

Electronics Product Sales Analysis

This presentation showcases how I successfully combined three disparate data sources using SQL queries, ultimately generating an insightful Power BI dashboard.

--by Gitanjali Pekamwar



Project Overview and Objectives

Objective

To combine three tables –product data, product sales, and discount data – into a unified dataset for analysis.

Goal

Create a Power BI dashboard that provides a comprehensive view of sales performance, customer trends, and product insights.

Source Tables.

1							
2							
3							
3							
5							
5							
16							

Table

Product data

Product sales

Discount data

SELECT * FROM

product_data as a

join Product_Sales as b

on a.product_ID = b.Product

100 %

Results Messages

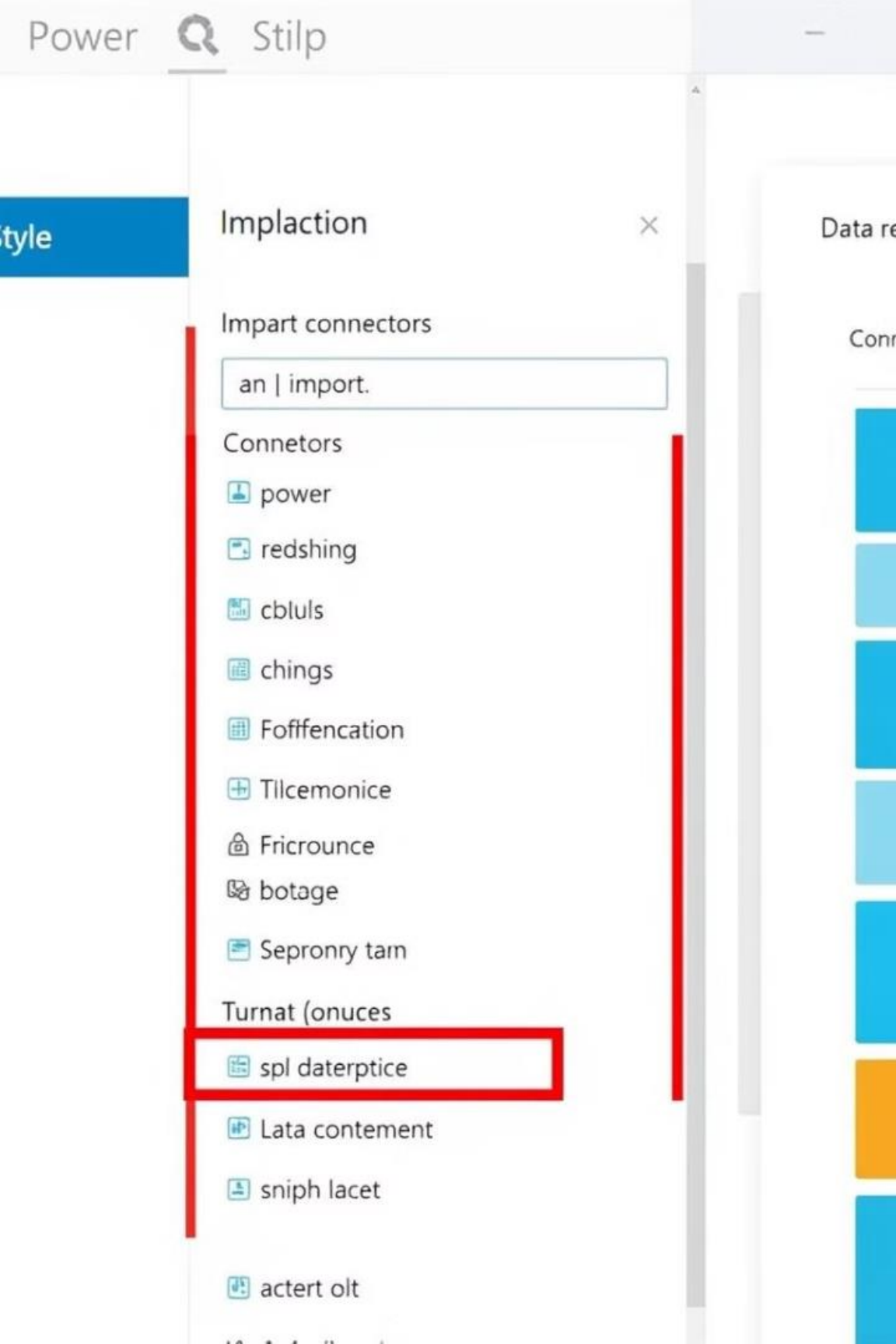
	Product_ID	Product	Category	Cost_Price	Sale_Price	Brand	Description	Image_url	Date	Customer_Type	Co
1	SR1001	MV7	Dynamic Microphone	\$174	\$199	Shure	A versatile USB/XLR dynamic microphone ideal for ...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Government	Ge
2	RR10020	NT1-A	Condenser Microphone	\$160	\$229	Rode	A popular condenser microphone known for its low s...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Education	Un
3	FR10021	Scarlett 2i2	Audio Interface	\$118	\$169	Focusrite	A compact USB audio interface with two inputs, allo...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Government	Cai
4	FR10021	Scarlett 2i2	Audio Interface	\$118	\$169	Focusrite	A compact USB audio interface with two inputs, allo...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Government	Ge
5	HY1004	QuadCast S	Streaming Microphone	\$97	\$139	HyperX	A USB condenser microphone featuring customizab...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Government	Cai
6	SR1001	MV7	Dynamic Microphone	\$174	\$199	Shure	A versatile USB/XLR dynamic microphone ideal for ...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Government	Fra
7	FR10021	Scarlett 2i2	Audio Interface	\$118	\$169	Focusrite	A compact USB audio interface with two inputs, allo...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Government	Fra
8	SR1001	MV7	Dynamic Microphone	\$174	\$199	Shure	A versatile USB/XLR dynamic microphone ideal for ...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Government	Cai
9	FR10021	Scarlett 2i2	Audio Interface	\$118	\$169	Focusrite	A compact USB audio interface with two inputs, allo...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Small Business	Cai
10	FR10021	Scarlett 2i2	Audio Interface	\$118	\$169	Focusrite	A compact USB audio interface with two inputs, allo...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Government	Cai
11	FR10021	Scarlett 2i2	Audio Interface	\$118	\$169	Focusrite	A compact USB audio interface with two inputs, allo...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Enterprise	Cai
12	FR10021	Scarlett 2i2	Audio Interface	\$118	\$169	Focusrite	A compact USB audio interface with two inputs, allo...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Creator	Fra
13	FR10021	Scarlett 2i2	Audio Interface	\$118	\$169	Focusrite	A compact USB audio interface with two inputs, allo...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Creator	Me
14	PS10022	AudioBox USB 96 Studio	Recording Bundle	\$90	\$199	PreSonus	A complete recording bundle that includes an audio ...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Creator	Fra
15	PS10022	AudioBox USB 96 Studio	Recording Bundle	\$90	\$199	PreSonus	A complete recording bundle that includes an audio ...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Creator	Me
16	HY1004	QuadCast S	Streaming Microphone	\$97	\$139	HyperX	A USB condenser microphone featuring customizab...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Enterprise	Cai
17	AR1200	Arctic 7P+	Wireless Gaming Hea...	\$104	\$149	SteelSe...	A wireless gaming headset with excellent sound qu...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Small Business	Cai
18	RR10020	NT1-A	Condenser Microphone	\$160	\$229	Rode	A popular condenser microphone known for its low s...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Enterprise	Fra
19	RR10020	NT1-A	Condenser Microphone	\$160	\$229	Rode	A popular condenser microphone known for its low s...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Enterprise	Ge
20	FR10021	Scarlett 2i2	Audio Interface	\$118	\$169	Focusrite	A compact USB audio interface with two inputs, allo...	https://absentdata.com/wp-content/uploads/2024/1...	2023-12-01 00:00:00.0000000	Enterprise	Fra

