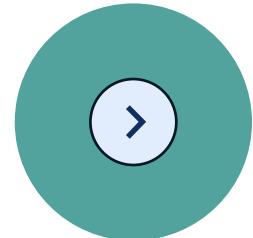


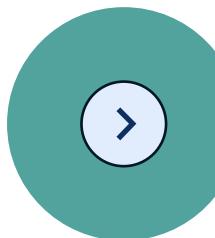
Marketing Campaign Analytics



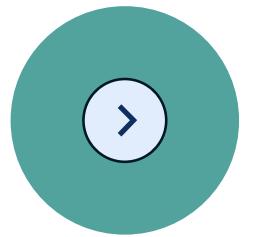
Agenda



Project Overview



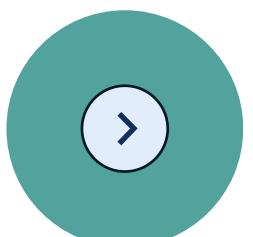
BI Pipelines



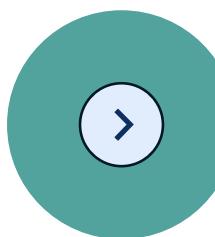
Data Cleaning & Preprocessing



Dashboards



Data Warehouse Design & ETL



Key Insights

Project Overview

This project aims to analyze marketing campaign results and customer behavior to evaluate campaign effectiveness and measure customer acceptance rates.

The project covers the full data lifecycle, starting from data collection and cleaning, followed by data integration and data warehouse design using SQL Server. Finally, interactive dashboards were developed using Power BI to provide insights into campaign performance and customer segmentation.

The analysis helps identify successful campaigns, understand customer profiles, and support data-driven marketing decisions.

Business Problem

In this project, we focused on answering key business questions like:

What factors are significantly related to the number of web purchases?

Which marketing campaign was the most successful?

What does the average customer look like?

Which products are performing best?

Which channels are underperforming?



Data Cleaning & Preprocessing

Income Handling

Missing income values were replaced using the median to avoid bias caused by extreme values.

Handling Zero Values in the “ID”

Identify the maximum value in the column MAX(ID). Add 1 to this maximum value to create a new value to replace zeros ($\text{MAX}(\text{CleanID}) + 1$). Replace all zero values with this new value.

