# CUSTOMER SALES ANALYSIS WITH POWER BI

Presented by: Srimukhi Tabela

# Table of Contents

# Problem Statement

**Nexonic Devices**, a computer hardware supplier based in Delhi, has been facing challenges in managing sales and operational efficiency across regions. The Director, Mr. Rajeev Kumar, often receives vague updates from regional managers, making it difficult to pinpoint actual business issues.

To overcome these challenges, the company decided to adopt a data-driven approach by implementing interactive dashboards using SQL and Power BI. This would enable clearer insights, faster decision-making, and better business visibility—true to the saying, "A picture is worth a thousand words."

.

# Teams Involved

- **Orions Team** (Software Engineers):

Responsible for managing the MySQL sales system and ensuring data availability and consistency.

- **VisionX Analysts** (Data Analysts):

In charge of building insightful dashboards using Power BI based on the data extracted from the sales database.

- **DataNex Architects** (Data Warehouse Team)

* Not involved in current implementation

While not directly involved in this project, this team handles long-term storage and advanced reporting systems for other business needs.

ETL- Extract Transform Load

ND Nexonic
Devices

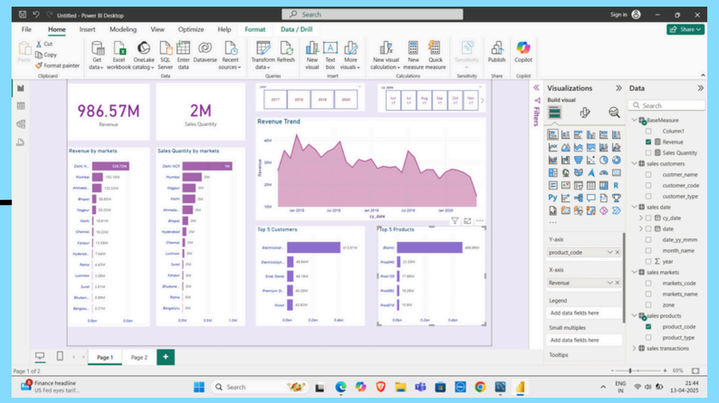
Orions Team

Sales Management System

mysql

ETL

VisionX Team




Power BI

Orions Team
(Software Engineers)

VisionX Team
(Data Analysts)

# PROJECT OVERVIEW

The "Customer Sales Insights with POWER BI" project aims to analyze customer sales data using Power BI dashboards. It focuses on delivering visual insights into key sales metrics, customer trends, and performance. This helps sales teams and decision-makers make data-driven strategies for improved results. MySQL was used for data extraction and Power BI for visual analysis.

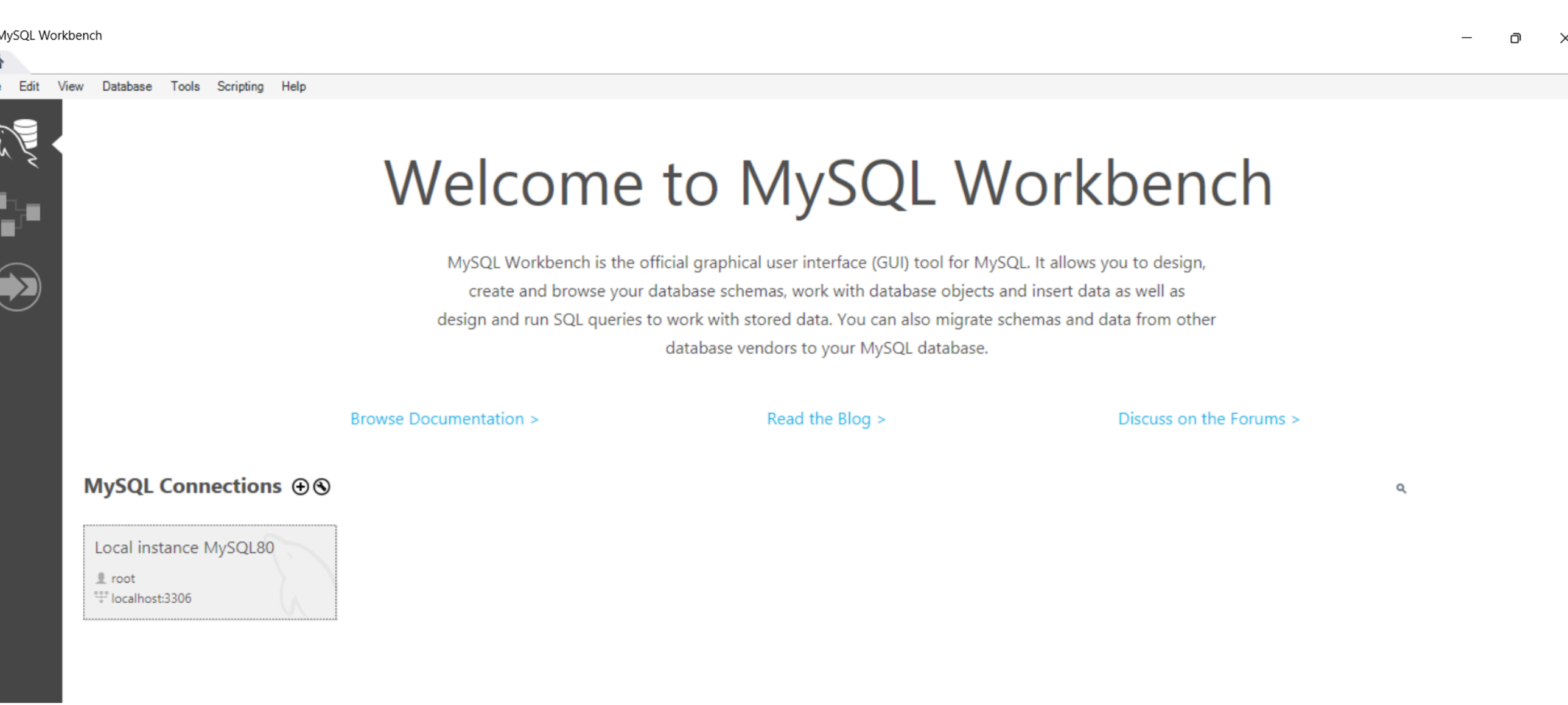
# TOOLS USED:

Power BI
MYSQL Workbench
DAX
Power Query Editor

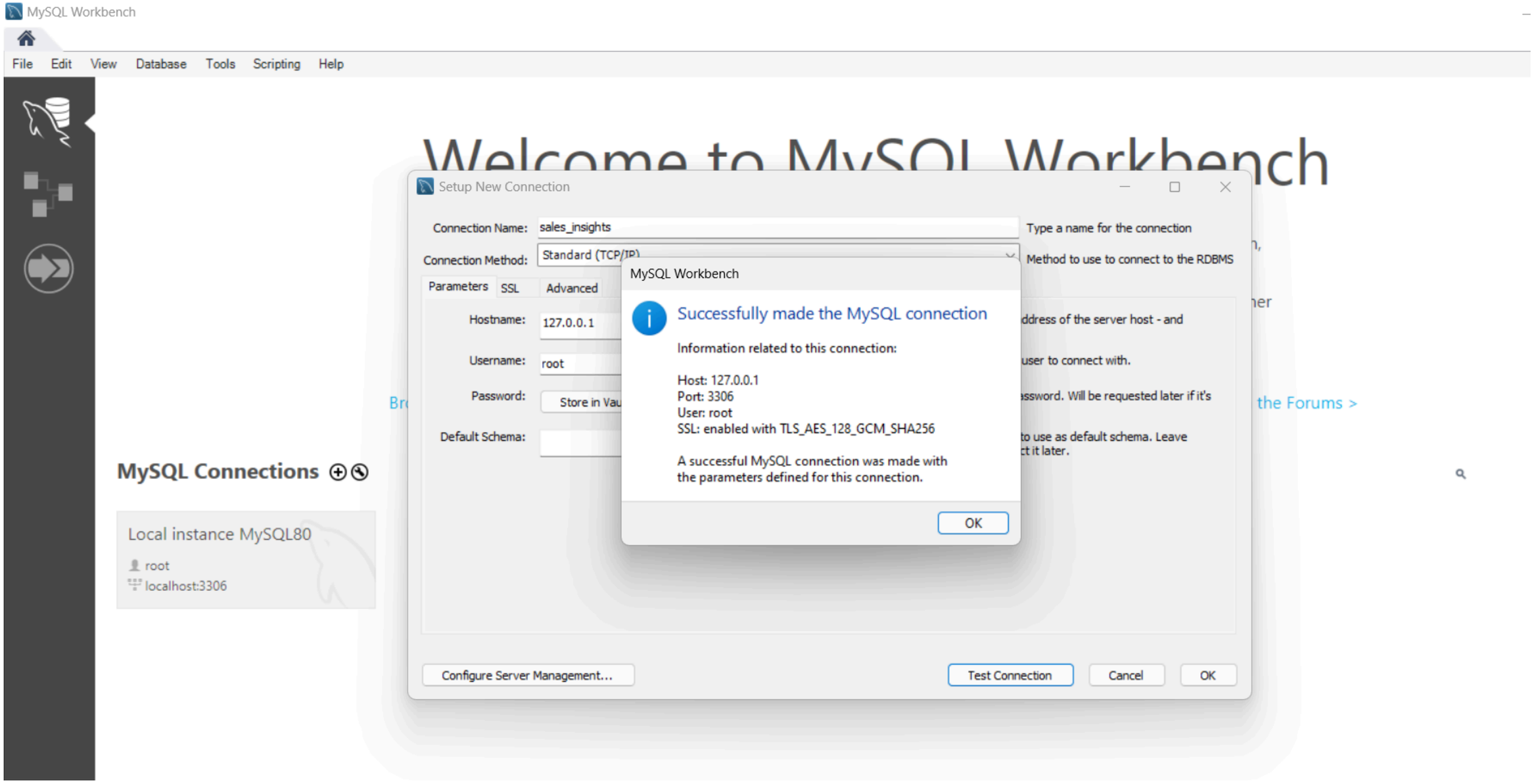
# MYSQL Connection and Query Execution

Content:
This section focuses on the successful integration of MySQL Workbench and the analysis of data using SQL queries. The key steps include:

