Blinkit Sales Analysis Report

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■ Project Overview

This project analyzes Blinkit (formerly Grofers) sales data using SQL and Power BI. The objective was to extract, clean, and analyze retail sales data to uncover insights on performance, product categories, and outlet effectiveness. The project demonstrates a complete analytics workflow: data extraction, transformation, visualization, and business insight generation.

■ Project Objectives

• Clean inconsistent data and standardize item attributes using SQL.
• Perform exploratory analysis to identify top-selling products and outlet trends.
• Visualize key metrics such as total sales, outlet type performance, and product ratings.
• Develop an interactive Power BI dashboard with filter and reset features for dynamic analysis.

■ Dataset Description

The dataset contains transactional and outlet information for Blinkit products. Each row represents a product's sales record across different outlets with attributes such as item type, fat content, outlet size, and location type.

Column Name	Description
Item_Fat_Content	Type of product fat content (Low Fat / Regular)
Item_Identifier	Unique product identifier
Item_Type	Category of the product (Fruits, Beverages, etc.)
Outlet_Establishment_Year	Year when the outlet was established
Outlet_Identifier	Unique outlet code
Outlet_Location_Type	Tier classification (1, 2, or 3)
Outlet_Size	Size of the outlet (Small, Medium, High)
Outlet_Type	Type of outlet (Supermarket, Grocery, etc.)
Item_Visibility	Product visibility percentage
Item_Weight	Weight of the product in kilograms
Sales	Sales amount for the item
Rating	Customer rating for the item

■ SQL Data Preparation & Analysis

Data cleaning and transformation were performed using PostgreSQL. Key queries included standardizing text fields, aggregating sales data, and calculating percentage-based performance metrics across multiple dimensions.

• Standardized inconsistent entries in the Item_Fat_Content column (e.g., 'low fat', 'LF' → 'Low Fat').
• Calculated total and average sales using SUM() and AVG() functions.
• Grouped data by item type and outlet characteristics to identify trends.
• Used window functions to compute the percentage contribution of each outlet to overall sales.

■ Power BI Dashboard & Insights

An interactive Power BI dashboard was designed to visualize key sales metrics. The dashboard includes slicers for dynamic filtering and a reset button to clear selections, ensuring smooth user interaction. Visuals were carefully selected to convey sales distribution and outlet performance effectively.

■ Key Insights

• Regular-fat products contribute significantly higher revenue than low-fat ones.
• Medium-sized outlets dominate total sales contribution across all tiers.
• Sales show consistent growth in newer outlet establishments (2018–2022).
• Canned and Frozen Food categories perform strongly in overall sales.
• Outlet Type 1 supermarkets account for the majority of total transactions.

■ Skills & Tools Used

• SQL (PostgreSQL): Data Cleaning, Aggregation, Window Functions
• Power BI: Dashboard Design, DAX, Filters & Reset Buttons
• Data Analysis & Visualization Techniques
• Data Storytelling & Business Insights Presentation

■ Conclusion

This project demonstrates end-to-end data analysis capabilities — from SQL-based data processing to professional-grade visualization in Power BI. It provides actionable insights into Blinkit’s product and outlet performance, enabling data-driven business decisions.