Handling OutlierValues

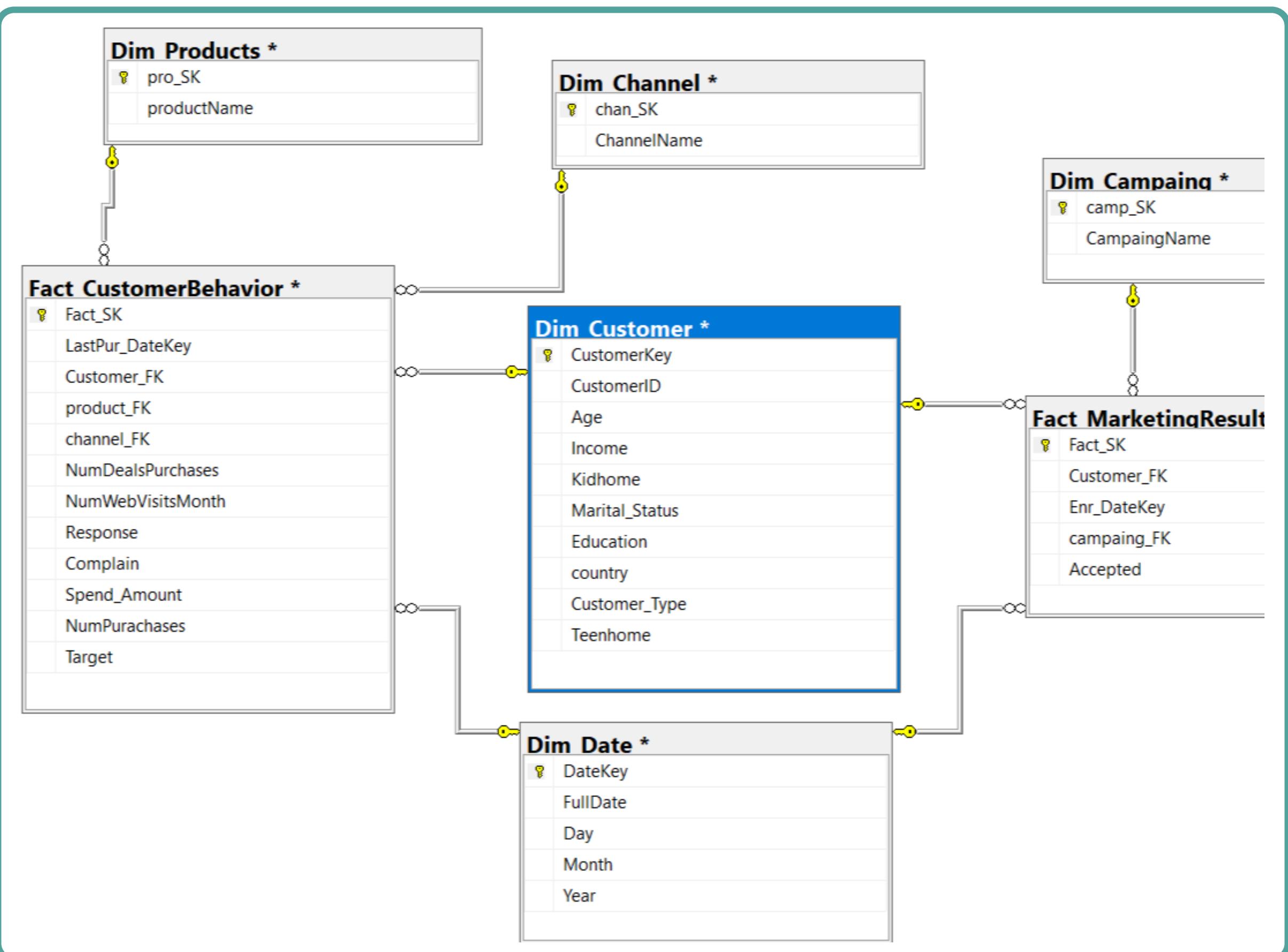
Outliers were identified using the IQR method and used to define customer types.

Handling OutlierValues

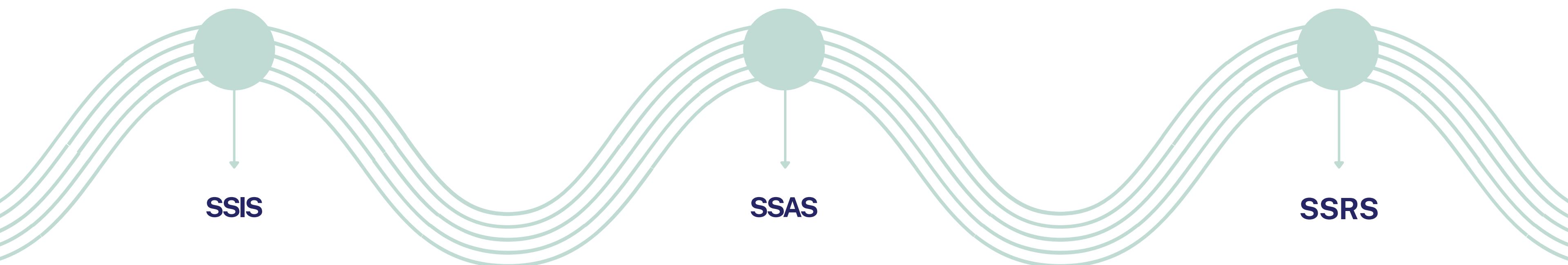
Unpivoted pivot columns for Campaigns, Web Purchases, and Products to enable detailed analysis and customer segmentation.