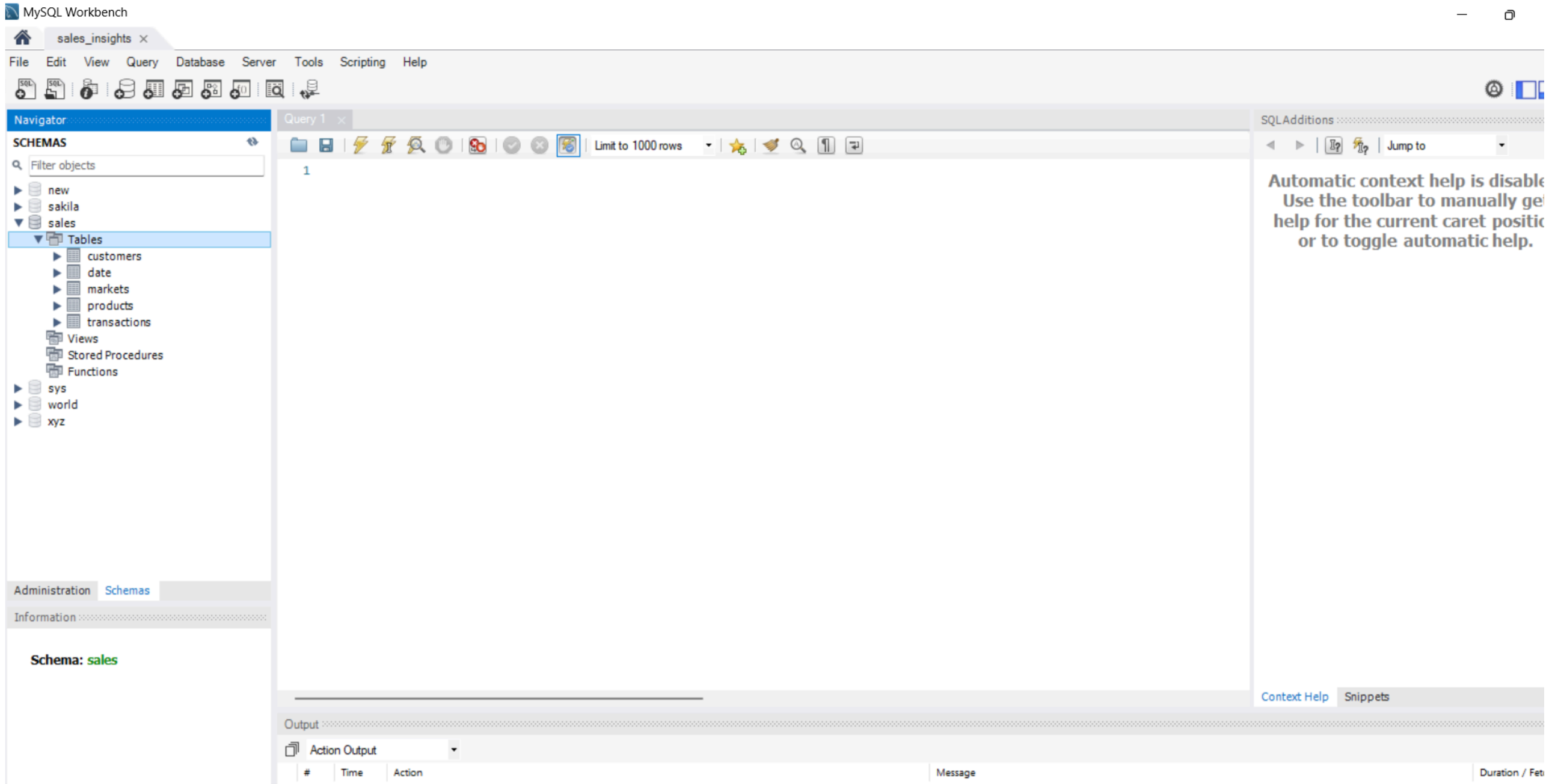
- Opening MYSQL Workbench  and accessing the welcome screen.
- Establishing a successful connection to the local MySQL instance.
- Viewing the workspace with all the imported table names visible.
- Running a query to display the  transaction table.
- Combined ‘transaction’ and ‘date’ tables using JOIN and AND conditions to filter data for the year 2020 and market code 'MARK001'.



