

BlinkIT Analysis

Objective:

- Analyse BlinkIT's sales performance using SQL.
- Identify key insights and trends from the data.
- Evaluate customer preferences using key KPIs.
- Understand how product and outlet features affect sales.
- Provide data-driven recommendations to improve business performance.

Tools Used: **Excel, MySQL**.

Step 1: Importing Data from Excel to MySQL

The BlinkIT Excel file is first saved as a CSV file and then moved into MySQL's upload folder.

Using the **LOAD DATA INFILE** command, the CSV file is imported into a table in MySQL.

This prepares the data for cleaning and analysis.

Step 2: Data Cleaning

I cleaned the Item_Fat_Content column to make the values consistent. The dataset had different versions of the same category (LF, low fat Vs. Low Fat), which could create confusion during analysis. By standardizing these values, the data becomes more accurate, easier to analyse, and better for creating clear reports.

QUERY:

```
UPDATE blinkit_data
SET Item_Fat_Content =
CASE
    WHEN Item_Fat_Content IN ('LF', 'low fat') THEN 'Low Fat'
    WHEN Item_Fat_Content = 'reg' THEN 'Regular'
    ELSE Item_Fat_Content
END;
```

After executing this query check the data has been cleaned or not using below query

```
SELECT DISTINCT Item_Fat_Content FROM blinkit_data;
```

Result Grid	
	Item_Fat_Content
▶	Regular
	Low Fat

Step 3: Business Requirements

A. KPI's Requirement:

To evaluate BlinkIT's performance effectively, the following key metrics will be analyzed:

1. Total Sales:

Overall revenue generated from all products sold.

QUERY:

```
SELECT CAST(SUM(Sales) / 1000000.0 AS DECIMAL(10,2)) AS
Total_Sales_Million FROM
blinkit_data;
```

Result Grid	
	total_sales_millions
▶	1.20

2. Average Sales:

The average revenue per sale or transaction.

QUERY:

```
SELECT CAST(AVG(Sales) AS DECIMAL(10,0) AS Avg_Sales
FROM blinkit_data;
```

Result Grid	
	avg_sales
▶	141

3. Number of Items:

Total count of items or SKUs included in sales data.

QUERY:

```
SELECT COUNT(*) AS No_of_Orders FROM  
blinkit_data;
```

Result Grid	
	No_of_Orders
▶	8523

4. Average Rating:

The average customer rating given to products, reflecting satisfaction and quality perception.

QUERY:

```
SELECT CAST(AVG(Rating) AS DECIMAL(10,2)) AS Avg_Rating FROM  
blinkit_data;
```

Result Grid	
	avg_rating
▶	3.97

B. Granular Requirements:

1. Total Sales by Fat Content

Analyze how different fat content categories influence total sales.

QUERY:

```
SELECT Item_Fat_Content, CAST(SUM(Sales) AS DECIMAL(10,2)) AS  
Total_Sales  
FROM blinkit_data  
GROUP BY Item_Fat_Content ORDER BY Total_Sales desc;
```

Result Grid	
	Item_Fat_Content
▶	total_sales
▶	Low Fat 776319.69
	Regular 425361.80

2. Total Sales by Item Type

Evaluate which item categories contribute most to overall sales.

QUERY:

```
SELECT Item_Type, CAST(SUM(Sales) AS DECIMAL(10,2)) AS Total_Sales
FROM blinkit_data
GROUP BY Item_Type
ORDER BY Total_Sales DESC;
```

	Item_Type	Total_Sales
▶	Fruits and Vegetables	178124.08
	Snack Foods	175433.92
	Household	135976.53
	Frozen Foods	118558.88
	Dairy	101276.46
	Canned	90706.73
	Baking Goods	81894.74
	Health and Hygiene	68025.84
	Meat	59449.86
	Soft Drinks	58514.17
	Breads	35379.12
	Hard Drinks	29334.68
	Others	22451.89
	Starchy Foods	21880.03
	Breakfast	15596.70
	Seafood	9077.87

3. Fat Content by Outlet for Total Sales

Compare sales performance across outlets segmented by fat content.

