FOOD & BEVERAGES SALES REPORT ANALYSIS

(using SQL)

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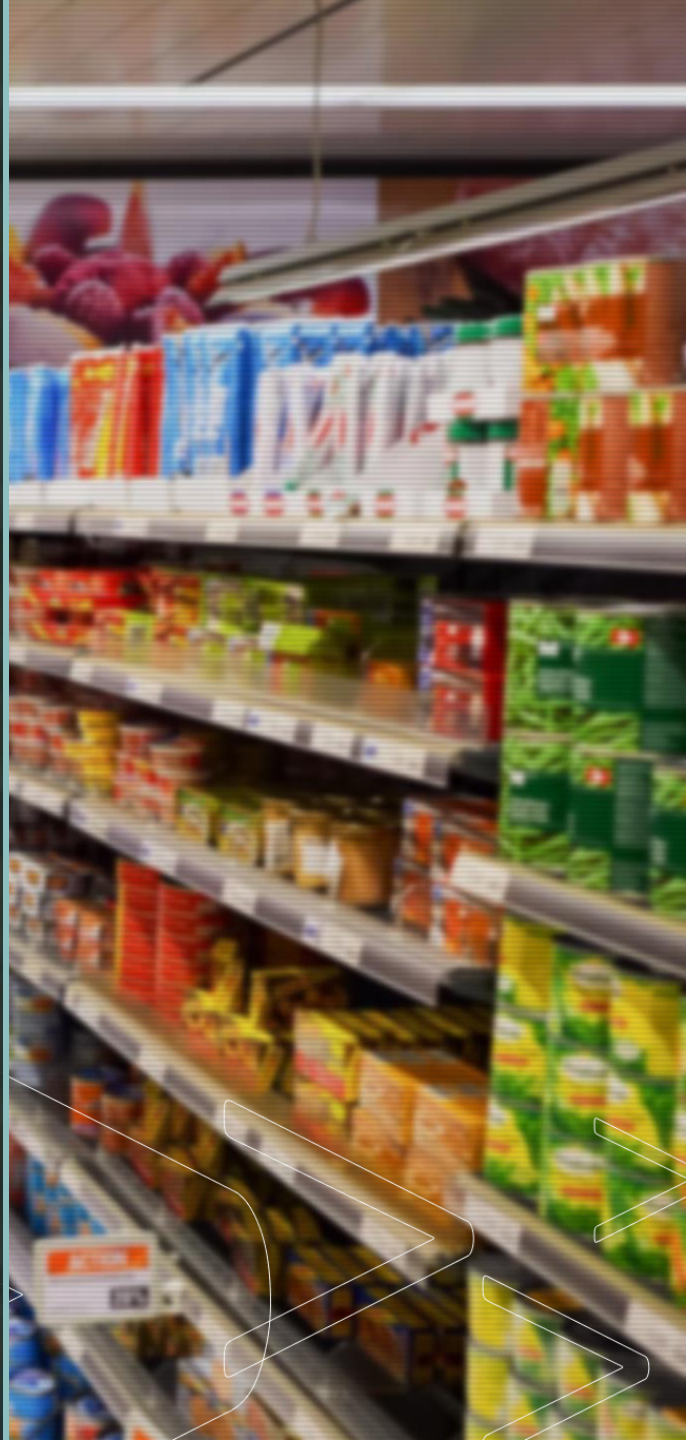

INTRODUCTION

The objective is to extract meaningful insights that can help us understand sales trends and make informed business decisions.

In this project we will be discussing the sales performance of the company over the past three years (2019, 2020, and 2021). I have analyzed sales data using **SQL queries** to gain insights into product categories, sales channels, and team performance. The data used for this analysis comes from two CSV files: One containing Product information and the other containing Sales information.

To begin our analysis, I first loaded the data into **SQL Server** and rename the files name, Product to **Food_and_Beverages1** and Sales to **Food_and_Beverages2**.

Always familiar with your Data

```
SELECT * FROM Food_and_beverages1
```

Results | Messages

	ID	ProductName	ProductGroup	ProductCategory
1	108	Product 108	Ground Coffee	Food
2	111	Product 111	Vegetable	Food
3	114	Product 114	Spices	Food
4	118	Product 118	Spices	Food
5	120	Product 120	Spices	Food
6	142	Product 142	Ground Coffee	Food
7	143	Product 143	Ground Coffee	Food
8	144	Product 144	Ground Coffee	Food
9	145	Product 145	Ground Coffee	Food
10	146	Product 146	Oil	Food
11	157	Product 157	Powdered Milk	Food
12	158	Product 158	Powdered Milk	Food
13	159	Product 159	Coffee in Capsules	Food
14	168	Product 168	Coffee in Capsules	Food
15	175	Product 175	Oil	Food
16	176	Product 176	Oil	Food
17	180	Product 180	Oil	Food
18	183	Product 183	Vegetable	Food
19	186	Product 186	Vegetable	Food
20	187	Product 187	Vegetable	Food

```
SELECT * FROM Food_and_beverages2
```