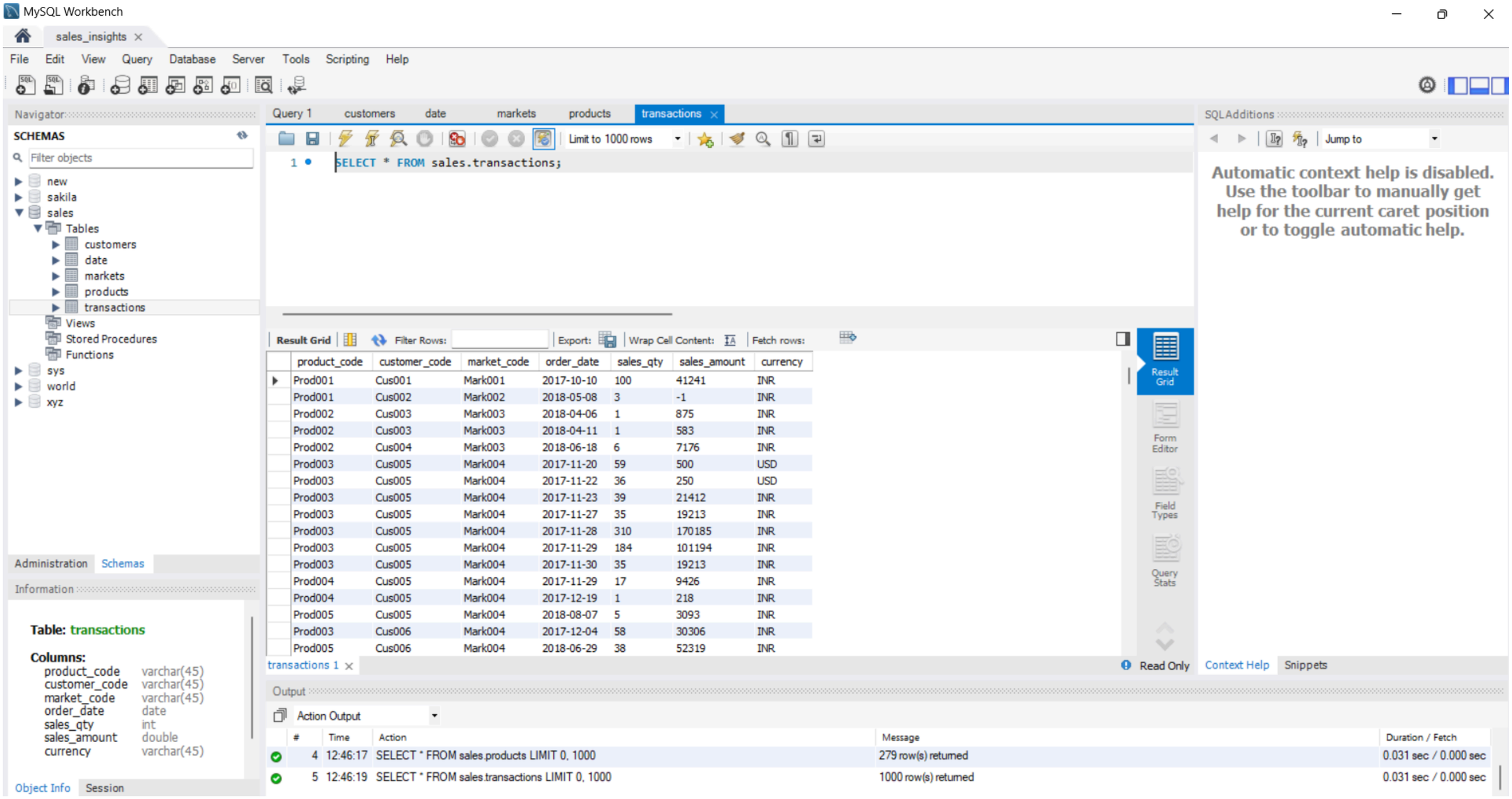

Welcome Screen of MYSQL Workbench default connection to local instance MYSQL



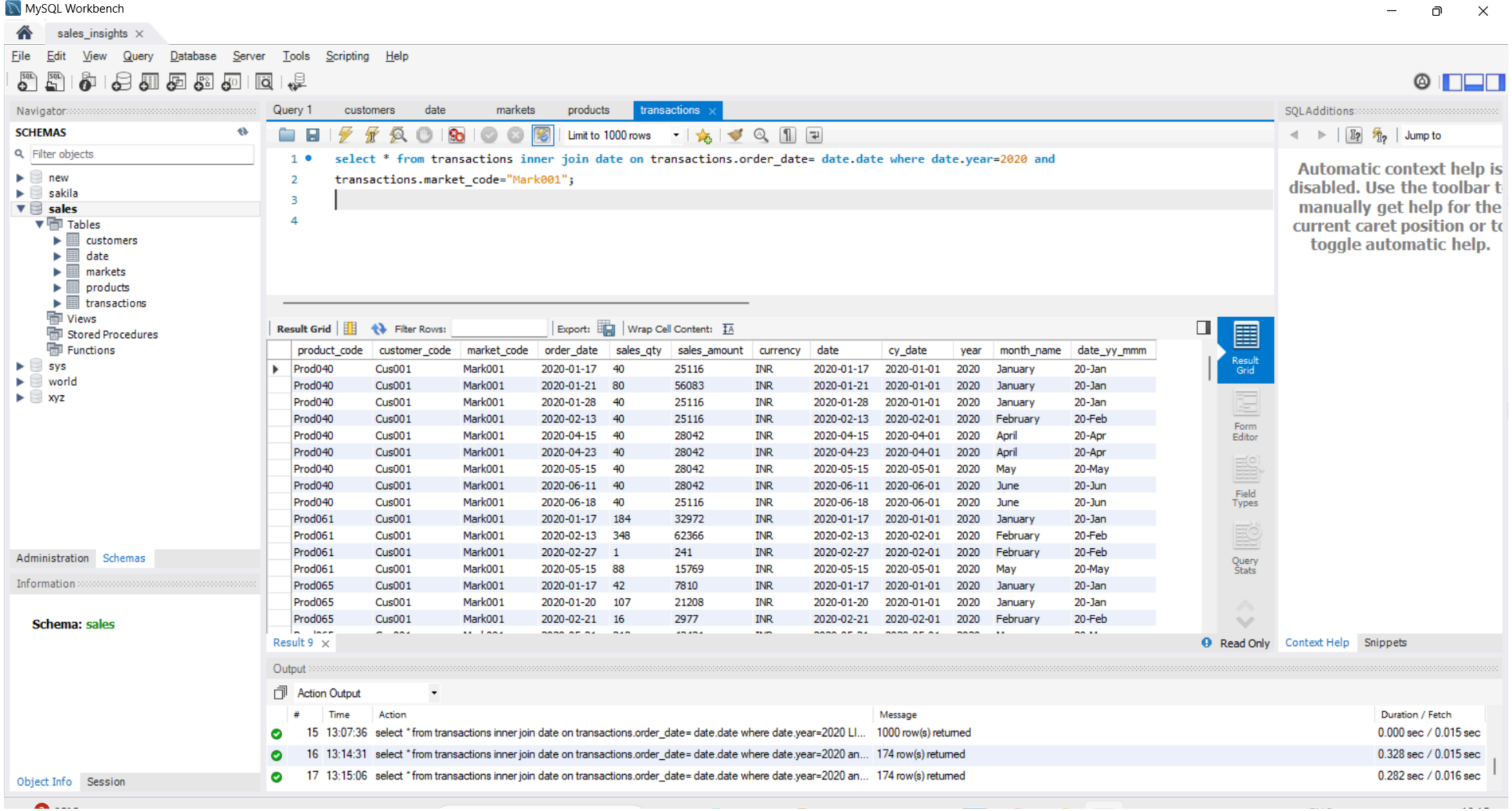

Successfully connected to the local MYSQL instance




MYSQL workspace with imported tables preview




Executed ‘SELECT * FROM sales.transactions’ query




Query using JOIN and AND operations between transactions and date tables

# Data Transformation Using Power Query Editor

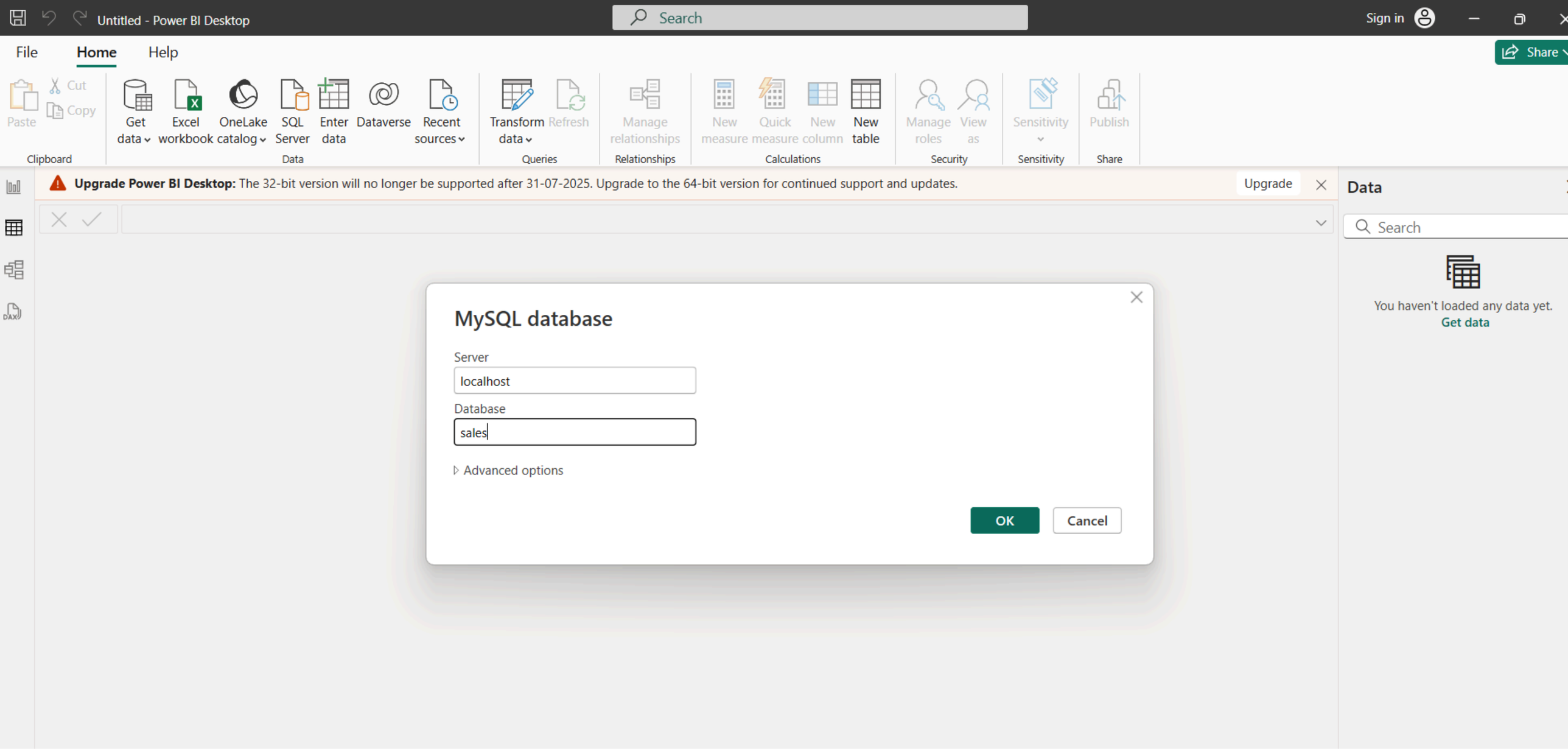
Power Query Editor is a data connection, transformation, and preparation tool used in Power BI, Excel, and other Microsoft applications. It allows users to import, clean, and reshape data before it is used for analysis or reporting and enables easy extraction of data from various sources, applying transformations.

I applied several key transformations to clean and prepare the dataset for analysis in Power BI Query Editor:

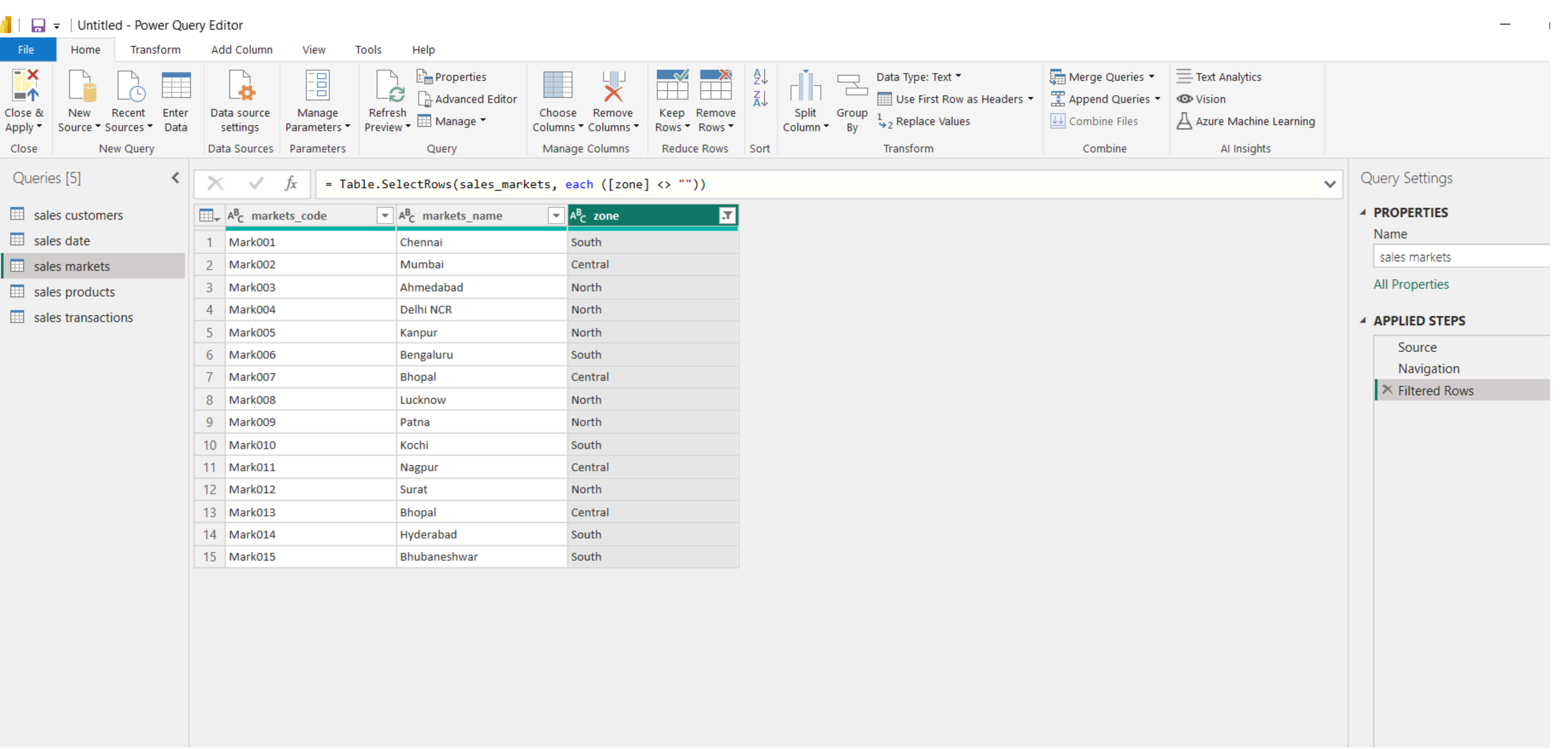
- Data Cleansing: I removed empty rows, applied filters to exclude unwanted data, and discarded invalid values (such as -1 and 0), ensuring data accuracy.

- Currency Conversion: I added a calculated column to convert USD values into INR, facilitating localized analysis.

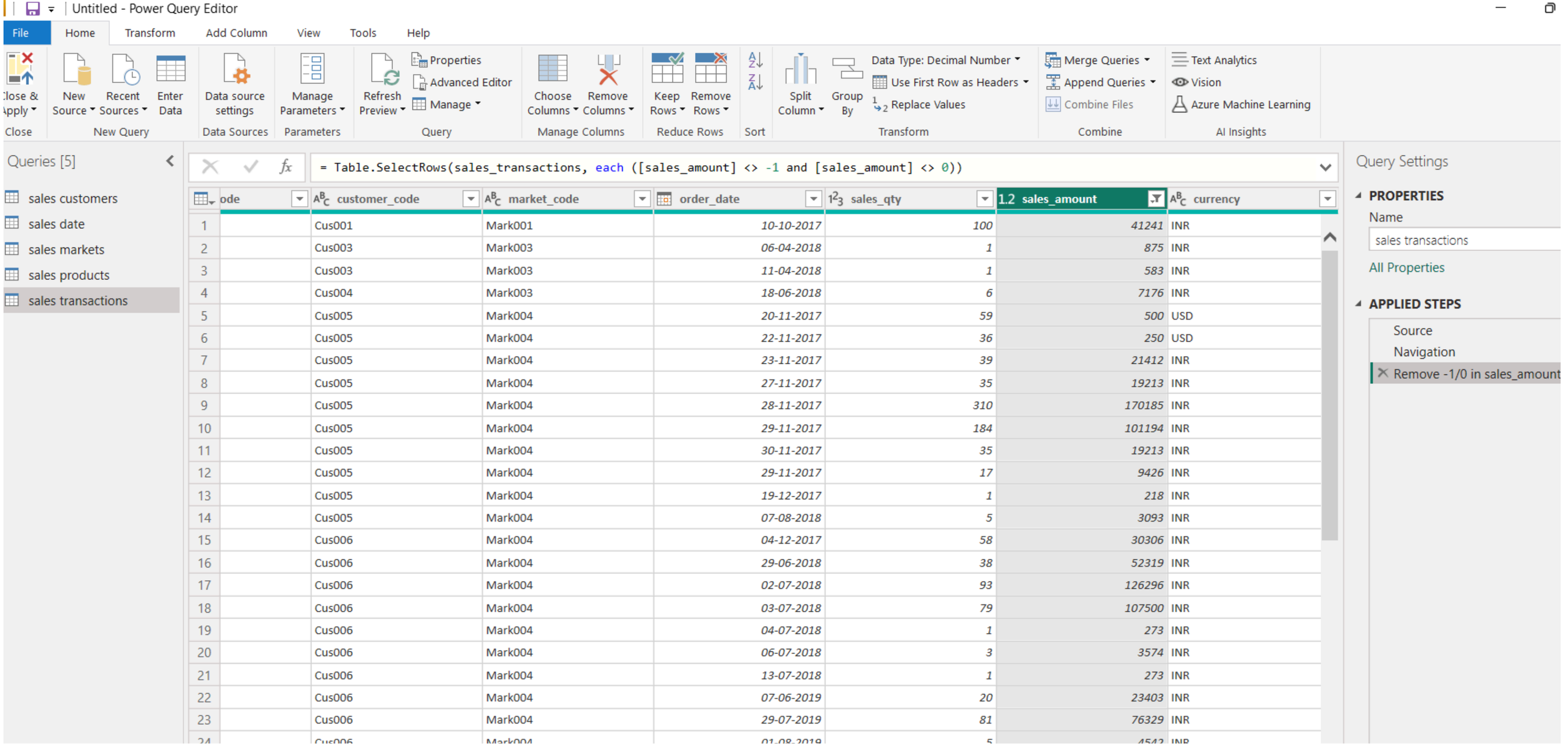
These transformations helped structure the data for further analysis and visualization.