>>>> Data Warehouse Design

Galaxy Schema

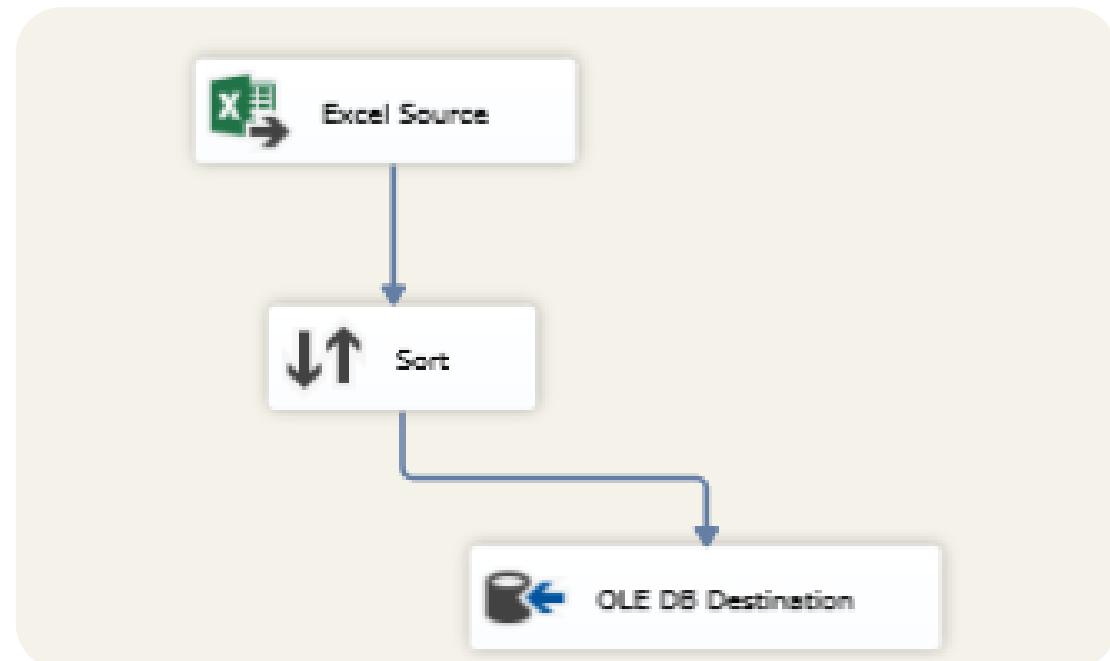


BI pipelines

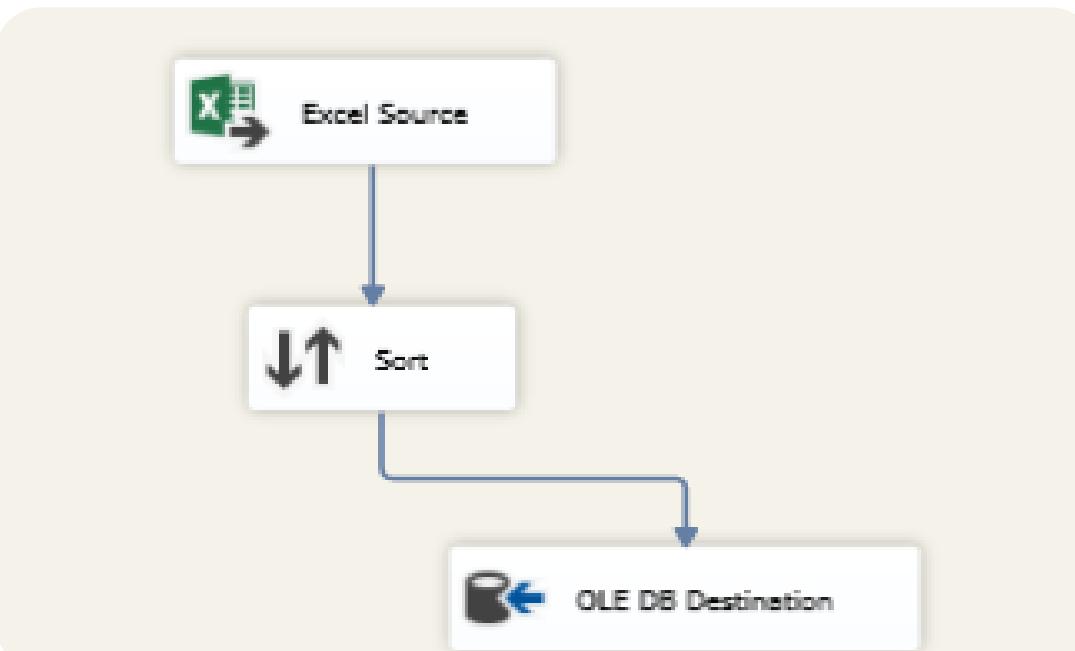


>>> SSIS

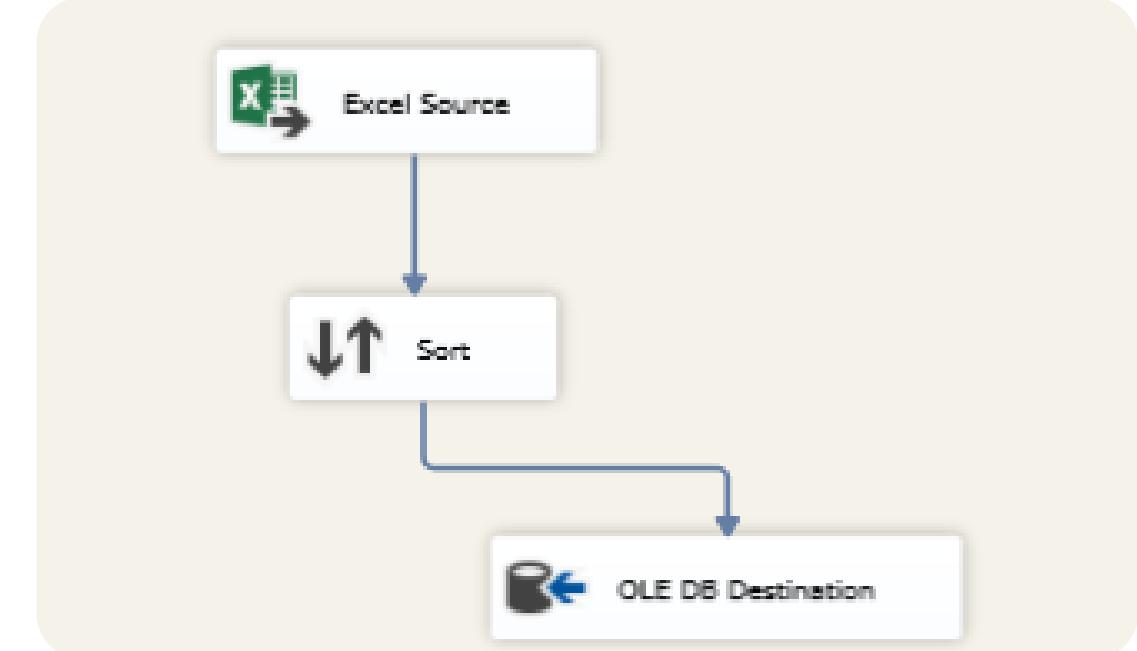
Dimension ETL



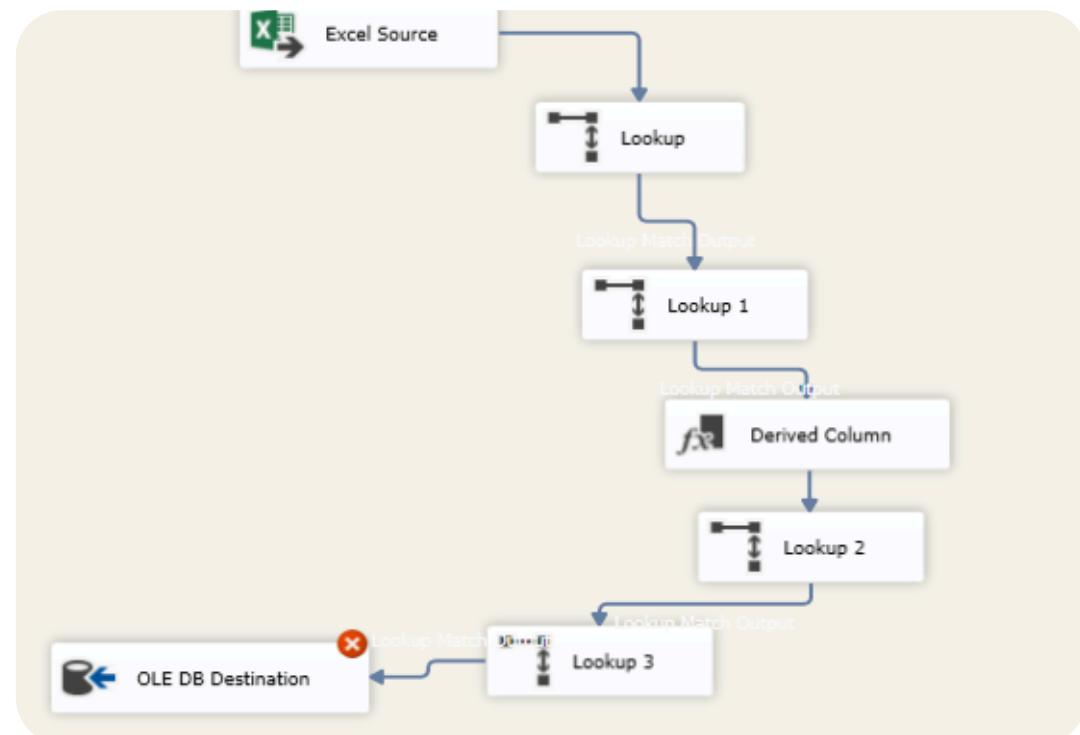
Campaing_Dim



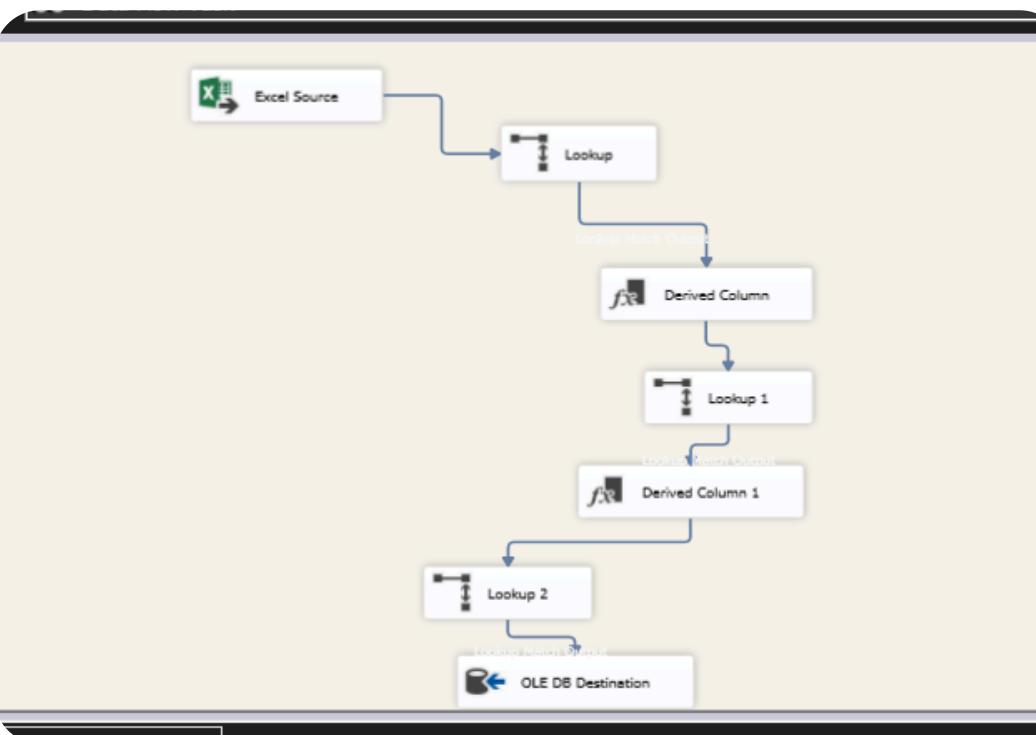
product_Dim