QUERY:

```
SELECT Outlet_Location_Type,
ROUND(SUM(CASE WHEN Item_Fat_Content = 'Regular' THEN Sales ELSE 0
END), 2) AS Regular,
ROUND(SUM(CASE WHEN Item_Fat_Content = 'Low Fat' THEN Sales ELSE 0
END), 2) AS Low_Fat
FROM blinkit_data
GROUP BY Outlet_Location_Type
ORDER BY Outlet_Location_Type;
```

	Outlet_Location_Type	Regular	Low_Fat
▶	Tier 1	121349.9	215047.91
	Tier 2	138685.87	254464.78
	Tier 3	165326.04	306807

4. Total Sales by Outlet Establishment Year

Understand how the age or type of the outlet influences revenue generation.

QUERY:

```
SELECT Outlet_Establishment_Year, CAST(SUM(Sales) AS DECIMAL(10,2))  
AS Total_Sales  
FROM blinkit_data  
GROUP BY Outlet_Establishment_Year  
ORDER BY Outlet_Establishment_Year DESC;
```

	Outlet_Establishment_Year	Total_sales
▶	2022	131477.78
	2020	129103.96
	2018	204522.26
	2017	133103.91
	2016	132113.37
	2015	130942.78
	2014	131809.02
	2012	130476.86
	2011	78131.57

C. Chart Requirements

5. Percentage of Sales by Outlet Size

Analyze the relationship between outlet size and overall sales contribution.

QUERY:

```
SELECT  
    Outlet_Size,  
    CAST(SUM(Sales) AS DECIMAL(10,2)) AS Total_Sales,  
    CAST((SUM(Sales) * 100.0 / SUM(SUM(Sales))) OVER() AS  
DECIMAL(10,2)) AS Sales_Percentage  
FROM blinkit_data  
GROUP BY Outlet_Size  
ORDER BY Total_Sales DESC;
```

	Outlet_Size	Total_Sales	Sales_Percentage
▶	Medium	507895.74	42.27
	Small	444794.17	37.01
	High	248991.59	20.72

6. Sales by Outlet Location

Understand geographic sales distribution and identify high-performing locations.

QUERY:

```
SELECT Outlet_Location_Type, CAST(SUM(Sales) AS DECIMAL(10,2))  
AS Total_Sales  
FROM blinkit_data  
GROUP BY Outlet_Location_Type  
ORDER BY Total_Sales DESC;
```

	Outlet_Location_Type	Total_Sales
▶	Tier 3	472133.03
	Tier 2	393150.65
	Tier 1	336397.81

7. All Metrics by Outlet Type

Provide a consolidated view of Total Sales, Average Sales, Number of Items, and Average Rating based on outlet type.

QUERY:

```
SELECT Outlet_Type,  
       CAST(SUM(Sales) AS DECIMAL(10,2)) AS Total_Sales,  
       CAST(AVG(Sales) AS DECIMAL(10,0)) AS Avg_Sales,  
       COUNT(*) AS No_Of_Items,  
       CAST(AVG(Rating) AS DECIMAL(10,2)) AS Avg_Rating,  
       CAST(AVG(Item_Visibility) AS DECIMAL(10,2)) AS  
Item_Visibility  
FROM blinkit_data  
GROUP BY Outlet_Type  
ORDER BY Total_Sales DESC;
```

	Outlet_Type	Total_Sales	Avg_Sales	No_of_Sales	Avg_Rating	Item_Visibility
▶	Supermarket Type1	787549.89	141.2	5577	3.96	0.06
	Grocery Store	151939.15	140.3	1083	3.99	0.10
	Supermarket Type2	131477.78	141.7	928	3.97	0.06
	Supermarket Type3	130714.67	139.8	935	3.95	0.06

Conclusion:

This analysis helped identify important patterns in BlinkIT's sales data, showing which products and outlets perform best. Using SQL the data was cleaned, analyzed that can support better decision-making. Overall, the insights gained can help improve sales, optimize inventory, and enhance customer satisfaction.