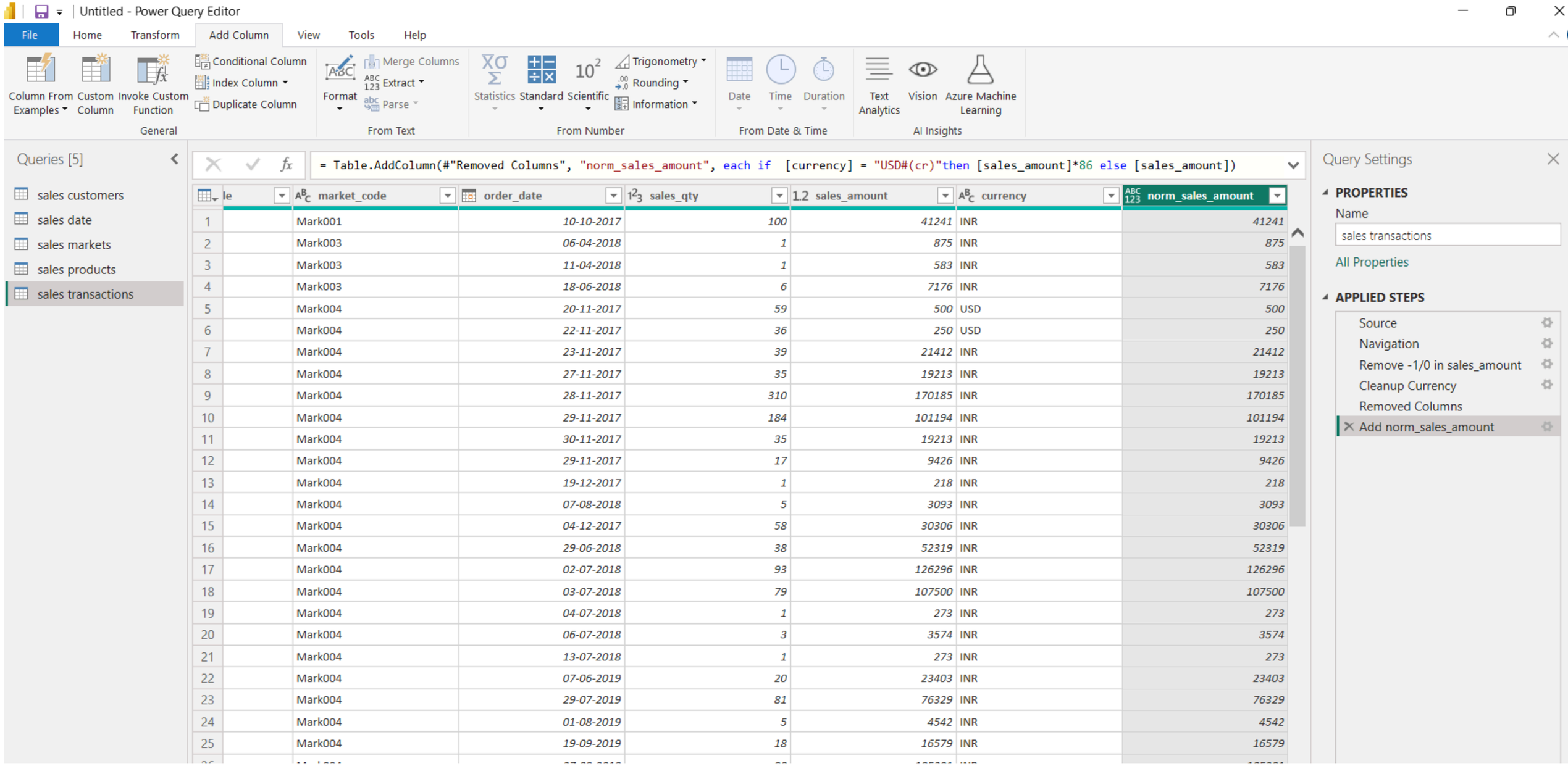

Established connection between MYSQL database and Power BI using server and database details




Filtered out null values from the markets table(under sales database) during data cleaning in Power Query Editor.




Filtered out -1 and 0 values from ‘sales_amount’ column in transactions table.

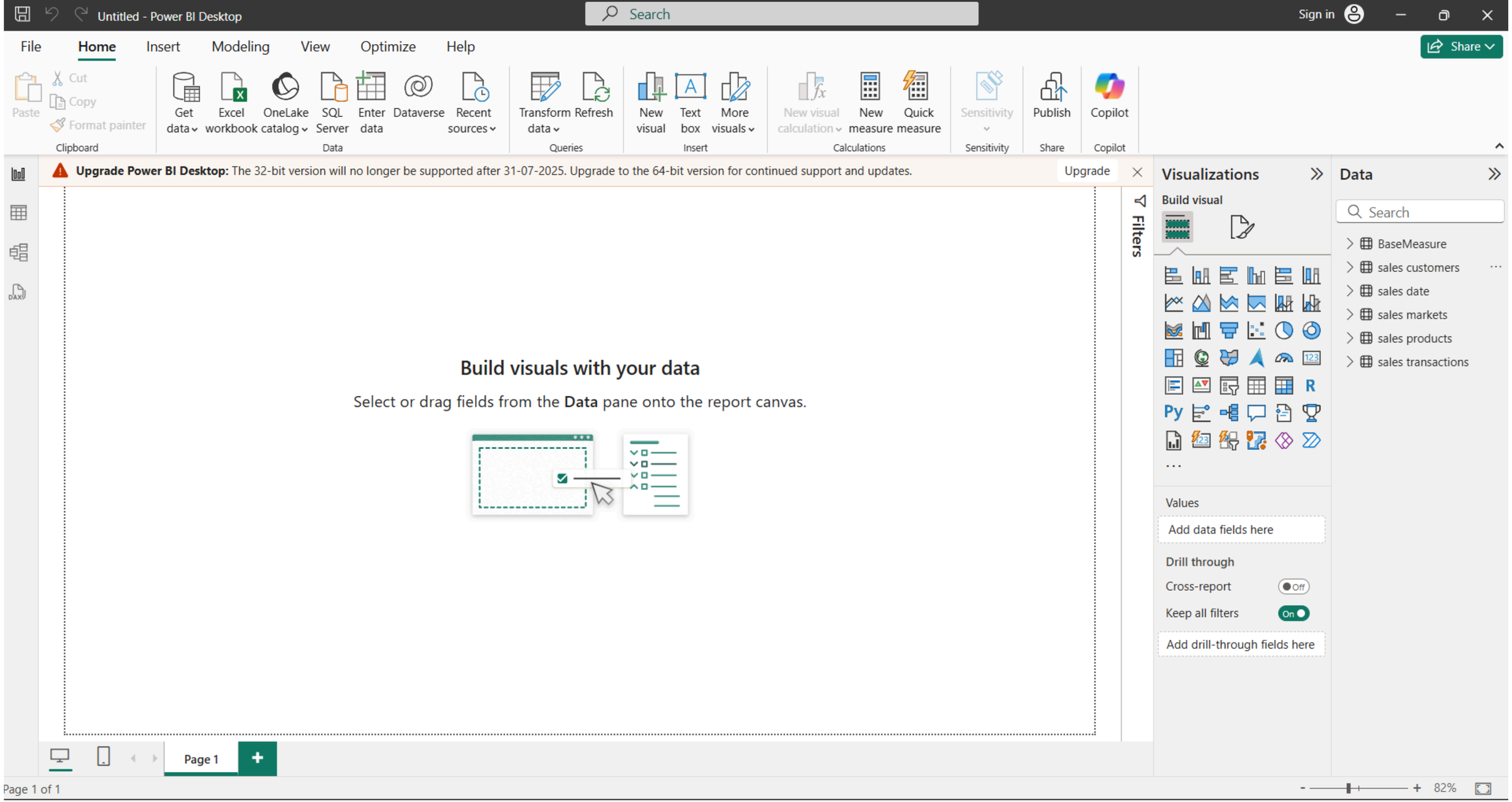



Added ‘norm_sales_amount’ column to the transactions table for USD to INR conversion using DAX

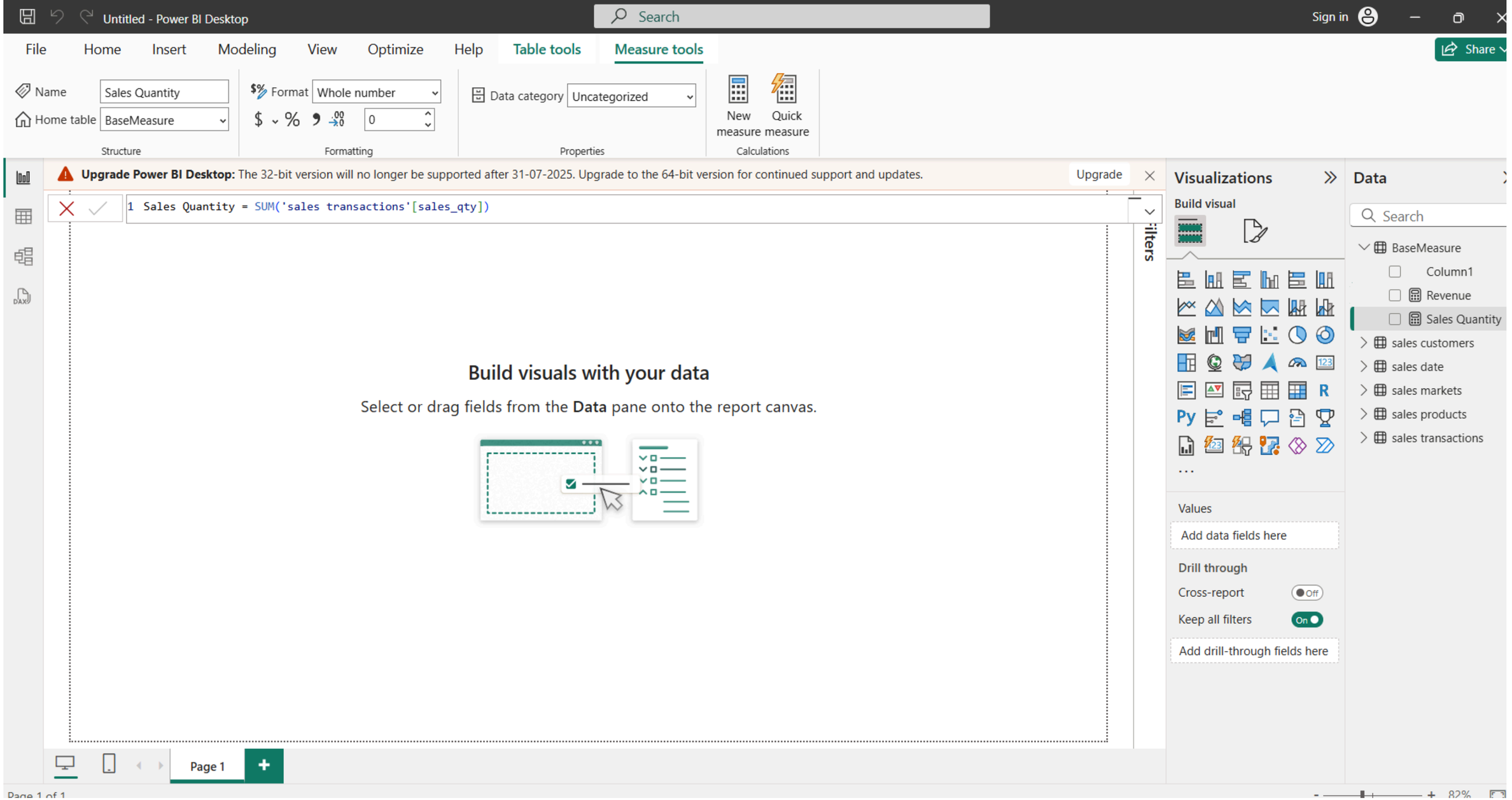
# Visualization in Power BI Desktop

Power BI Desktop allows users to create interactive and visually appealing reports using a variety of charts, tables, and KPIs. These visualizations help in analyzing business performance and gaining