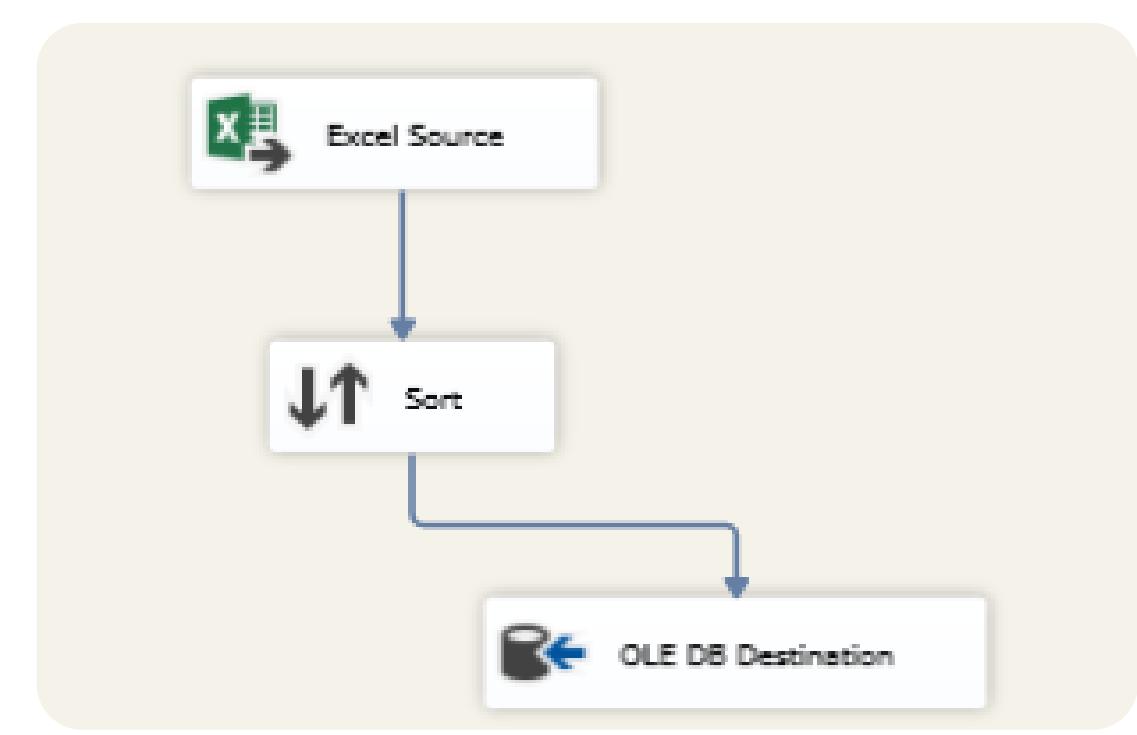
Channel_Dim



Fact_CustomerBehavior



Fact_MarketingResult



Customer_Dim

>>> SSRS

id NULL customer_type NULL

|< < 1 of 44 > >| 100% | Find | Next

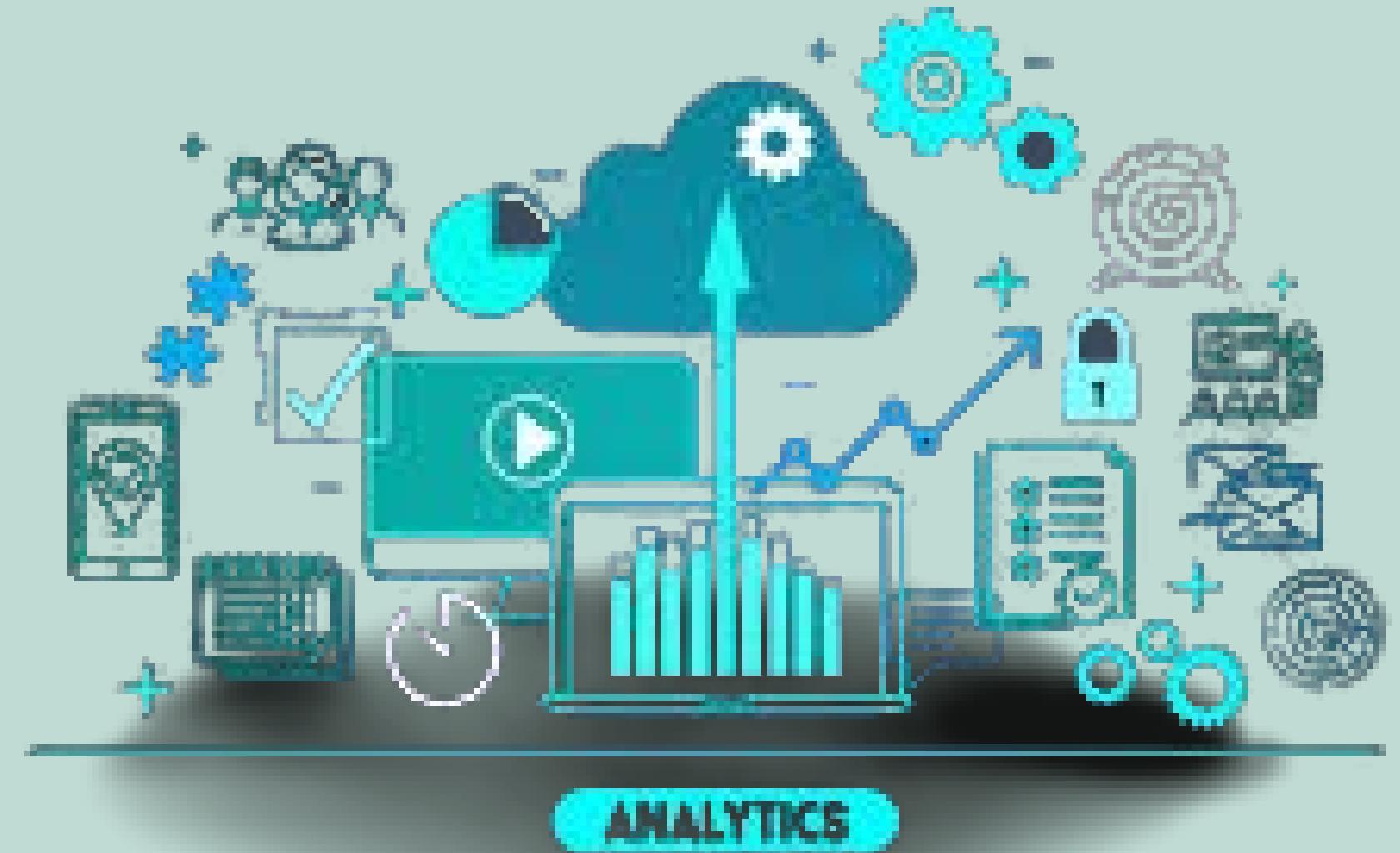
CustomerBehaviorSummary



Customer Key	Age	Marital Status	Education	Country	