Results | Messages

	OrderDate	OrderNumber	ProductKey	SalespersonKey	Salesperson	Supervisor	Manager	Channel	Quantity	UnitPrice
1	2019-01-12 00:00:00.0000000	1492762	1420	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	6	4.44
2	2019-01-12 00:00:00.0000000	1492762	1073	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	6	8.83
3	2019-01-12 00:00:00.0000000	1492762	264	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	10	0.96
4	2019-01-13 00:00:00.0000000	1492719	1154	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	6	2.92
5	2019-01-13 00:00:00.0000000	1492719	1527	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	6	2.81
6	2019-01-13 00:00:00.0000000	1492719	1862	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	6	2.81
7	2019-01-13 00:00:00.0000000	1492719	438	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	6	7.85
8	2019-01-13 00:00:00.0000000	1492719	1468	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	8	5.69
9	2019-01-13 00:00:00.0000000	1492719	1534	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	24	2.56
10	2019-01-13 00:00:00.0000000	1492719	203	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	24	1.73
11	2019-01-13 00:00:00.0000000	1492719	1216	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	30	1.16
12	2019-01-13 00:00:00.0000000	1492719	1132	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	10	2.07
13	2019-01-13 00:00:00.0000000	1492719	1131	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	10	2.07
14	2019-01-13 00:00:00.0000000	1492719	2232	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	10	1.6
15	2019-01-13 00:00:00.0000000	1492719	1609	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	10	1.61
16	2019-01-13 00:00:00.0000000	1492719	876	265	Julio Lima	Diogo Carvalho	Gabriel Azevedo	Distributor	12	1.96

Question 1: Calculate Total Revenue.

```
SELECT SUM(Quantity * Unitprice) as REVENUE
FROM dbo.Food_and_beverages2
```

Results | Messages

	REVENUE
1	17909232.4899997

Question 2: Calculate Total Revenue in Millions

```
SELECT CONCAT(ROUND((SUM(Quantity * Unitprice)/1000000),2), 'M') as REVENUE
FROM dbo.Food_and_beverages2
```

Results | Messages

	REVENUE
1	17.91M

Question 3: What is the total number of Orders ?

```
SELECT COUNT(DISTINCT(OrderNumber)) AS ORDERS
FROM Food_and_beverages2
```

Results | Messages

	ORDERS
1	52560

Question 4: What is the total revenue and order for each year ?

```sql
SELECT DATENAME(YYYY,FD1.ORDERDATE) AS YEAR_REVENUE_ORDERS,
    CONCAT(ROUND((SUM(FD1.Quantity * FD1.UnitPrice))/1000000,2),' M') AS REVENUE,
    COUNT(DISTINCT(FD1.OrderNumber)) AS ORDERS
FROM Food_and_beverages1 AS FD
JOIN Food_and_beverages2 AS FD1
ON FD.ID= FD1.ProductKey
GROUP BY DATENAME(YYYY,FD1.ORDERDATE)
ORDER BY YEAR_REVENUE_ORDERS;
```

	YEAR_REVENUE_ORDERS	REVENUE	ORDERS
1	2019	6.65 M	17481
2	2020	10.21 M	32065
3	2021	1.05 M	3014

Question 5: What is the total revenue for each product category ?

```
SELECT  FD.ProductCategory,
        CONCAT(ROUND((SUM(FD1.Quantity * FD1.UnitPrice)/1000000),2), 'M') AS REVENUE

FROM Food_and_beverages1 AS FD
 JOIN Food_and_beverages2 AS FD1
ON FD.ID= FD1.ProductKey
GROUP BY FD.ProductCategory
ORDER BY REVENUE DESC
```

Results | Messages

	ProductCategory	REVENUE
1	Food	16.37M
2	Drink	1.54M

Question 6: What is the total revenue for each channel ?

```
SELECT  FD1.Channel,
        CONCAT(ROUND((SUM(FD1.Quantity * FD1.UnitPrice)/1000000),2), 'M') AS REVENUE

FROM Food_and_beverages1 AS FD
 JOIN Food_and_beverages2 AS FD1
ON FD.ID= FD1.ProductKey
GROUP BY FD1.Channel
ORDER BY REVENUE DESC
```

Results | Messages

	Channel	REVENUE
1	Retail	8.7M
2	Distributor	6.1M
3	Online	3.11M

Question 7: What is the total revenue for each product group in Millions ?

```
SELECT  FD.ProductGroup,
        ROUND((SUM(FD1.Quantity * FD1.UnitPrice)/1000000),2) AS REVENUE
FROM Food_and_beverages1 AS FD
 JOIN Food_and_beverages2 AS FD1
ON FD.ID= FD1.ProductKey
GROUP BY FD.ProductGroup
ORDER BY REVENUE DESC
```