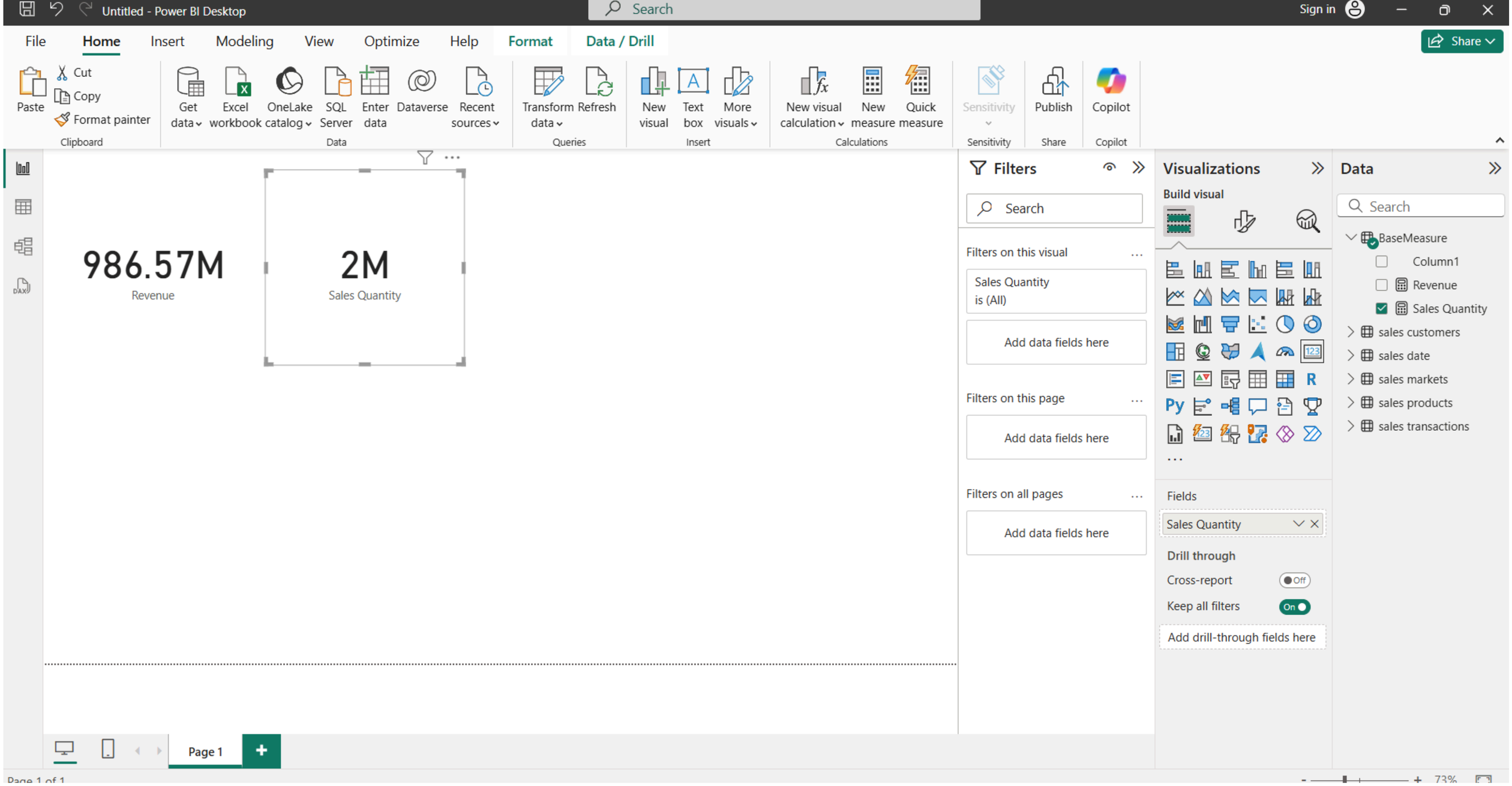
- In this part, I created visualizations using the data and measures such as revenue, sales quantity, customer-wise revenue, year, receive ID, etc. I matched the results with manual SQL queries for validation. Then, I built visuals for top 5 customers, top 5 products, and revenue trend. The report was formatted with proper colors and alignment for clarity. Finally, I converted the report into a mobile layout for responsive viewing.



