base and mitigate the impact of external factors on physical retail channels.

By adopting these strategic recommendations, we aim to build on our strengths, address areas of improvement, and position our company for sustained growth and resilience in an ever-evolving market landscape.