Blinkit Sales Analysis Using Python

Executive Summary

This project performs an end-to-end exploratory data analysis on Blinkit's retail sales dataset using Python. The objective is to evaluate overall sales performance, understand customer buying behaviour, and analyse how outlet characteristics such as size, location, and type impact revenue. The dataset consists of **8,523 transactions**, **generating a total sales value of ₹1,201,681.48**, with **an average sale of ₹140.99 per item**. Customer satisfaction is consistently positive, reflected by an average rating of 3.97 out of 5.

The analysis reveals that **medium-sized outlets, supermarket formats**, and **Tier 2 locations** contribute the highest revenue. Additionally, a small number of product categories account for a large portion of total sales, highlighting opportunities for inventory optimization and targeted expansion strategies.

Key Metrics Analysis (Overall Performance)

Metric	Value
Total Sales	₹1,201,681.48
Average Sales per Item	₹140.99
Total Items Sold	8,523
Average Customer Rating	3.97 / 5

Overall Sales Performance

- Blinkit records over ₹12 lakh in total revenue, indicating strong demand.
- Stable average sales per item suggest consistent pricing and purchasing behaviour.

Item Fat Content Analysis

- Both Low Fat and Regular items contribute significantly to sales.
- No extreme dependency on a single category, indicating balanced customer preferences.

Insight: Maintaining both health-focused and regular products is essential for revenue stability.

Item Type Analysis

- Categories such as Fruits & Vegetables, Snack Foods, and Household items generate the highest sales.
- Several item categories contribute relatively low revenue.

Insight: A limited number of item types drive the majority of total sales (Pareto effect).

Outlet Type Performance

- Supermarket Type1 and Type2 outlets outperform grocery stores in total sales.
- Better assortment, availability, and customer trust drive higher spending in supermarkets

Outlet Establishment Year Impact

- Outlets established earlier consistently show higher sales.
- Newer outlets are still in their growth phase.

Insight: Brand presence and customer familiarity improve performance over time.

Outlet Size Analysis

- Medium-sized outlets generate the highest total sales, exceeding both small and large outlets.
- Large outlets show diminishing returns due to higher operational costs.

Insight: Medium outlets provide the best balance between variety and efficiency.

Outlet Location Type

- Tier 2 locations contribute the highest sales, followed by Tier 3 and Tier 1.
- Tier 2 cities show strong purchasing power with less market saturation.

Insight: Semi-urban markets are Blinkit's strongest growth drivers.

Recommendations

Prioritize Medium-Sized Outlet Expansion

- Focus future expansion on medium-sized outlets to maximize ROI.
- Avoid over-investment in large-format stores.

Strengthen Operations in Tier 2 Cities

- Increase marketing spend and delivery reach in Tier 2 locations.
- Introduce region-specific offers and loyalty programs.

Inventory Optimization

- Increase stock for top-performing item categories.
- Reduce shelf space for low-demand items to lower holding costs.

Support New Outlets

- Offer launch promotions and app visibility boosts.
- Implement introductory pricing to build early customer loyalty.

Conclusion

This project demonstrates how Python-based data analysis can transform raw retail data into meaningful business insights. With **₹1.2M+ in sales**, strong customer satisfaction, and clear performance patterns across outlets and locations, Blinkit has significant opportunities for optimized growth. Implementing these recommendations can improve profitability, operational efficiency, and long-term scalability.