Total Web Visits	Total Spend	Total Deals	Total Complaints	Customer Type
1	65	Single	Graduation	Canada	450	8655	90	0	Regular
2	51	Single	Master	Canada	720	1800	360	0	Regular
3	79	Widow	PhD	Saudi Arabia	540	480	180	0	Regular
4	55	Married	PhD	Spain	450	15420	360	0	HighSpender
5	61	Married	2n Cycle	Germany	360	2745	90	0	Regular
6	50	Divorced	Graduation	Spain	720	4635	180	0	Regular
7	66	Together	Master	Saudi Arabia	630	705	450	0	Regular
8	68	Married	Graduation	Canada	360	16725	180	0	HighSpender
9	39	Married	Graduation	Spain	540	3150	270	0	Regular
10	62	Together	Graduation	Spain	540	2760	180	0	Regular
11	56	Single	Graduation	Canada	630	375	90	0	Regular
12	63	Together	Graduation	Spain	540	8955	360	0	Regular
13	54	Single	Master	Spain	630	1380	270	0	Regular
14	73	Single	PhD	India	450	270	90	0	Regular
15	44	Together	2n Cycle	USA	720	7005	90	0	Regular
16	57	Married	Graduation	Spain	720	555	90	0	Regular
17	58	Married	Graduation	Germany	630	255	180	0	Regular

