Case Study: Blinkit Dashboard Analysis using Power BI

Problem Statement

In the rapidly evolving quick commerce industry, efficient delivery, customer satisfaction, and optimized inventory management are essential for operational success. Blinkit, a leading player in this space, aims to ensure delivery within minutes while maintaining high customer retention and reducing operational costs. However, managing these performance indicators across multiple locations and product categories is a complex task that requires a robust data analytics solution.

To address this challenge, Blinkit implemented a comprehensive data dashboard using Power BI. The goal of this dashboard is to provide real-time insights into sales performance, customer behaviour, product popularity, delivery timings, and inventory trends. These insights empower business stakeholders to make data-driven decisions, streamline operations, and enhance customer experience.

Importing dataset in Power BI

- The dataset for the Blinkit project is available for download from Kaggle.

- It contains **approximately 1481 rows and 30 features**, offering a comprehensive overview of Blinkit's product listings.

- Features include product names, categories, prices, stock status, brand information, reviews, and discounts.

- This dataset serves as the backbone for building insightful visualizations in Power BI.

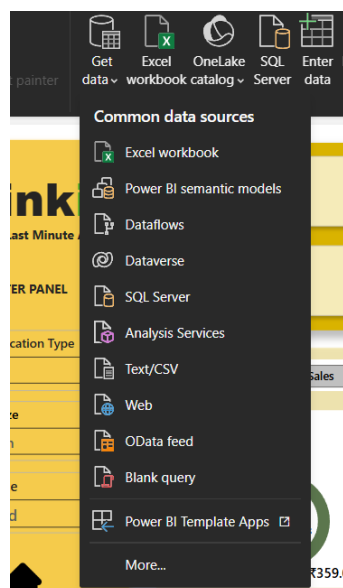Step 1: Launch Power BI Desktop and click "Get Data" → "Excel."

Figure 1

Step 2: Locate and select the downloaded dataset file.

Step 3: In the **Navigator** window, choose the relevant sheet or table and click **"Load."**
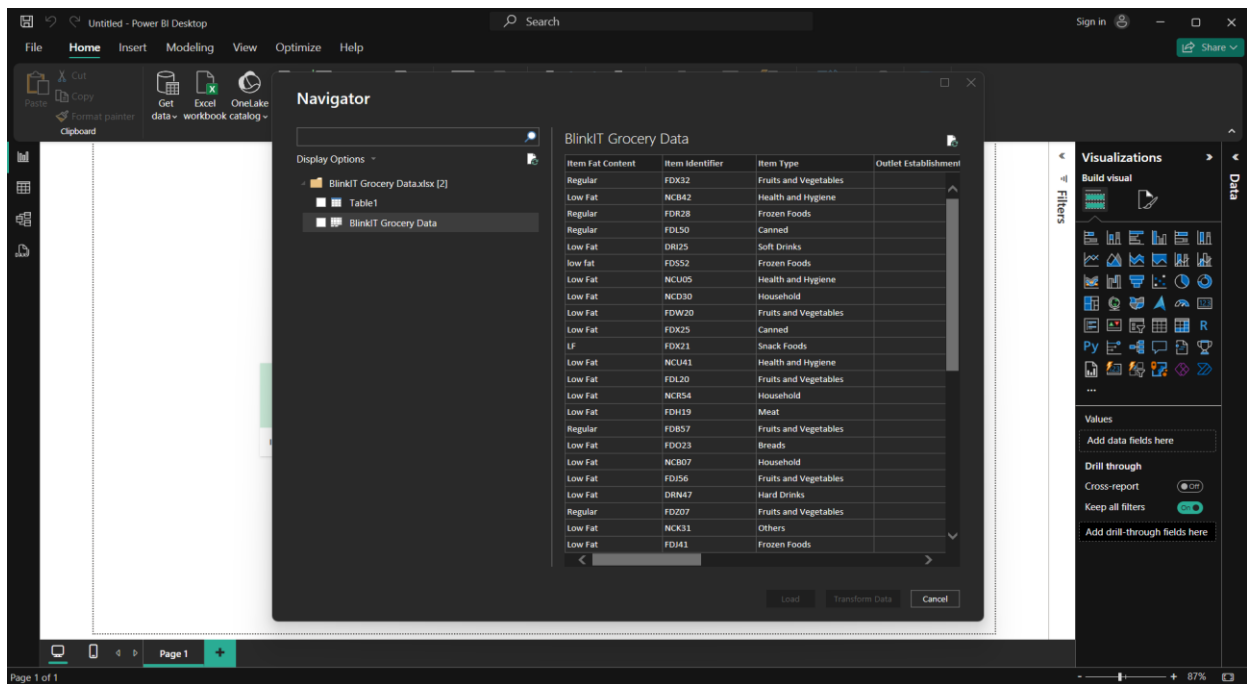