SQL Queries for Data Transformation

```
with cte as
(
  SELECT
    a.Product,
    a.Category,
    a.Brand,
    b.Date,
    a.Description,
    a.Cost_Price,
    a.Sale_Price,
    a.Image_url,
    b.Customer_Type,
    b.Discount_Band,
    b.Units_Sold,

    (REPLACE(Cost_Price, '$', '')) * Units_Sold as Total_Cost,
    (REPLACE(Sale_Price, '$', '') * Units_Sold) as Revenue,
    Month (Date) as Month,
    format(date, 'yyyy') as Year
  FROM
    product_data as a
    JOIN Product_Sales as b ON a.product_ID = b.Product )

select * ,
  (1 - CAST(REPLACE(Discount, '%', '') AS decimal(10,2)) * 1.0 / 100) * Revenue as discount_revenue
from cte a1
join discount_data b1
on a1.Discount_Band = b1.Discount_Band ;
```

Importing Data into Power BI

1

Data Source Connection

Connected Power BI to the SQL database containing the combined dataset.

2

Data Loading

Imported the data from the SQL database into Power BI Desktop for visualization.

Dashboard



Electronics Product Sales Dashboard

Year

< 2023



Profit YOY
1.32449...



Unit Sold...
15K

Image_url



AudioBox...

A complete recording bundle that includes an audio interface, M7 condenser microphone, headphones, and software. This all-in-one package is designed for musicians, podcasters, and streamers looking for an affordable, portable recording setup.



