Customer RFM Analysis

~Know What Sells, Buy What Counts

Customer RFM (Recency, Frequency, Monetary) analysis is a data-driven approach used by businesses to segment and understand their customer base. By analyzing three key dimensions – how recently a customer made a purchase, how often they make purchases, and how much they spend – RFM analysis helps businesses identify valuable customer segments, tailor marketing strategies, and forecast future behavior. In this introduction, we'll explore the basics of RFM analysis and its significance in driving business growth and customer satisfaction

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Overview

Data Model

The data pipeline architecture consists of the following key components:

3.2.1 Data Sources

•**Data warehousing** is considered from the SQL server – AdventureDW2022

•**Subject Area Considered –** Sales, Product, Customer, Organization, Calendar, New Repeat Customer

•**External Table** – Customer – Recency, Frequency, Monetary.

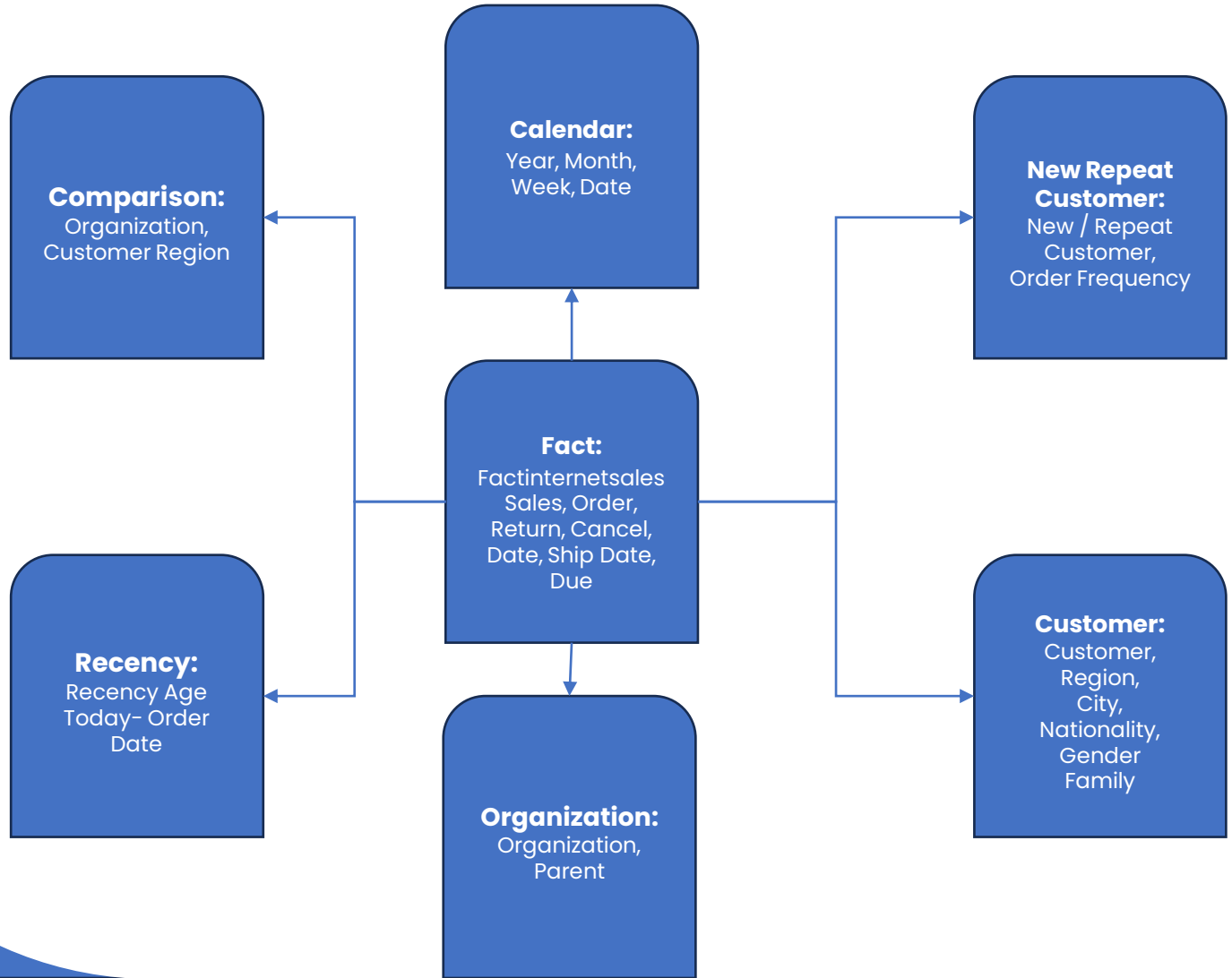


Table Relationships:

•**FactInternetSales (a)**:

- •One-to-many relationship with **dimdate**, **DimProduct**, and **DimPromotion** tables based on foreign key associations.