Figure 2

Transforming data

To ensure data accuracy and relevance, the following preprocessing steps were performed:

1. **Removed Duplicates:** Elimination of repetitive product listings.

2. **Dropped Redundant Columns:** Columns such as "Unnamed" or irrelevant fields were removed.

3. **Standardized Category Names:** Consistency in naming across similar items (e.g., "Dairy" vs "Dairy Products").

4. **Created New Calculated Columns:**

   - Discount % = (Price - Discounted Price) / Price * 100
   - Stock Availability Flag = if(Stock Status = "In Stock", 1, 0)

After cleaning, the data was ready for visualization.

Building Dashboard

The Blinkit Dashboard, built using Power BI, combines the power of data visualization with an intuitive interface to provide a comprehensive overview of the grocery product landscape. The design focuses on delivering real-time, actionable insights across various product metrics, ensuring that decision-makers can monitor key performance indicators (KPIs), identify trends, and address operational inefficiencies swiftly.

The dashboard has been thoughtfully structured using a variety of visuals, each chosen for its specific ability to represent certain data dimensions effectively. These visuals are interactive, allowing users to filter and drill down into specific categories or brands for more granular insights.

For our Blinkit dashboard, we have implemented the following graphs:

1. **Donut Chart:** In the dashboard, the Donut Chart located in the lower left corner under the "FAT CONTENT" section breaks down total sales by fat type — Regular vs. Low Fat. It displays a total sales value of ₹2.48K, split as ₹1.04K for Regular and ₹1.44K for Low Fat. This visual enables users to easily compare the performance of different fat-content product types, helping decision-makers determine customer preferences and product demand based on health or dietary trends.
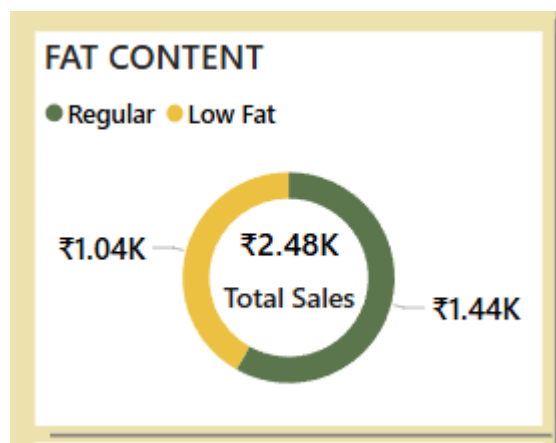

