

Summary and Recommendations

This project offers a data-driven evaluation of Blinkit's sales data using Python, with Pandas for data manipulation and Seaborn/Matplotlib for visualization. The analysis focuses on product attributes, outlet characteristics, and customer preferences to derive actionable insights.

Consumer Preference: Fat Content Distribution

Fat Content	Sales (%)	Sales (Units)
Low Fat	64.6%	~23,425 units
Regular	28.4%	~10,300 units
Others	7.0%	~2,544 units

Insight:

- A **clear preference** for low-fat products across all outlet types.
- Indicates increasing **health-conscious behavior** among customers.

Recommendation:

- Expand low-fat product portfolio and consider adding subcategories (e.g., organic low-fat).
- Highlight health benefits in product marketing.

Sales by Item Type (Top Categories)

Item Type	Sales (Units)	% Share
Fruits and Vegetables	~6,400	17.6%
Snack Foods	~5,700	15.7%
Household	~4,900	13.5%
Baking Goods	~3,200	8.8%
Dairy Products	~3,000	8.2%

Bottom Categories:

- Seafood, Starchy Foods, and Breakfast contributed **less than 3% each**.

Recommendation:

Focus restocking, bundling, and discounts on top categories.
Evaluate demand and customer preferences in underperforming categories through A/B testing or user feedback.

3. Outlet Type vs. Sales

Outlet Type	Sales (%)	Units Sold
Supermarket Type1	64.9%	~23,540
Grocery Store	29.4%	~10,660
Supermarket Type2	5.7%	~2,069

Insight:

- Most revenue is driven by **Supermarket Type1**, which offers wider product range and reach.

Recommendation:

- Use these outlets for premium launches and bulk promotions.
- Improve stock consistency in Grocery Stores to reduce leakage.

4. Sales by Outlet Location Type (Tier)

Location Tier	Sales (%)	Units Sold
Tier 3	41.9%	~15,190
Tier 2	36.4%	~13,210
Tier 1	21.7%	~7,869

Insight:

Tier 3 dominates sales, suggesting strong **penetration in semi-urban/rural markets**.

Recommendation:

- Enhance logistical support and stock optimization for Tier 3 outlets.
 - Tailor product offerings to regional preferences.
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5. Outlet Size vs. Sales

Outlet Size	Sales (%)	Units Sold
Medium	42.3%	~15,350
Small	37.0%	~13,420
High	20.7%	~7,500

Insight:

- Medium-sized outlets are most efficient in driving volume.

Recommendation:

- Scale medium outlets in high-demand zones.
 - Offer same-day delivery or express options via these stores.
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6. Customer Ratings vs. Sales Performance

- Peak sales volume corresponds to products rated between **4.0 and 4.5 stars**.
- Items with ratings below 2.0 show **significantly lower average sales**.

Insight:

- High-rated items are clearly **trusted and preferred by users**.

- Ratings below 3.0 need quality assessment or possible product removal.

Recommendation:

- Implement a feedback loop to identify issues with poorly rated products.
 - Prioritize customer reviews in product display and ranking.
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Visualizations Created

You created and used:

- **Pie Charts:** For fat content, outlet type, location tier.
- **Bar Charts:** For item type vs. sales, outlet size vs. sales.
- **Line/Scatter Plots:** To analyze ratings vs. average sales and sales distribution.
- **Boxplots:** To show sales variation across categories or ratings.

These visuals offer clear insight into sales distribution and outliers.

Final Recommendations

1. **Invest in Tier 3 and Tier 2 locations**, especially with medium-sized outlets.
 2. **Expand and market low-fat and top-selling product categories** like snacks and fresh produce.
 3. **Discontinue or rebrand underperforming, low-rated products.**
 4. Use **ratings and feedback** to continuously optimize the product mix.
 5. Consider **location-specific assortment strategies** to maximize regional efficiency.
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