Results | Messages

	ProductGroup	REVENUE
1	Wheat Flour	4.47
2	Oil	2.89
3	Yeasts	2.2
4	Flour	1.66
5	Liquor	1.14
6	Candy	0.92
7	Manioc Flour	0.88
8	Spices	0.65
9	Sugar	0.52
10	Popcorn	0.5
11	Powdered Milk	0.5
12	Coffee in Capsules	0.47
13	Vegetable	0.39
14	Imported Wine	0.16
15	Canned Sweet	0.14
16	Dry Wine	0.14
17	Ground Coffee	0.13

Question 8: Which is the top 3 product category in Distributor channel revenue wise?

```sql
SELECT  TOP 3 FD1.Channel, FD.ProductGroup,
        ROUND((SUM(FD1.Quantity * FD1.UnitPrice)),3) AS REVENUE,
        COUNT(DISTINCT(FD1.OrderNumber)) AS ORDERS

FROM Food_and_beverages1 AS FD
 JOIN Food_and_beverages2 AS FD1
ON FD.ID= FD1.ProductKey
WHERE FD1.Channel ='Distributor'
GROUP BY FD1.Channel,FD.ProductGroup
ORDER BY FD1.Channel,REVENUE DESC
```

Results | Messages

	Channel	ProductGroup	REVENUE	ORDERS
1	Distributor	Wheat Flour	1340460.41	6585
2	Distributor	Oil	1008399.11	7587
3	Distributor	Yeasts	939892.39	6240

Question 9: Which is the top 3 product category for all channel revenue wise?

```sql
WITH ChannelRevenue AS (
    SELECT FD1.Channel, FD.ProductGroup,
           ROUND((SUM(FD1.Quantity * FD1.UnitPrice)),3) AS REVENUE,
           COUNT(DISTINCT(FD1.OrderNumber)) AS ORDERS,
           ROW_NUMBER() OVER (PARTITION BY FD1.Channel ORDER BY SUM(FD1.Quantity * FD1.UnitPrice) DESC) as rn
    FROM Food_and_beverages1 AS FD
    JOIN Food_and_beverages2 AS FD1
    ON FD.ID= FD1.ProductKey
    GROUP BY FD1.Channel,FD.ProductGroup
)
SELECT Channel, ProductGroup, REVENUE, ORDERS
FROM ChannelRevenue
WHERE rn <= 3
```

Results | Messages

	Channel	ProductGroup	REVENUE	ORDERS
1	Distributor	Wheat Flour	1340460.41	6585
2	Distributor	Oil	1008399.11	7587
3	Distributor	Yeasts	939892.39	6240
4	Online	Wheat Flour	873325.35	5034
5	Online	Oil	652164.74	6088
6	Online	Flour	373827.04	1831
7	Retail	Wheat Flour	2259455.08	8216
8	Retail	Oil	1229924.17	8279
9	Retail	Yeasts	912833.39	5637

Question 10: What is the total revenue for month wise ?

```sql
WITH BYMONTH AS (
    SELECT DATENAME(MM,FD1.ORDERDATE) AS MONTH_REVENUE_ORDERS,
           DATEPART(MM,FD1.ORDERDATE) AS MONTH_NUMBER,
           ROUND((SUM(FD1.Quantity * FD1.UnitPrice)),3) AS REVENUE,
           COUNT(DISTINCT(FD1.OrderNumber)) AS ORDERS,
           ROW_NUMBER() OVER (PARTITION BY DATENAME(MM,FD1.ORDERDATE) ORDER BY SUM(FD1.Quantity * FD1.UnitPrice)) as rn
    FROM Food_and_beverages1 AS FD
    JOIN Food_and_beverages2 AS FD1
    ON FD.ID= FD1.ProductKey
    GROUP BY DATENAME(MM,FD1.ORDERDATE), DATEPART(MM,FD1.ORDERDATE)
)
SELECT MONTH_REVENUE_ORDERS, REVENUE, ORDERS
FROM BYMONTH
ORDER BY MONTH_NUMBER;
```

	MONTH_REVENUE_ORDERS	REVENUE	ORDERS
1	January	1363565.7	3894
2	February	967718.64	2792
3	March	1087103.84	2719
4	April	1156490.64	2906
5	May	1359726.51	3713
6	June	1338495.02	4025
7	July	1563240.44	4688
8	August	1703887.16	5141
9	September	1892626.14	5608
10	October	1957468.25	6105
11	November	1803340.14	5834
12	December	1715570.01	5135