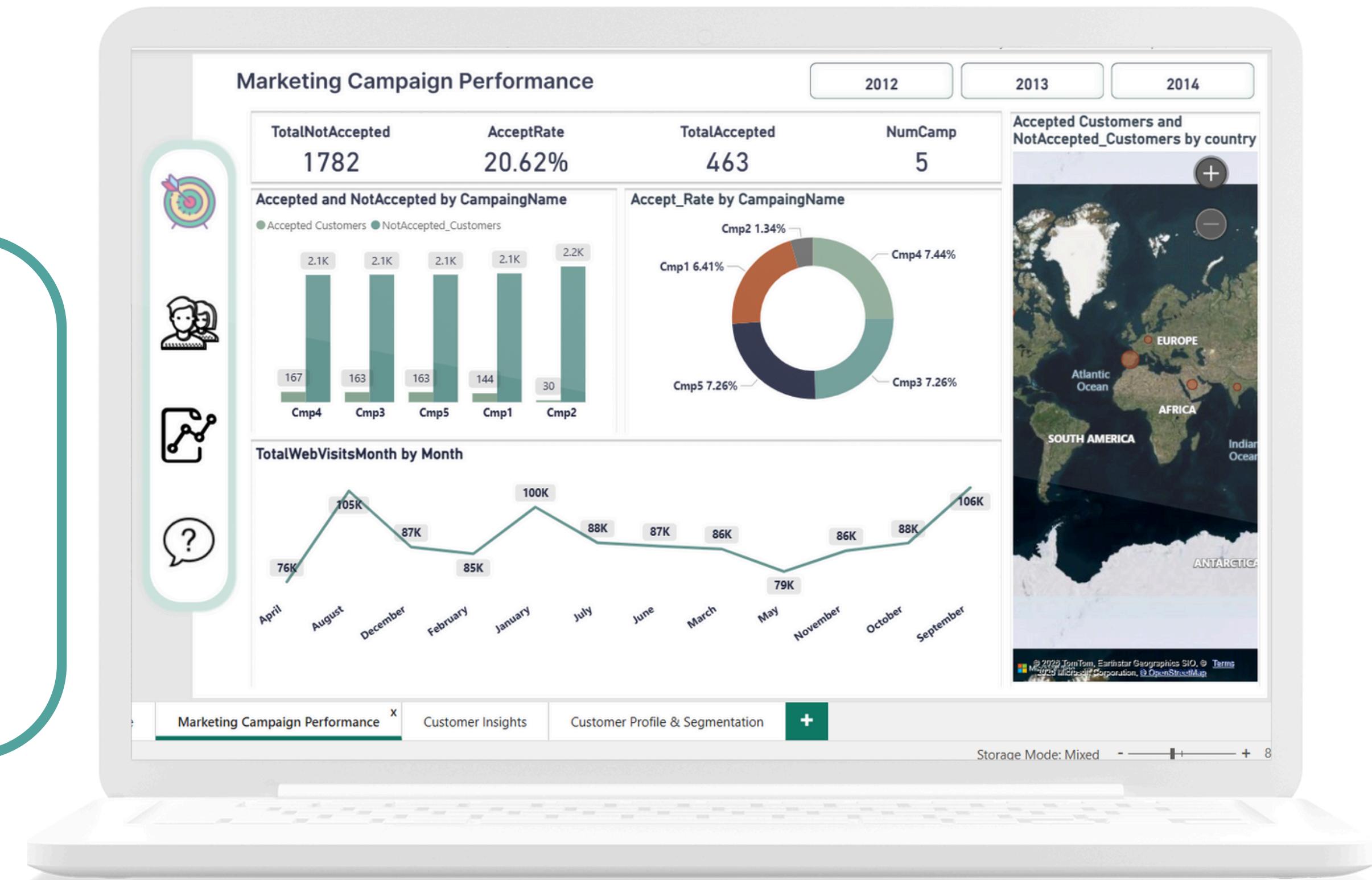
Dashboards

power pi 





The dashboard shows that campaign acceptance overall is very low at 20.6%, with most customers rejecting the offers. The best-performing campaign was Cmp4, which achieved the highest acceptance rate among all campaigns, though still below 8%. Website traffic remained consistently high across months, highlighting that the main challenge is converting visitors into customers rather than attracting them.





The dashboard shows that most customers are regular spenders (73.5%), while high spenders make up 26.5%. Wine is the top product with 10.2M in sales, followed by meat and gold. Campaign response was weak, with only 334 customers engaging compared to 1911 who did not. Most purchases happen in stores, making them the main sales channel.





I can search by customer type (such as Regular or High Spender) and analyze their behavior and information, including purchase frequency, preferred channels, favorite products, and campaign responses. This helps to understand each segment more clearly and design targeted offers and marketing strategies.

Thank you very much!

Presented by Amal Ali