Figure 3

2. **Line Chart :** The Line Chart, titled "OUTLET ESTABLISHMENT" (top right), plots a time series of establishment-related metrics over the years 2016 to 2018. The line shows a progressive increase from ₹1,195.16 in 2016 to ₹1,282.59 in 2018. This time-based visual helps in understanding outlet growth trends over time and may reflect either sales, new store openings, or infrastructure investments.
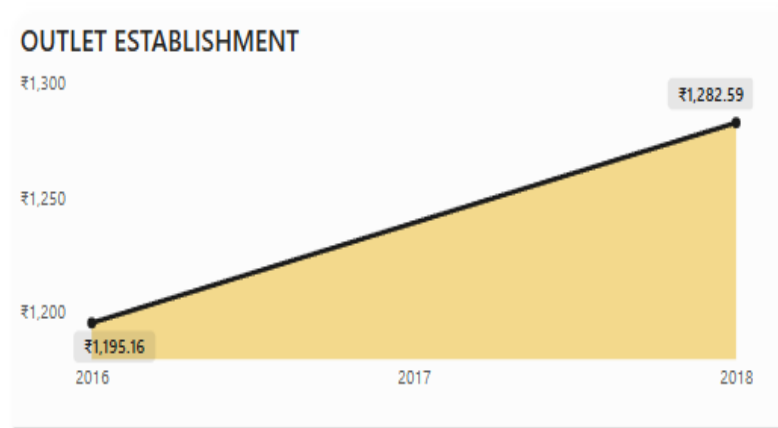
Figure 4

3. **Bar Chart – Fat by Outlet :** Below the first donut chart is a Bar Chart labeled "FAT BY OUTLET". It breaks down sales by outlet tier and fat content:

Tier 1: ₹1.0K from Low Fat, ₹1.4K from Regular

This comparison between outlet tiers and fat content offers insight into how different store categories stock or sell health-oriented products.
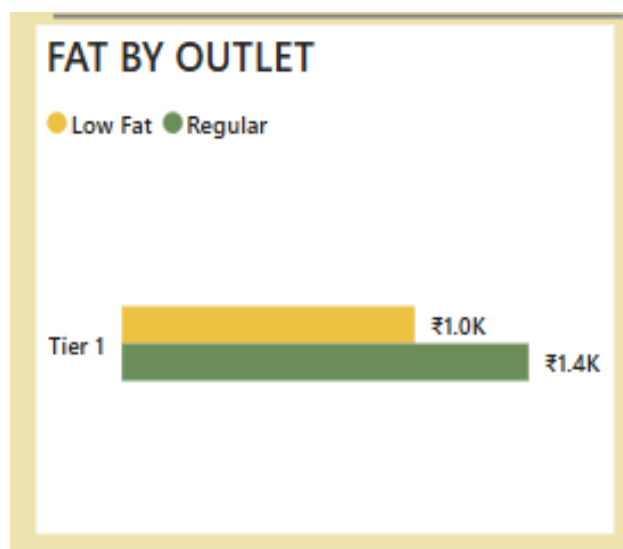

Figure 5

4. **Stacked Bar / Rectangle Chart – Item Type :** In the center of the dashboard, there's a rectangular bar-type visual labeled "ITEM TYPE" with a large section for Breakfast and a value of ₹2.5K, indicating that Breakfast items are dominating total sales in the selected view. The size and value help highlight category-level performance.
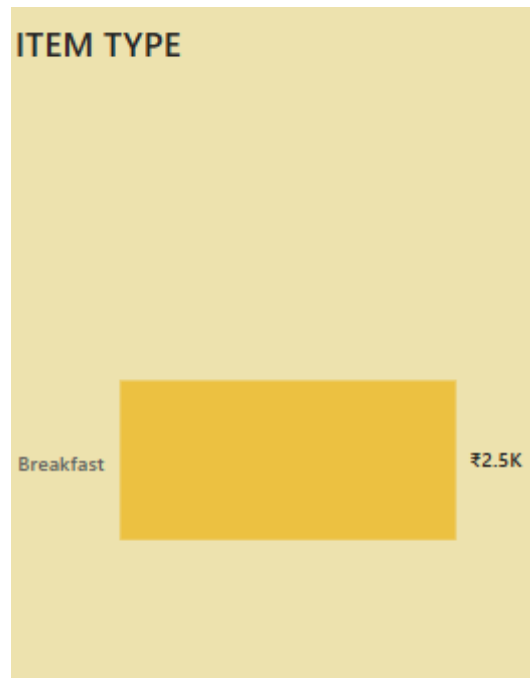
Figure 6

5. **Column Chart – Outlet Location:** To the right of "ITEM TYPE", there's a Bar Chart titled "OUTLET LOCATION", showing Tier 1 with a total sales figure of ₹2.48K. This suggests that all recorded sales are currently from Tier 1 locations.