•**dimdate (b)**:

- •Provides date-related attributes for sales transactions in FactInternetSales.

•**DimProduct (c)**:

- •Provides product-related attributes for sales transactions in FactInternetSales.

•**DimPromotion (d)**:

- •Provides promotion-related attributes for sales transactions in FactInternetSales.

- **Customer Recency(d):**
  - Customer Recency is linked with the Factinternet sales Fact Table via Customer Key
- **Organization(d):**
  - The organization table is linked with the Fact table using the Currency Table

KPI Glossary

Summary:

Summary View contains Sales Order, Order Qty, Average Order Value, Average Member Spent, UPT, Total Cost, Gross Margin, Margin Value, Ship Value, etc.

Summary Value – Scorecard

Last Year Value – for each above KPI

Growth vs LY %.

The comparison report contains – Customer RFM analysis between Region and Organization.

Summary Value comparison between two Customer Region – Scorecard

Last Year's Value comparison between – for each above KPI

Growth vs LY %.

The Customer Mix %– Mix% comparison between the multiple dimensions.

Sales, Order, Qty, AOV, UPT comparison between Customer Region and Organization

Glossary	Definition	Formula
Sales Value	Net Sales Value	Sum(Sales Value)
Order Qty	Order Units	Sum(Order Units)
Customer	Customer Count	Count(Customer)
AMS	Average Member Spent	Sum(Sales Value)/Count(Customers)
AOV	Average Order Value	Sum(Sales Value)/Sum(Order Units)
Negative Margin	Cost > Sales	If(Sales < Cost,1,0)
Recency	Today()- Last Purchase Date	No of customers against recent purchase
Frequency	No of Orders age	No of Customer against order count
Monetory	Monetary Age	No of Customer against Monetary

RLS Security:

RLS is implemented based on the Organization and geography level and the same is maintained in the flat file.

User	Organization	Region
Shiva	Abc	AU
Alex	Efg	EG

Data Extraction:

Tools Used:

- Microsoft SQL Server Management Studio (SSMS)
- Power BI Desktop

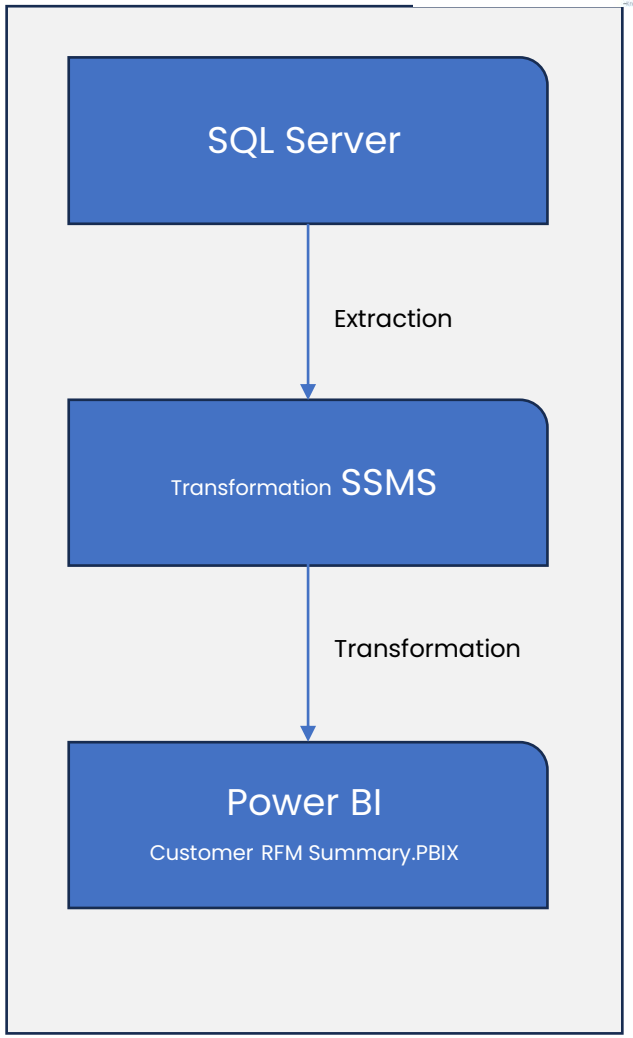
Data Pipeline Steps:

Data Extraction:

- Source: Microsoft SQL Server database.
  - Factinternetsales, Dimpromotion, Dimcustomer >> additional flags like a family flag, negative margin flag
  - Customer New Repeat Logic based on the Last Purchase date.
  - Customer Recency, Frequency, and Monetary Logic.
  - Date Logic using the Dimdate
- Tools Used: SSMS for query development.
- SQL Queries:

Visualization and Analysis:

- Tools Used: Power BI Desktop.
- Visualization Logic:



Click here to get the extraction and pbix file