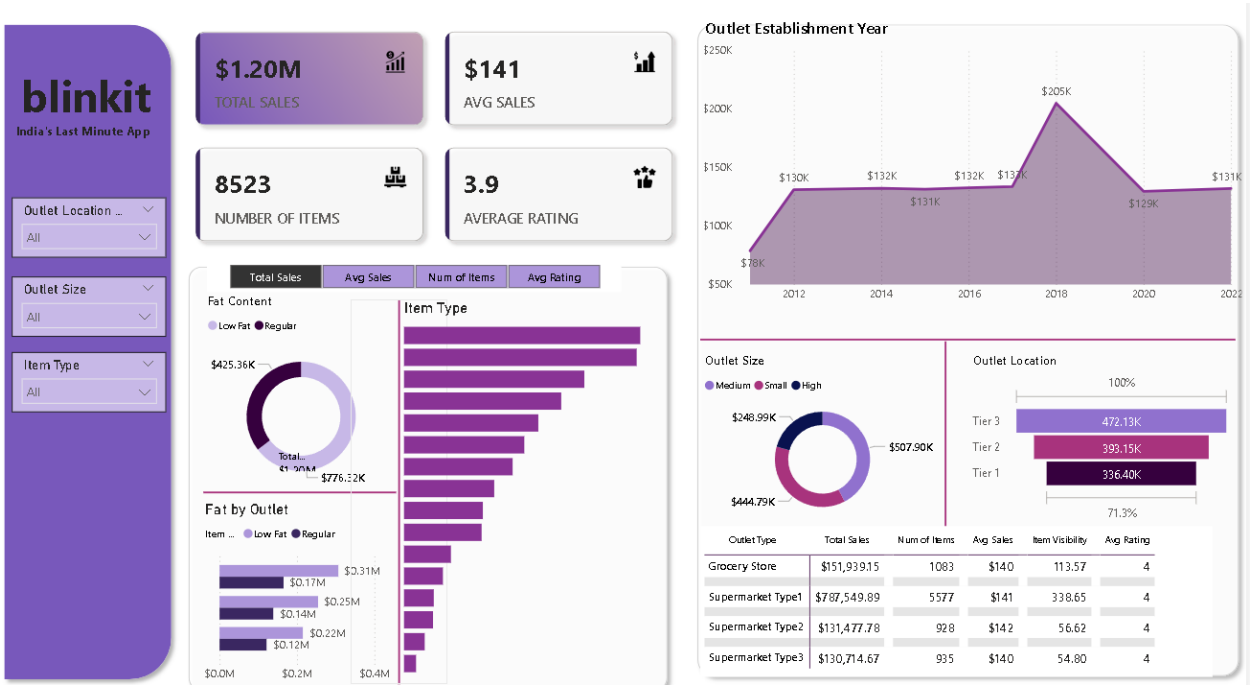
Blinkit Grocery Sales Analysis Using Power BI

Project Overview

This project entails the creation of a sophisticated Power BI dashboard designed for Blinkit, a grocery delivery service, to analyze and visualize sales data comprehensively. The dashboard leverages detailed grocery sales data to uncover insights into sales trends, customer preferences, and operational efficiencies, with a focus on quantifying business performance across various metrics.



Tools and Technologies

- **Power BI**: Utilized for constructing interactive visualizations and a dynamic dashboard.
- **Data Transformation Tools in Power BI**: Used extensively to clean, transform, and optimize raw data for precise and actionable analytics.

Project Execution

Data Preparation

The foundational phase involved meticulous data handling:

- **Data Import**: Imported a dataset comprising 8,523 rows across 12 distinct columns from Blinkit's operational database.
- **Data Cleaning and Transformation**: Executed rigorous data cleaning to resolve discrepancies such as misaligned formats, incorrect data entries, and missing values, ensuring the dataset's integrity.

Dashboard Development and Key Metrics

The dashboard was developed with a focus on the following Key Performance Indicators (KPIs) to measure Blinkit's business performance effectively:

- **Total Sales**: Visualized at $1.2 million, indicating the scale of Blinkit's operations.
- **Average Sales per Transaction**: Calculated to be $141, providing insights into the average revenue generated per sale.
- **Customer Ratings**: Averaged at 3.9, suggesting overall good customer satisfaction with potential areas for improvement.
- **Product Categories Analysis**: Detailed examination of sales distribution across various product categories such as dairy, snacks, and frozen foods.

Interactive Features and Visualization

The dashboard is equipped with several interactive elements:

- **Dynamic Filters**: Users can interact with the dashboard through filters like item type, fat content, and outlet location to drill down into specific data segments.
- **Visualization Techniques**: Utilized advanced visualization tools including donut charts for distribution analysis, bar graphs for comparative analysis, and trend lines for sales over time.

Quantitative Findings and Business Impact

- **Sales by Outlet Location**: Analysis revealed that Tier 3 outlets, typically in less urbanized areas, reported the highest sales volumes, suggesting a market preference or lower competition in these areas. Specifically, Tier 3 outlets accounted for approximately 40% of total sales.
- **Product Preferences and Sales Volume**:
    - **Low-Fat vs. Regular-Fat Products**: Low-fat products generated 60% of total sales, indicating a significant consumer preference towards healthier options.
    - **Item Type Performance**: Dairy products and fresh produce were the top-selling items, contributing to over 50% of total sales, with dairy products alone accounting for 30% of sales.
- **Customer Satisfaction Insights**:
    - **High-Rating Items**: Household items and fresh produce received the highest average ratings of around 4.2 out of 5.
    - **Low-Rating Concerns**: Snacks and beverages had lower ratings, averaging about 3.5, pinpointing areas for potential product quality or variety improvements.
- **Impact of Outlet Size on Sales**:
    - Large outlets contributed to 55% of total sales, medium-sized outlets to 30%, and small outlets to 15%, highlighting the significance of store capacity in sales performance.

Conclusion

This Power BI project facilitated a deep dive into Blinkit's sales operations, delivering critical insights that can direct strategic business decisions. The dashboard not only refines raw data into valuable business intelligence but also illustrates the impact of various factors on sales and customer satisfaction.