Sum of Revenue by Country

\$13,08,624.00
United States of America

\$12,56,088.00
France

\$11,15,196.00
Mexico

\$10,53,108.00
Germany

\$10,00,572.00
Canada

Sum of Revenue by Date and Year

Year ● 2022 ● 2023

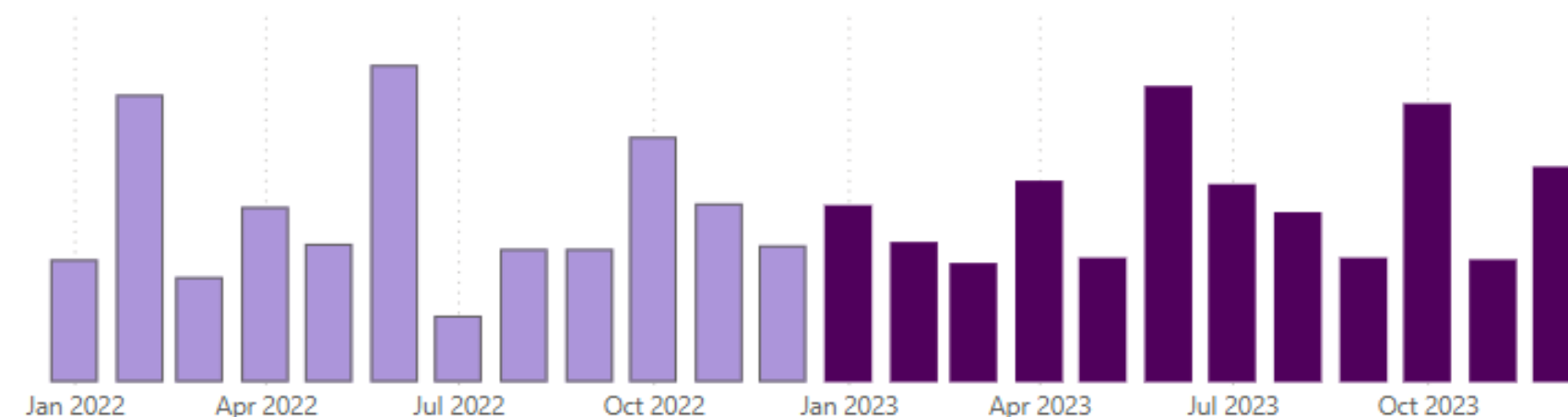
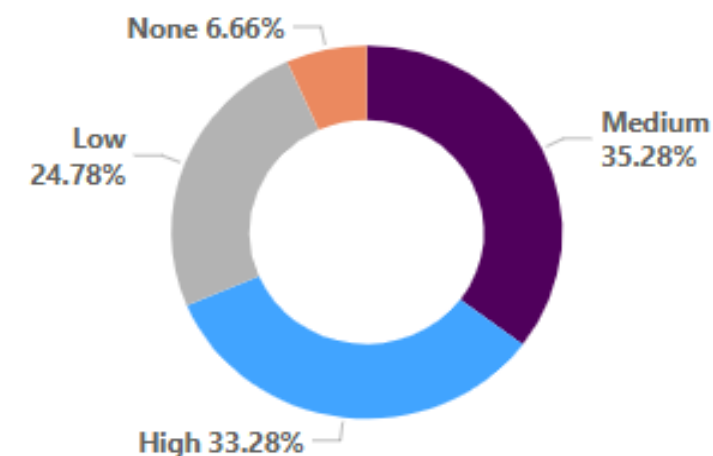


Table Breakdown

Year	2022		2023	
Customer_Type	Sum of Revenue	Min of Profit	Sum of Revenue	Min of Profit
⊕ Creator			\$3,91,632	245
⊕ Education	\$2,24,472	429	\$4,39,392	214
⊕ Enterprise	\$7,18,788	0	\$5,18,196	427
⊕ Government	\$11,96,388	79	\$13,13,400	122
⊕ Small Business	\$6,39,984	184	\$2,91,336	427
Total	\$27,79,632	0	\$29,53,956	122

Discount_Band Breakdown



Insights

1. **Year-over-Year (YoY) Profit Growth:** There is a significant YoY profit increase of 1.32449%. This indicates that the business is performing well and generating more profit compared to the previous year.
2. The bar chart shows revenue fluctuations across different quarters of 2022 and 2023. This can help identify seasonal trends or any specific periods with high/low revenue.
3. The United States is the top revenue-generating country, followed by France, Mexico, and Germany. This information can be used to focus sales and marketing efforts in these key markets.
4. **Profit:** Enterprise and Government customers have higher profit margins compared to other customer types.
5. **Discount Band Breakdown:** A significant portion of sales (66.6%) are made with no discount, indicating that the business might have room to offer discounts strategically to boost sales or incentivize certain customer segments.

Thank You!

Thank You

Thank you for your time and attention. I hope this presentation has provided valuable insights into the power of data integration and visualization.