Blinkit Grocery Store Report

Problem: - BlinkIT faces challenges with inconsistent sales performance across its outlets and product categories. This project focuses on optimizing product offerings, refining outlet strategies, and aligning pricing models to maximize revenue across all locations.

Background: - Welcome to the BlinkIT Corporate simulation! BlinkIT is a grocery retail chain operating across multiple cities, aiming to enhance its sales, outlet performance, and product dynamics. The objective is to analyze data using Power BI to uncover key trends and provide actionable insights that drive growth and profitability.

Objective: - The interactive dashboard will be the cornerstone for strategic decision-making, offering insights into sales trends, outlet performance, and product dynamics. By identifying opportunities for improvement, this tool will enable BlinkIT to enhance operational efficiency and profitability across its network.

Solution: - BlinKit KPIS Report provides key insights to Identify high- and low-performing products, trends, evaluate outlet performance to tailor strategies, improve inventory, and enhance operations, promote underperforming products and Implement data-driven pricing to maximize margins while staying competitive.

Stakeholder Engagement: -

Internal Stakeholder: -

- **CEO:** Chief Executive Officer is responsible for overseeing the overall strategy, operations, and performance of the company, ensuring it achieves its vision, goals, and profitability.
- **Operations Team: -** Requires detailed performance insights by outlet and product.
- **Marketing Team: -** Needs visibility into product categories and pricing impact.

External Stakeholders: -

- **Investors: -** Investors provide funding and resources to help businesses scale operations innovate, and achieve strategic goals.
- **Customers: -** Customers drive revenue and influence product strategies with their purchasing behaviors.

Methodology: -

1. **Data Source: - Excel**
2. **Data visualization Tool: - Power BI**

3. Data wrangling: -

1. **Data Understanding: -** Examining the data to understand its structure (rows, columns, types) and identifying patterns or trends.

Checking for missing values, duplicates, outliers, and inconsistencies.

Analyzing the meaning, range, and relationships between variables (e.g. Outlet types, outlet size, Item type etc.)

This helps me prepare and clean the data for accurate and meaningful analysis.

1) **Data cleaning: -**
   a) **Handle Missing Value: -**
      i) Item weight: - Approximately 17 % are missing Value.
      Action:
         (1) Filtered the data to separate rows with non-missing values into a new sheet named "No Blank".
         (2) Filtered rows with missing values and placed them in a sheet named **"All Blank"**.
         (3) Applied the **VLOOKUP** formula in the "All Blank" sheet to fetch corresponding values from the "No Blank" sheet using the **Item Identifier and non-blank item_weight**.
         (4) Deleted data marked as "non-available" due to the inability to clean it.
         (5) Merged the cleaned "No Blank" and updated "All Blank" sheets for further analysis.
      ii) Outlet size: - Approximately 28 % are missing Value.
      Action:
         (1) Imputed missing values in the dataset based on **Outlet Type** and **Outlet Location Type** by calculating the mode (most frequent value) for each category.
   b) **Standardized categorical data** for **Item Fat Content**, resolving inconsistent labels (e.g., "Low Fat," "low fat," "LF") by consolidating values into **"Low Fat"** and **"Regular"** categories.
   c) **Remove Outliers**
      i) **Item_Visibility**
         (1) Minimum visibility is 0, which is unrealistic.
         (2) Action: Replace 0 with mean
   d) Created Derived Field
      i) Outlet_Age: Calculate the age of each outlet using the current year (2024-Outlet_Establishment_Year).
      ii) Sales_per_Item: Divide Item_Outlet_Sales by Item_MRP
   e) Normalize Numerical Data
      i) Item_MRP: wide range of values change into three categories (Low, Medium,High)
   f) **Add Descriptive Labels:** Concate Outlet_Location_Type and Outlet_Type for easier understanding.
   g) **Duplicate**: Drop duplicate values.
   h) Check Data Type consistency

4.Data visualization

- **Bar Chart**: Analyzed **Outlet Sales** by **Outlet Type** and **Item Type**.
- **Bubble Chart**: Explored the relationship between **Item Visibility**, **Outlet Sales**, and **Item MRP** by **Item Type**.
- **Donut Chart**: Displayed **Revenue Contribution** by **Outlet Size** (Small, Medium, High) and sales by **Item Type** in percentage.
- **Metrics Table**: Calculated average values for **Item Outlet Sales**, **Item MRP**, and **Item Visibility**.
- **Funnel Chart**: Visualized **Items by Price Range**.
- **Area Chart**: Showed **Sales by Age** group.
- **Slicer**: Applied filters for **Item Type**, **Outlet Size**, and **Outlet Type** to segment the data effectively.

KPIs

Total Item –8515

Total Sales - 18.58 M

Price Range:

Min Price: - 31.29

Max Price: - 266.89

AVG price: - 141.01

Key Insights:

1) **Item sales by price range:** -
   A large number of items fall in the medium price range (4.64k items), which may suggest that the store's pricing strategy focuses on middle-market products.
2) **Top Selling Category: -**
   Fruits and vegetables, snack foods are suggesting customer preferences, enhancing profitability and also shows highest item visibility.
3) **Sales by outlet size: -**
   small stores and medium stores make up the largest share of sales (48.22%, 40.24%) allows companies to focus their marketing and inventory strategies on these stores to maximize sales and profits.
4) **outlet type:** -
   Supermarket Type 1 Tier 2 generates the highest sales at 6.47 million.
   Supermarket Type 1 Tier 3 follows with 4.3 million. Efforts on maximizing sales from focus on high-performing outlets.
5) **Outlet Age: -**
   outlet age 39 in Item Type Fruits and Vegetables made up 3.23% of Sum of Item Outlet Sales.

Events needs Improvements

1) **Lowest high price sales: -**

Lowest number of items falling in high price range (1.44k). Consider expanding the premium or luxury product range to cater to higher-end customers and improve profitability.

2) **Lowest Selling Category: -**

   Seafood (0.1M), Breakfast (0.2M) are needing attention to boost overall sales performance, lead uneven revenue distribution.

3) **Outlet size performance: -**

   Analyzing underperformance outlet size and investigate the reasons for low sales in high outlets, such as product unsuitability, pricing issues, or competition.

4) **Outlet Type: -**

   Investigate underperforming outlets and analyze why Grocery Store Type 1 has low sales and explore strategies to improve performance in this segment.

5) **Low Visibility: -**

   The item is experiencing low visibility and low sales, indicating underperformance in the outlet, which may be attributed to a lack of customer preference and potential pricing issues.

Business Recommendation: -

- Adjust the product offerings, pricing strategy, and target market focus to better align with customer needs and maximize sales.
- By focusing marketing efforts on top-selling categories, the business can increase visibility and sales in these areas, enhancing profitability
- Implement targeted promotions or bundle offers for low-selling items to boost their sales.
- **Refocusing efforts:**

  Redirect marketing, increase inventory and sales resources towards small and medium outlets with higher sales potential.
- **Product Diversification:**

  Introduce new products or variations within the medium outlet category to attract a broader customer base.
- **Market Analysis:**

  Conduct a thorough analysis to understand why high outlets have lower sales. This could involve assessing market demand, competition, and pricing strategies. Identify niche markets or specific industries that may benefit from high outlets and tailor marketing efforts to these segments.
- **Resource allocation:**

  Allocate resources (marketing, inventory, sales teams) strategically based on outlet performance.
- **Growth potential:**

  Identify opportunities to expand in high-performing segments and improve performance in underperforming outlet