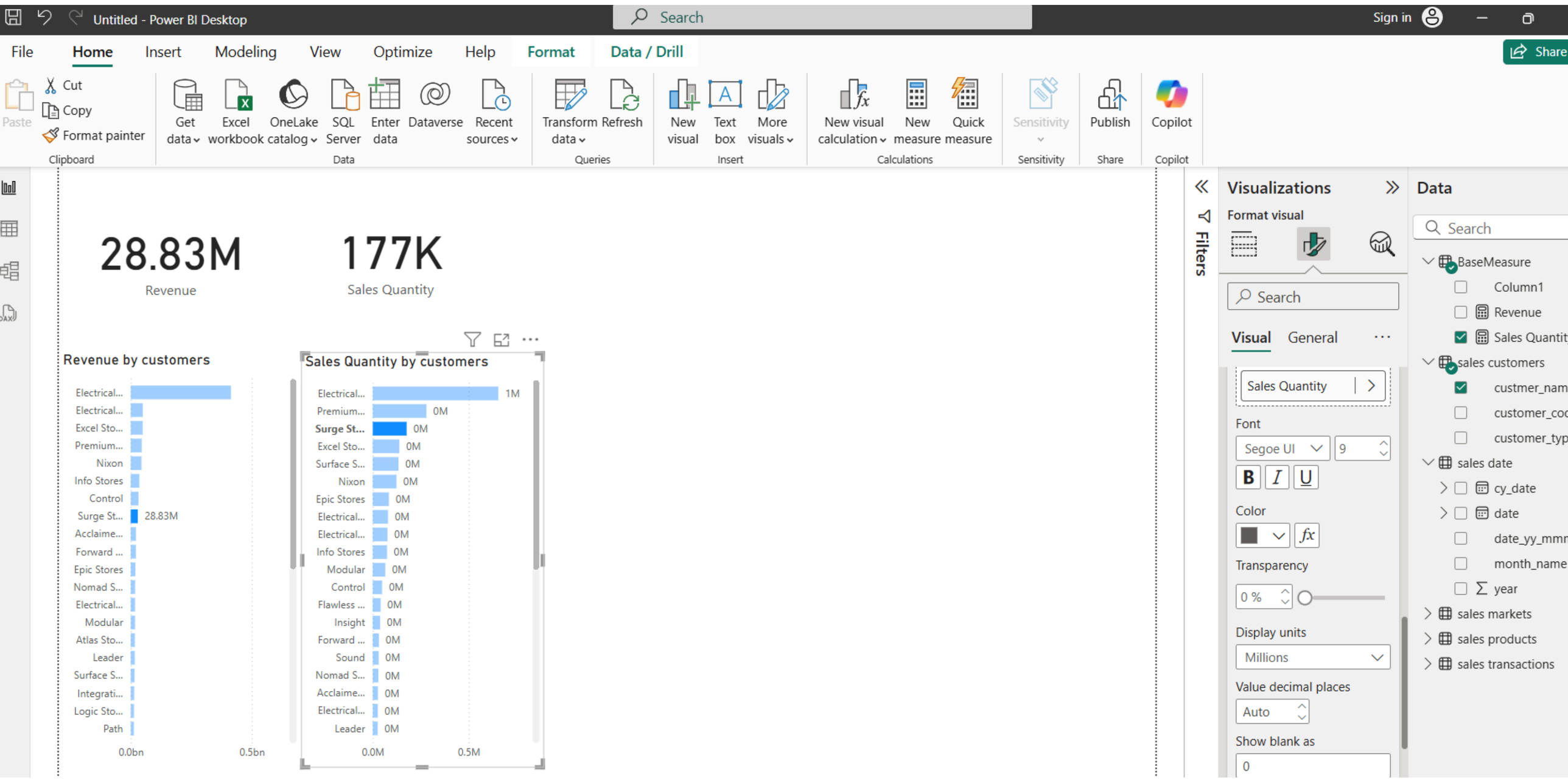

Power BI Desktop home screen



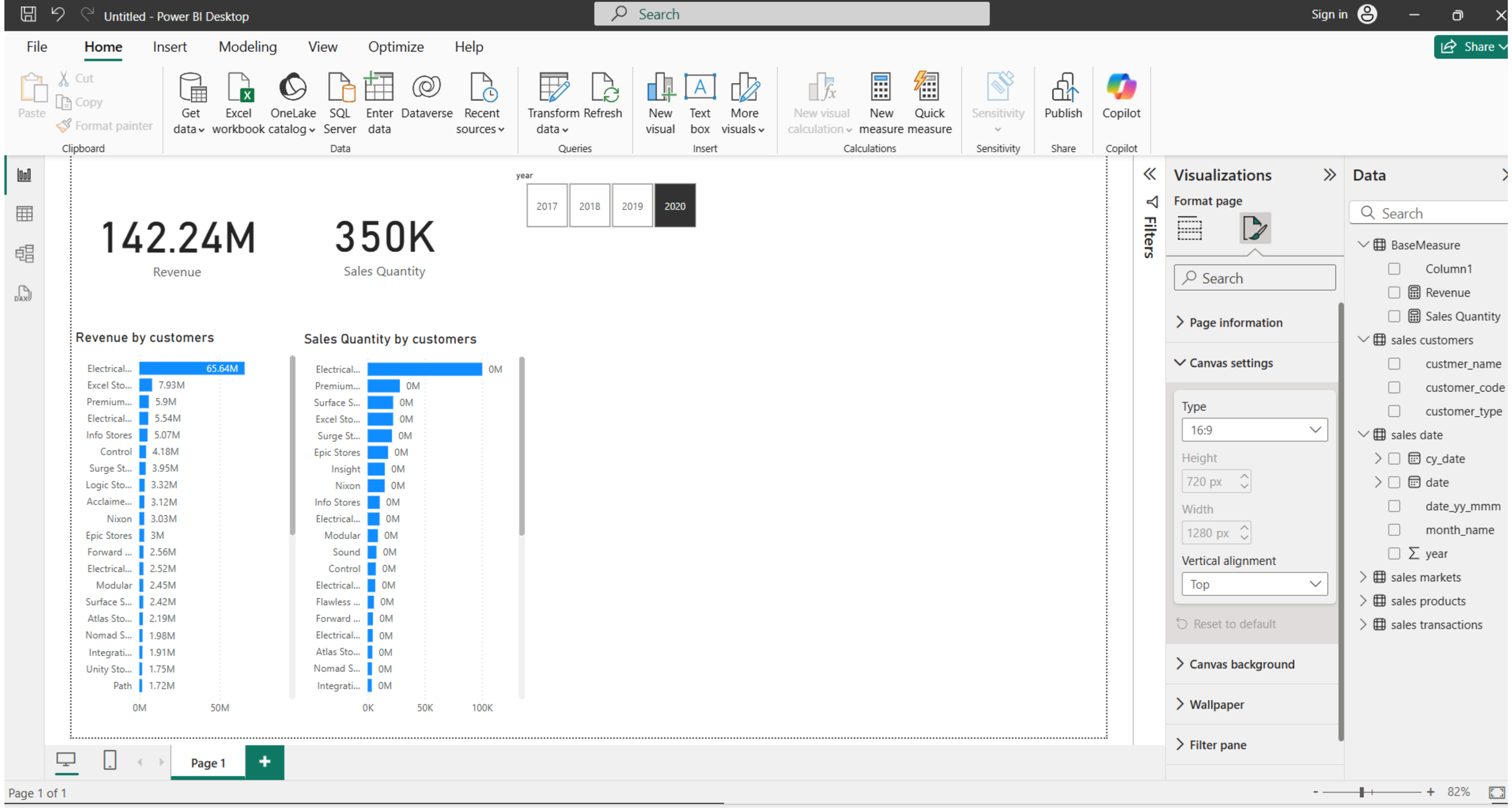

Created a DAX measure named ‘Revenue’ and ‘Sales Quantity’



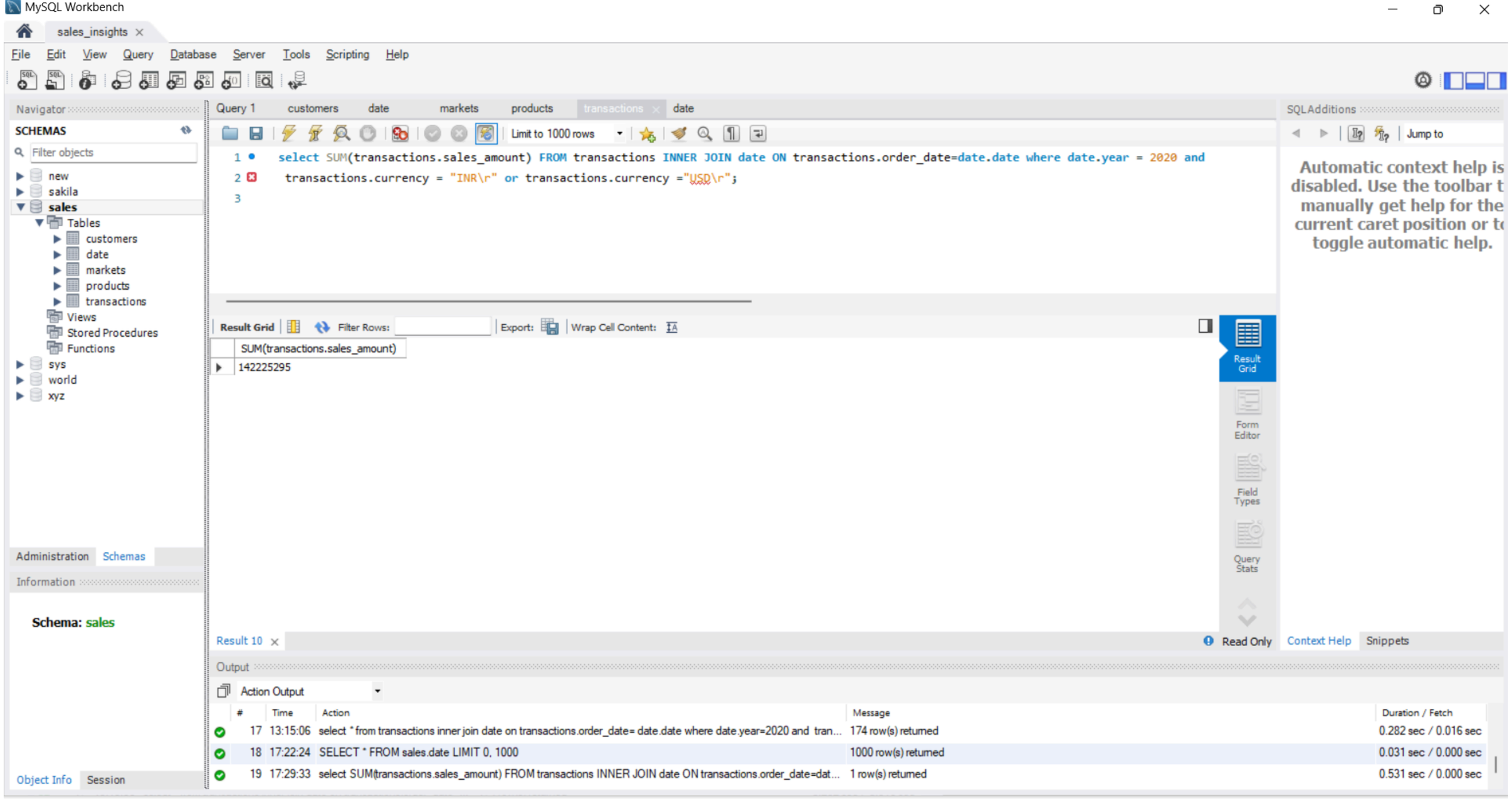

Displayed ‘Revenue’ and ‘Sales Quantity’ using card visuals



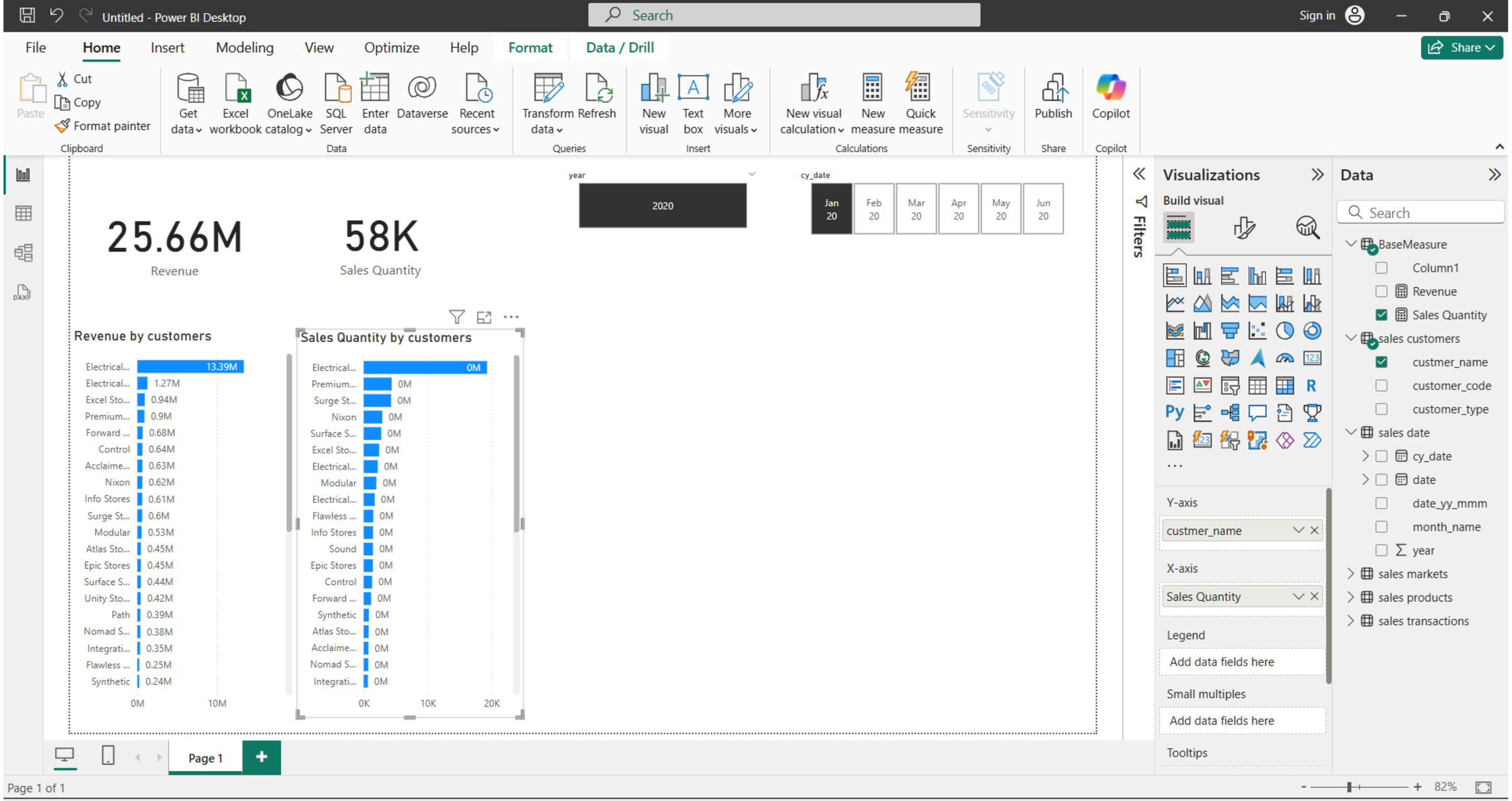

Created bar charts for ‘Revenue by customers’ and ‘Sales Quantity by customers’



