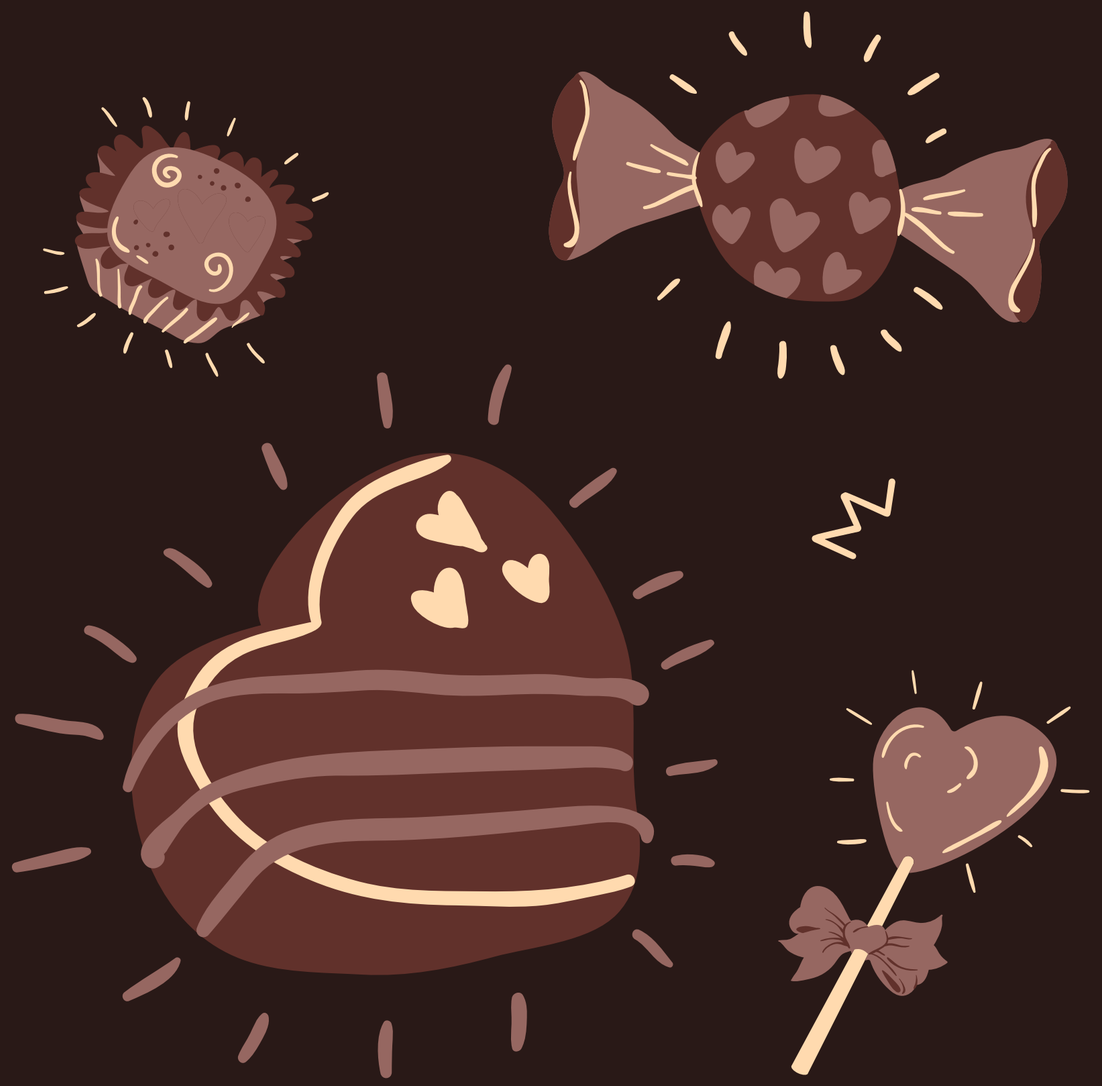
Chocolate Sales Analysis using SQL



Presented by

priya dey

Project Description:

This project involves analyzing chocolate sales data using SQL Server to understand sales performance and business trends. The dataset was explored and analysed using SQL queries to calculate total sales, analyse sales by country, product, and identify time-based trends. The goal of this project is to transform raw sales data into meaningful insights that support business decision-making.

PROJECT OBJECTIVES:

- To explore and understand the chocolate sales dataset using SQL
- To calculate overall and category-wise sales performance
- To analyse sales by country, product, and salesperson
- To identify monthly sales trends using date functions
- To generate business insights using SQL queries
- To demonstrate practical SQL skills for data analysis

DATASET OVERVIEW

The dataset contains transactional chocolate sales records collected from different countries. Each record represents a confirmed sales transaction including sales amount and quantity shipped.

Key Columns:

- Sales_Person – Name of the salesperson
- Country – Country where the sale occurred
- Product – Type of chocolate product sold
- Date – Date of the sales transaction
- Amount – Total sales amount
- Boxes_Shipped – Number of boxes shipped

Tools And Skills Used

TOOLS:

- SQL Server (SSMS) – Data storage, querying, and analysis
- Kaggle Dataset – Chocolate Sales data source

SKIILS USED:

- SQL Queries (SELECT, WHERE, GROUP BY, ORDER BY)
- Aggregate Functions (SUM, AVG, COUNT)
- Date Functions (YEAR, MONTH)
- Data Exploration and Validation
- Business Reporting using SQL

Total Sales Analysis

QUERY DESCRIPTION:

This query calculates the total sales amount by summing up the Amount column from the Chocolate Sales table. It helps in understanding the overall revenue generated during the selected time period.

```
--TOTAL SALES--
SELECT SUM(Amount) as TOTAL_SALES
FROM [dbo].[Chocolate Sales]
```

OUTPUT:

Total Sales:

₹ 6,183,625.00

Results | Messages

	TOTAL_SALES
1	6183625.00

INSIGHT:

- The business generated a total sales revenue of 6.18 million from chocolate products.
- This value represents the overall performance of sales across all countries, products, and salespersons.
- This metric is useful as a baseline for further analysis like country-wise, product-wise, and monthly sales comparison.