Figure 3

6. **Matrix Table – Outlet Type:** At the bottom right, the dashboard uses a Matrix Table to break down key metrics by Outlet Type:

i. Grocery Store:

- Total Sales: ₹1.28K

- Items: 10
- Avg Sales: ₹128
- Avg Rating: ₹4
- Visibility: 0.15

ii. Supermarket Type1:
- Total Sales: ₹1.20K
- Items: 10
- Avg Sales: ₹120
- Avg Rating: ₹4
- Visibility: 0.07

This structured view allows users to compare performance and customer feedback across outlet types, supporting more data-driven inventory and marketing strategies.

Insights Gained from Blinkit Analytics Dashboard

The total sales value, prominently displayed as ₹2.48K at the top of the dashboard, serves as a key performance indicator of Blinkit's current market activity. This figure helps stakeholders gauge platform health and informs strategic planning around inventory and promotional efforts. Accompanying KPI visuals—such as Average Sales (₹124), Item Count (20), and Average Rating (3.7)—provide granular insights into product performance, customer satisfaction, and catalog breadth.

A donut chart analysis of fat content reveals a slight consumer preference for Low Fat items, accounting for ₹1.44K in sales, compared to ₹1.04K for Regular items. This insight indicates a growing health-conscious customer base and suggests potential opportunities for expanding health-oriented product lines or optimizing promotions in this category.

A line chart depicting outlet establishment trends over time shows steady sales growth between 2016 and 2018, highlighting successful market penetration and expansion strategies during these years. Such patterns can guide future investments in regional scaling and outlet development.

Interestingly, another donut chart shows that 100% of the sales come from small-sized outlets, emphasizing a heavy reliance on a single outlet format. While this reflects operational efficiency or customer preference in small retail setups, it also underscores the need to explore medium and large outlet segments to mitigate operational risks and unlock new revenue streams.

The bar graph comparing sales of fat content by tier indicates that Tier 1 cities significantly outperform in both Regular and Low Fat product categories. This concentration suggests a possible urban bias in product distribution or purchasing behavior and opens avenues for deeper penetration into Tier 2 and Tier 3 markets.

Sales distribution by item type is heavily skewed, with Breakfast products alone generating ₹2.5K in revenue, far surpassing other categories. This clear product dominance highlights an opportunity to replicate success in adjacent food segments or bundle breakfast items with related offerings to drive basket size.

A matrix visual contrasting Grocery Stores and Supermarket Type1 outlets reveals fairly similar item counts and average sales, with Grocery Stores slightly ahead in total sales and visibility. This suggests that while both formats are functional, Grocery Stores may have better product placement, promotions, or customer reach.

Conclusion

The deployment of Blinkit Analytics via Power BI has delivered vital, actionable insights that are central to optimizing operations, enhancing customer engagement, and expanding strategic decision-making. Through the visual exploration of sales performance, outlet dynamics, and product trends, a comprehensive overview of Blinkit's current business landscape emerges.

The dominance of Low Fat and Breakfast product categories, coupled with high reliance on Tier 1 markets and small-sized outlets, highlights both strengths and blind spots in Blinkit's operational strategy. By leveraging these insights, the company can effectively diversify its product mix, explore underserved regions, and innovate in outlet formats.

Equally, the need to elevate product ratings and assess customer satisfaction drivers becomes apparent through KPI tracking and outlet comparisons. Addressing these areas can lead to higher customer loyalty and improved brand perception.

Moving forward, continuous monitoring and iterative analysis will be essential to adapt to market dynamics and sustain growth. Embracing this data-driven approach ensures Blinkit stays agile and responsive to customer preferences, operational challenges, and competitive shifts—laying the groundwork for long-term success and innovation in the online grocery retail space.