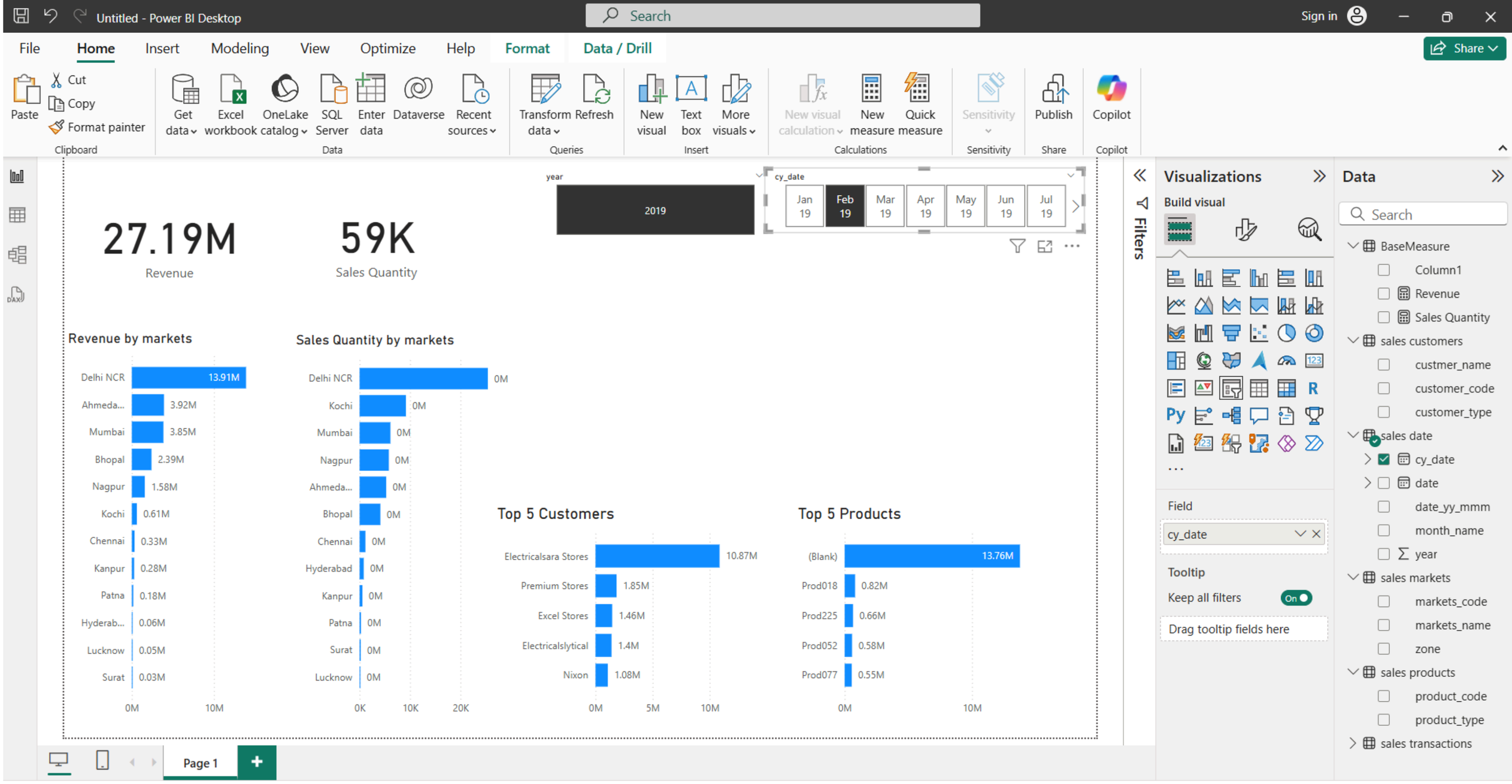

A slicer to select the specific years is been created



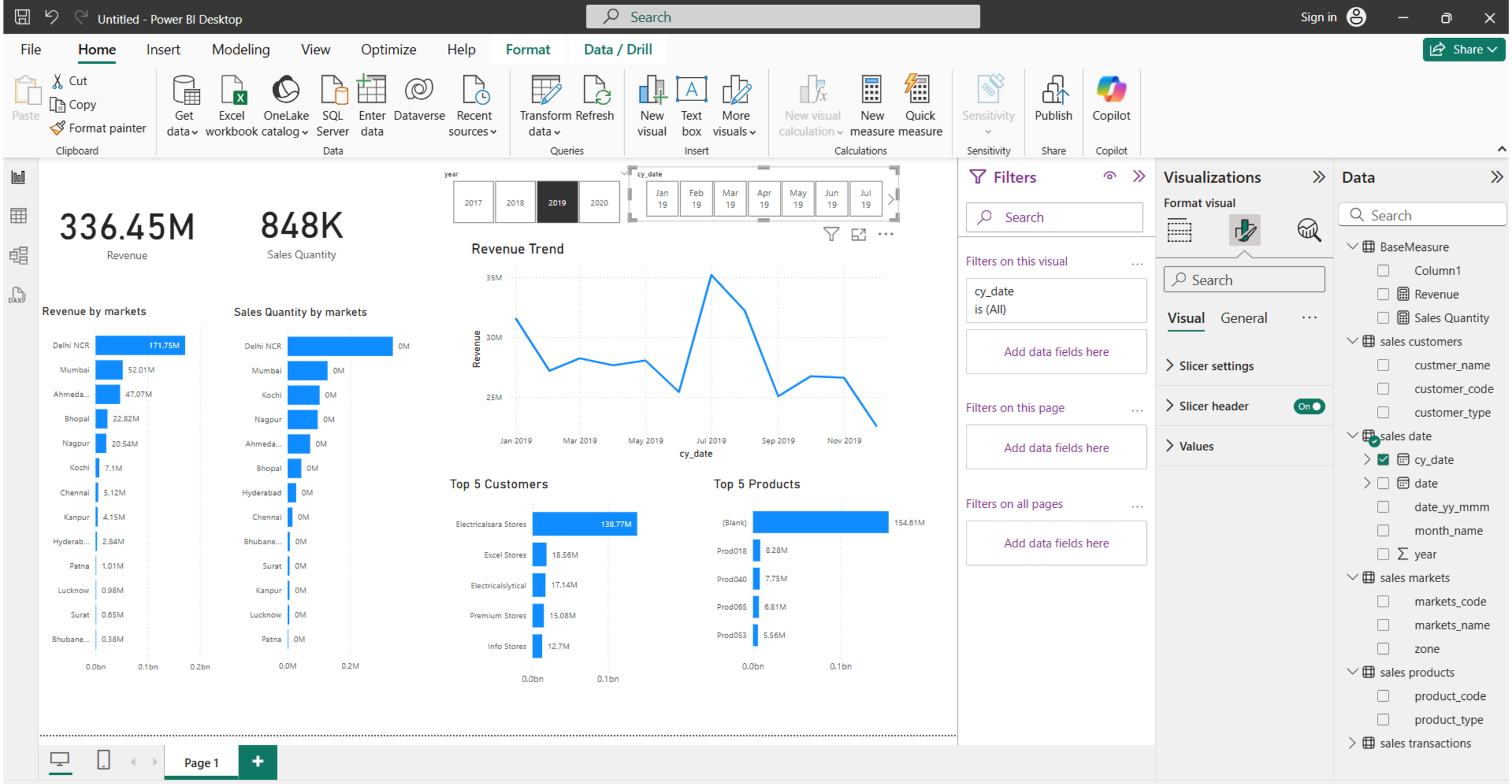

Revenue for 2020 is been verified with an SQL query in MySQL Workbench



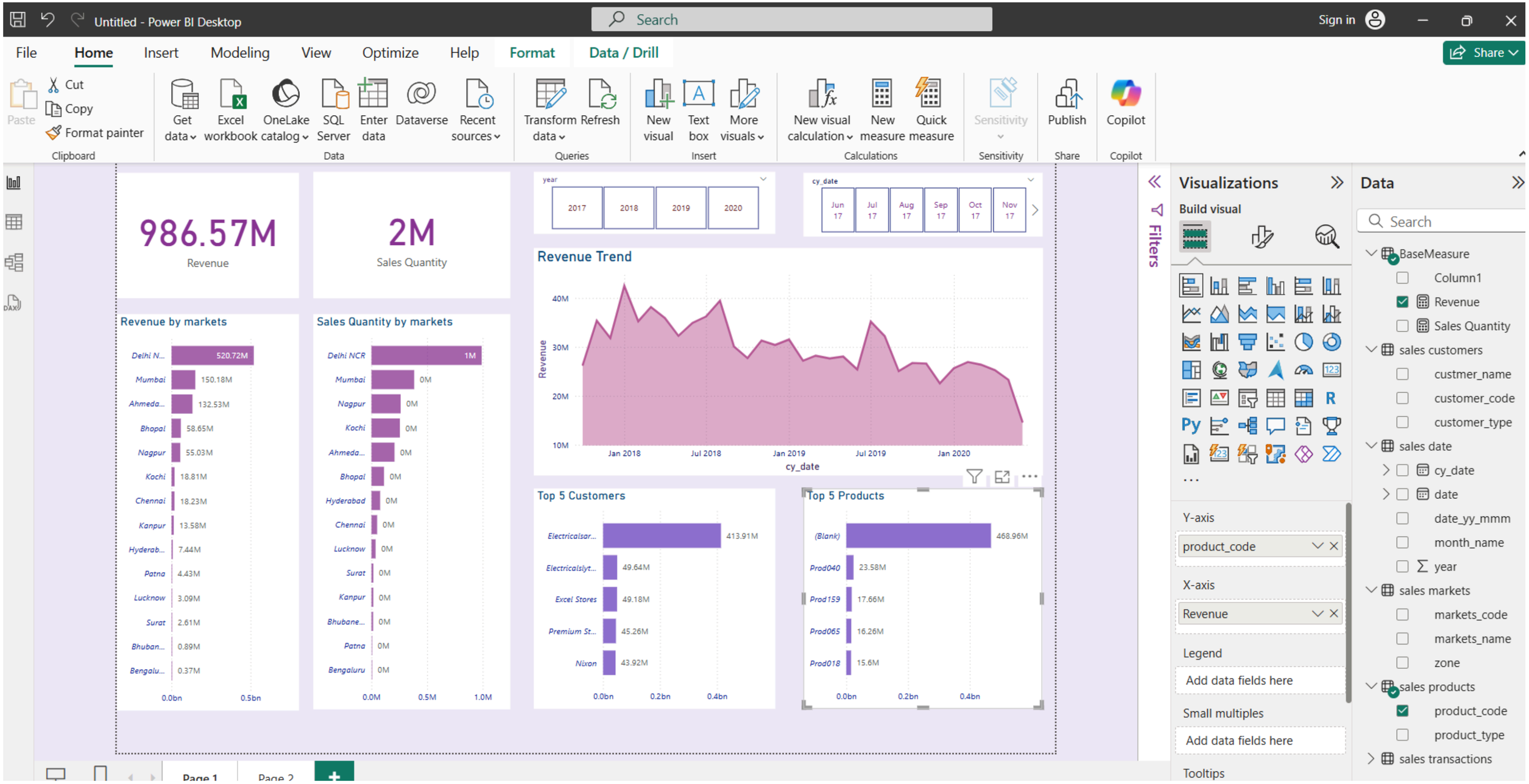

‘cy_date’ slicer is created to display all available dates along with month



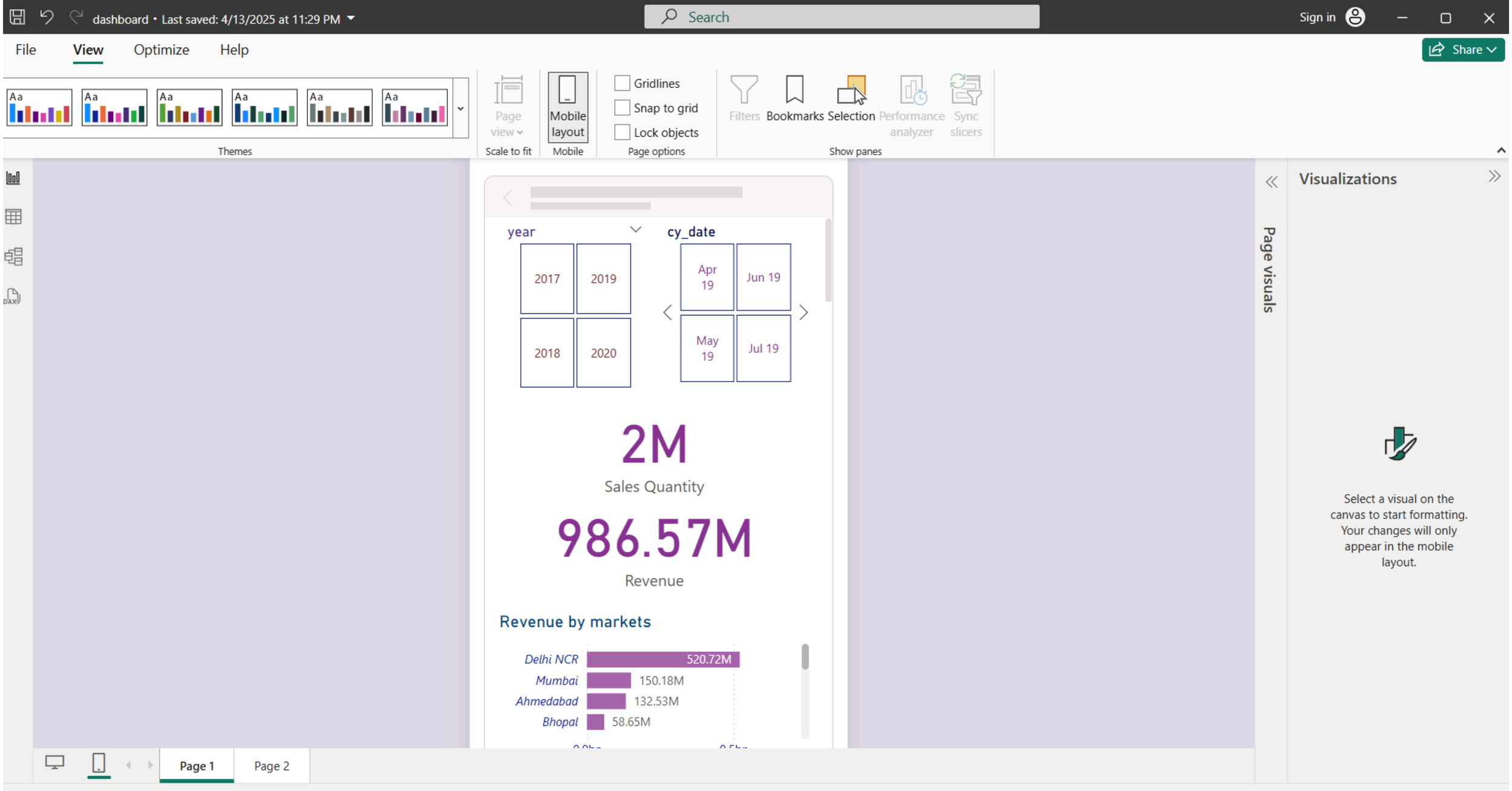

Top 5 Customers and Products using bar charts



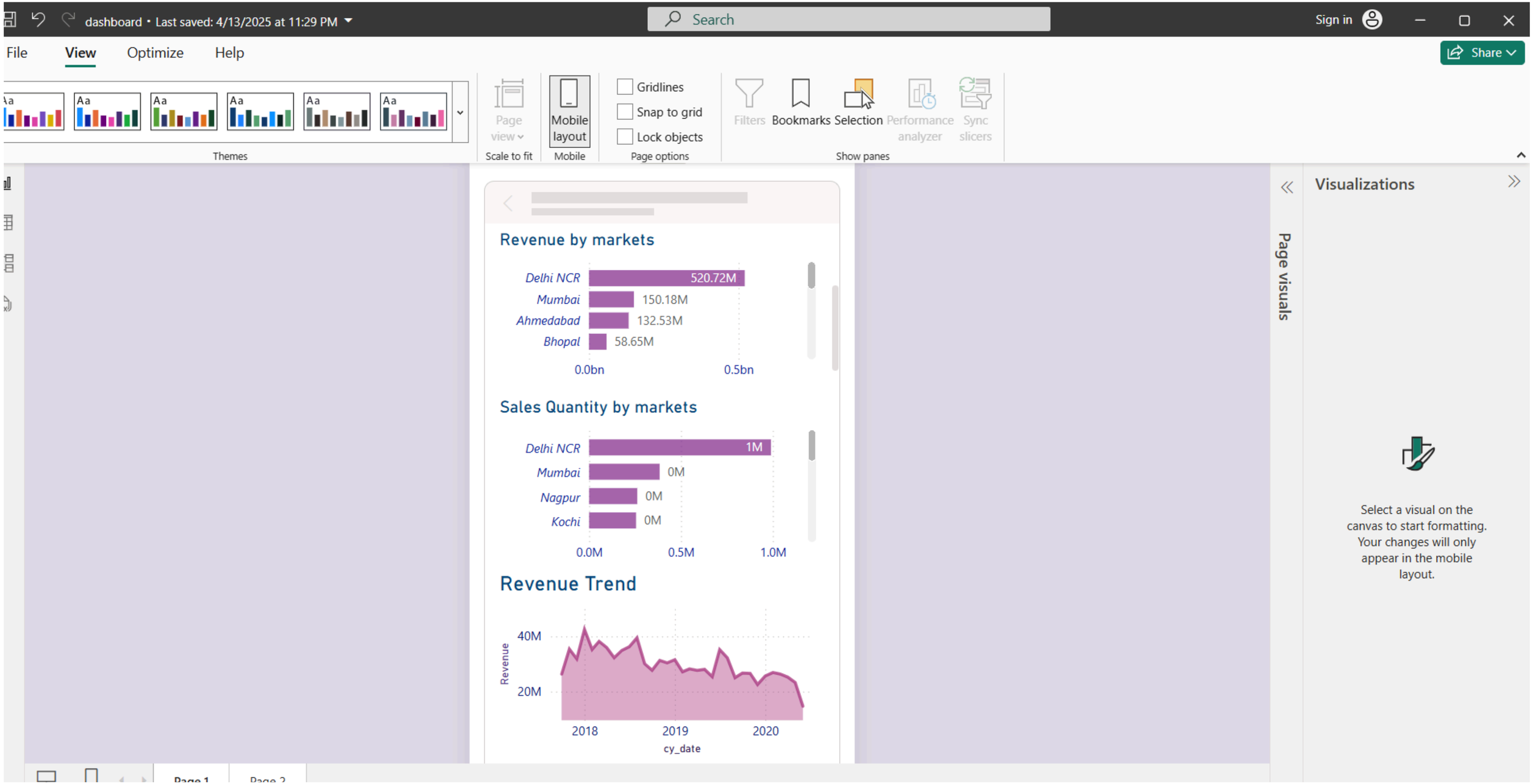

Line chart of ‘Revenue Trend’ by using Revenue and cy_date



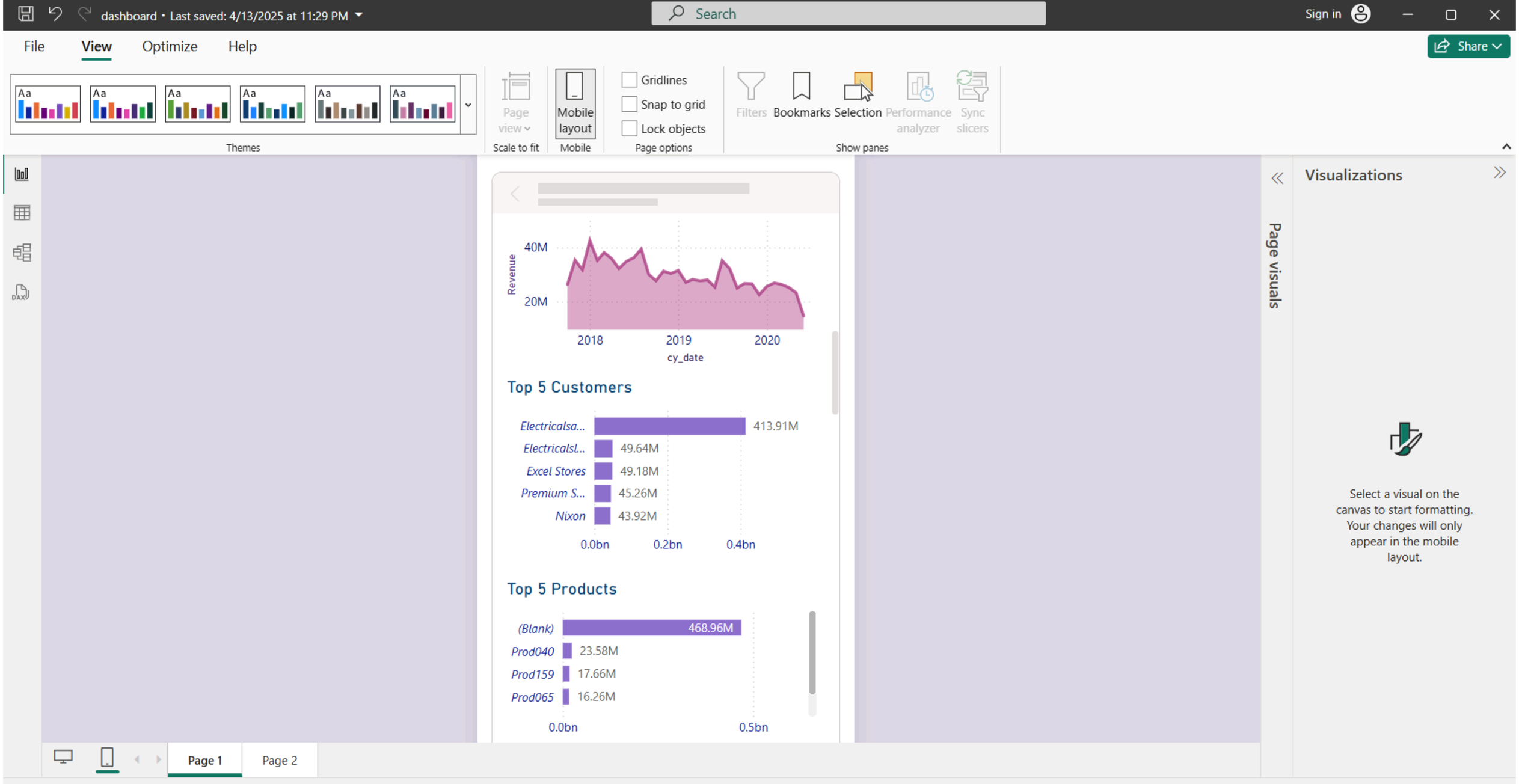

A clean format dashboard of visuals with added colors




Mobile Layout of the dashboard




Mobile Layout of  the dashboard




Mobile layout of the dashboard

# Conclusion

This project provided a comprehensive understanding of how data-driven decisions can significantly improve business operations. By leveraging MySQL for data storage and Power BI for visualization, we transformed scattered data into meaningful insights. The final dashboards offer clarity and help stakeholders make informed decisions quickly. This hands-on experience enhanced my practical skills in SQL, Power BI, and real-time data handling, adding strong value to my learning journey and professional portfolio.