Question 11: Which salesperson sold the most units of each product category ?

```sql
SELECT FD.ProductCategory, FD1.Salesperson,
       SUM(FD1.Quantity) AS TOTAL_QUANTITY
FROM Food_and_beverages1 AS FD
JOIN Food_and_beverages2 AS FD1
ON FD.ID = FD1.ProductKey
GROUP BY  FD.ProductCategory, FD1.Salesperson
ORDER BY  FD1.Salesperson , TOTAL_QUANTITY DESC
```

	ProductCategory	Salesperson	TOTAL_QUANTITY
1	Food	Carla Ferreira	1609329
2	Drink	Carla Ferreira	32301
3	Food	Estevan Souza	153184
4	Drink	Estevan Souza	1649
5	Food	Felipe Goncalves	790961
6	Drink	Felipe Goncalves	4158
7	Food	Gustavo Barros	307829
8	Drink	Gustavo Barros	3291
9	Food	Gustavo Gomes	778253
10	Drink	Gustavo Gomes	14964
11	Food	Isabella Sousa	117568
12	Food	Julia Silva	315987
13	Drink	Julia Silva	1900
14	Drink	Julieta Gomes	1435
15	Food	Julio Lima	1149775
16	Drink	Julio Lima	18224
17	Drink	Kaua Araujo	49621
18	Food	Leonardo Card...	690176
19	Drink	Leonardo Card...	7072
20	Food	Mateus Costa	330941
21	Drink	Mateus Costa	2554

Question 12: What is the most popular channel for each product category?

```
SELECT FD.ProductCategory, FD1.Channel,
        COUNT(*) AS ORDER_Count
FROM Food_and_beverages1 AS FD
 JOIN Food_and_beverages2 AS FD1
ON FD.ID= FD1.ProductKey
GROUP BY  FD.ProductCategory, FD1.Channel
ORDER BY ORDER_Count DESC
```

Results | Messages

	ProductCategory	Channel	ORDER_Count
1	Food	Retail	99353
2	Food	Distributor	87534
3	Food	Online	58363
4	Drink	Retail	9716
5	Drink	Distributor	4051
6	Drink	Online	1079

Question 13: Which product has the highest sales in terms of revenue in each channel?

```
SELECT FD1.Channel, FD.ProductGroup,
       MAX(FD1.Quantity * FD1.UnitPrice) as Highest_Revenue

FROM Food_and_beverages1 AS FD
JOIN Food_and_beverages2 AS FD1
ON FD.ID = FD1.ProductKey
GROUP BY FD1.Channel, FD.ProductGroup
ORDER BY Highest_Revenue DESC
```

	Channel	ProductGroup	Highest_Revenue
1	Online	Flour	41040
2	Distributor	Flour	35100
3	Retail	Candy	25956
4	Retail	Wheat Flour	22990.8
5	Online	Wheat Flour	21810
6	Distributor	Wheat Flour	11550
7	Online	Oil	8960
8	Retail	Oil	7041.6
9	Retail	Flour	6711.6
10	Distributor	Spices	6552
11	Retail	Spices	6294
12	Online	Yeasts	5472
13	Distributor	Candy	5418
14	Distributor	Oil	4914
15	Online	Spices	4209.6
16	Retail	Manioc Flour	3610.8
17	Distributor	Yeasts	3321.6
18	Retail	Ground Coff...	3275.28
19	Retail	Liquor	3261.6
20	Distributor	Vegetable	2640
21	Retail	Sugar	2620.8

Question 14 : Which manager's team has the highest sales ?

```
SELECT  TOP 1  Manager,
        ROUND(SUM(Quantity * UnitPrice),3) AS TOTAL_SALES
FROM Food_and_beverages2
 GROUP BY Manager
ORDER BY TOTAL_SALES DESC
```

Results | Messages

	Manager	TOTAL_SALES
1	Gabriel Azevedo	9212165.98

Question 15 : Who is the salesperson with the highest total sales?

```
SELECT  TOP 1  Salesperson,
        ROUND(SUM(Quantity * UnitPrice),3) AS TOTAL_SALES
FROM Food_and_beverages2
 GROUP BY Salesperson
ORDER BY TOTAL_SALES DESC
```

Results | Messages

	Salesperson	TOTAL_SALES
1	Carla Ferreira	4707402.55

INSIGHTS

Product Group Revenue: **Wheat flour** with **$4.47M** revenue.

Top-Selling Product: **Oil** with **21954** orders placed.

Top Salesperson: **Carla Ferreira $4.7M**

Top-Performing Team: Manager **Gabriel Azevedo $9.2M.**

Popular Sales Channels: **Retail channel** with $8.7M revenue and 22K orders.

Top 3 product channel wise: **Wheat flour** followed by **Oil** then Yeasts for channel respectively.

Channel Revenue: Retail with $8.7M, Distributor $6.1M and Online $3.11M.

THANK YOU

If you have any query or questions related to this analysis feel free to reach out to me:

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