Country-Wise Sales Analysis

QUERY DESCRIPTION:

This query calculates the total sales amount for each country by grouping the sales data based on country. It helps in identifying which countries contribute the most and least to overall revenue.

```
--SALES BY COUNTRY--
SELECT Country, SUM(Amount) AS COUNTRY_BY_TOTAL_SALES
FROM [dbo].[Chocolate Sales]
GROUP BY Country
ORDER BY Country
```

OUTPUT:

- Australia = 1,137,367
- Canada = 962,899
- India = 1,045,800
- New Zealand = 950,418
- UK = 1,051,792
- USA = 1,035,349

Results | Messages

	Country	COUNTRY_TOTAL_SALES
1	Australia	1137367.00
2	Canada	962899.00
3	India	1045800.00
4	New Zealand	950418.00
5	UK	1051792.00
6	USA	1035349.00

KEY INSIGHTS:

- Australia is the highest revenue-generating country.
- UK and India also contribute significantly to total sales.
- New Zealand and Canada show comparatively lower sales.
- Sales performance varies across regions, indicating market potential in different countries.

Product-wise Sales Analysis

QUERY DESCRIPTION :

This SQL query groups the sales data by product and calculates the total sales for each chocolate product using aggregate functions. It helps in identifying the best-selling and least-selling products and understanding customer product preferences.

```
-- SALES BY PRODUCT --
SELECT Product, sum(Amount) as TOTAL_SALES_PRODUCT
FROM [dbo].[Chocolate Sales]
GROUP BY Product
ORDER BY Product
```

OUTPUT:

- This query analyses sales performance for each chocolate product by aggregating sales data at the product level. It helps identify high-demand and low-demand products based on total sales volume.

Results | Messages

	Product	TOTAL_SALES_PRODUCT
1	50% Dark Bites	341712.00
2	70% Dark Bites	211610.00
3	85% Dark Bars	299229.00
4	99% Dark & Pure	299796.00
5	After Nines	261331.00
6	Almond Choco	277536.00
7	Baker's Choco Chips	249613.00
8	Caramel Stuffed Bars	231588.00
9	Choco Coated Almonds	241486.00
10	Drinking Coco	256655.00
11	Eclairs	312445.00
12	Fruit & Nut Bars	259147.00
13	Manuka Honey Choco	275541.00
14	Milk Bars	269248.00
15	Mint Chip Choco	283969.00
16	Orange Choco	256144.00
17	Organic Choco Syrup	294700.00
18	Peanut Butter Cubes	324842.00
19	Raspberry Choco	264740.00
20	Smooth Sliky Salty	349692.00
21	Spicy Special Slims	293454.00
22	White Choc	329147.00

kEY INSIGHTS:

- 50% Dark Bites is the highest-selling product.
- Smooth Silky Salty and Eclairs also show strong sales performance.
- Choco Coated Almonds and Almond Choco have comparatively lower sales.
- Product demand varies significantly, indicating customer preference for specific chocolate types

Monthly Sales Trend Analysis

QUERY DESCRIPTION:

This SQL query analyses monthly sales by grouping sales data based on year and month and calculating total sales for each month. It helps identify sales trends and seasonal patterns over time.

```sql
--MONTHLE SALES--
SELECT
  YEAR(Date) AS year,
  MONTH(Date) AS month,
  SUM(Amount) AS monthly_sales
FROM [dbo].[Chocolate Sales]
GROUP BY YEAR(Date), MONTH(Date)
ORDER BY year, month;
```

OUTPUT:

- The output displays the total sales for each month, calculated by summing the sales amount and grouping the data by year and month. This result helps in comparing sales performance across different months.

Results | Messages

	year	month	monthly_sales
1	2022	1	896105.00
2	2022	2	699377.00
3	2022	3	749483.00
4	2022	4	674051.00
5	2022	5	752892.00
6	2022	6	865144.00
7	2022	7	803425.00
8	2022	8	743148.00

KEY INSIGHTS:

- highest sales were recorded in january and june .
- lowest sales observed in april.
- sales show fluctuations across months,indicating seasonal demand patterns.

Business Recommendations

- Focus on high-performing countries such as Australia, UK, and India by increasing marketing efforts and ensuring product availability.
- Promote top-selling products like 50% Dark Bites and Smooth Silky Salty through targeted offers and promotions to maximise revenue.
- Improve performance in low-selling regions by introducing region-specific discounts and marketing campaigns.
- Optimise inventory planning based on product-wise demand and monthly sales trends to reduce overstocking and stock-outs.
- Plan sales strategies for peak months identified in monthly sales analysis to maximise revenue during high-demand periods.
- Review low-performing products and consider rebranding, pricing adjustments, or limited-time offers to boost sales.

Project Impact

- Provided a clear understanding of overall sales performance using SQL.
- Identified top-performing countries and products, helping focus on high-revenue areas.
- Revealed monthly sales trends, supporting better sales planning and forecasting.
- Helped understand product demand, useful for inventory and supply planning.
- Demonstrated practical SQL skills for business data analysis and reporting.

CONCLUSION

This project demonstrates the effective use of SQL Server to analyse chocolate sales data and extract meaningful business insights. By performing sales, product, country, and time-based analysis, the project shows how raw data can be converted into actionable information. Overall, this project highlights strong SQL fundamentals and analytical thinking suitable for entry-level data analyst or MIS roles.

THANK YOU