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# **Blinkit Business Dashboard**

You are working as a **Data Analyst at Blinkit**, one of India’s leading quick-commerce companies.

Your task is to analyze **product performance, outlet operations, sales trends, and customer satisfaction** using Power BI and present insights to management through interactive dashboards.

## **Business Problem**

Blinkit wants to **improve its profitability, product availability, and operational efficiency**.  
 Management has observed:

* Certain **product categories are underperforming** despite consistent demand.
* **Outlet performance varies** across Tier 1, Tier 2, and Tier 3 cities.
* **Sales are impacted by item visibility and fat content labeling**.
* **Customer satisfaction and repeatability** need close monitoring.

The goal is to **identify improvement areas and support data-driven decision-making**.

## **Your Role**

### **1. Understand the Data Provided**

**Blinkit Grocery Dataset →** [**Click here to get Dataset**](https://drive.google.com/file/d/1ZQskSxfXgOTqf8w4b0DROgl5fINaxLxs/view?usp=sharing)

The dataset contains **sales and operations data** with the following key fields:

* Item Identifier – Unique identifier for each item
* Item Type – Category of the product (Fruits, Frozen, Household, etc.)
* Item Fat Content – Nutrition information (Regular, Low Fat)
* Item Visibility – Percentage visibility of the product in store/outlet
* Item Weight – Weight of the item
* Sales – Total sales amount for the item
* Rating – Customer rating (out of 5)
* Outlet Identifier – Unique identifier for outlet
* Outlet Establishment Year – Year the outlet was established
* Outlet Location Type – Tier 1, Tier 2, or Tier 3
* Outlet Size – Small, Medium, or High
* Outlet Type – Grocery Store, Supermarket Type 1/2/3

### **2. Clean and Transform the Data**

Key tasks in Power Query:

* **Handle missing values** (Sales, Item Weight, Item Fat Content).
* **Standardize categorical fields** (e.g., LF, low Fat → Low Fat; reg → Regular).
* **Remove duplicates** (same Item Identifier + Outlet).
* **Ensure correct data types** (Sales, Rating = Decimal; Item Weight = Numeric).
* **Create calculated columns**:  
  + **Sales per Kg** = Sales ÷ Item Weight
  + **Years of Operation** = Current Year – Outlet Establishment Year
  + **Profit Margin (if cost available)** = Sales – Cost
* **Map dimensions**:  
  + Item details (ItemKey, Item Type)
  + Item nutrition (ItemContentKey, Item Fat Content)
  + Outlet details (OutletKey, Size, Type)
  + Outlet location (OutletLocationKey, Tier)

### **3. Build a Relational Data Model**

Relationships:

* **Sales Fact Table** → linked with Items, Item Content, and Outlets
* **Items Table** → contains product categories and item types
* **Item Content Table** → contains nutrition/fat content information
* **Outlet Info Table** → contains outlet details (size, type, establishment year)
* **Outlet Type Table** → maps tiers (Tier 1, 2, 3)
* **Calendar Table** (optional, if Order Date is included) → Year, Month, Quarter

Relationships are **many-to-one**, with lookup tables filtering the fact table.

### **4. Create DAX Measures to Answer Key Business Questions**

**Business Questions**

* **Total Sales** – What is the total revenue generated across all outlets?
* **Average Sales per Outlet** – How much does each outlet generate on average?
* **Top Performing Items** – Which items drive the highest sales?
* **Profit Margin % (if cost available)** – What % of sales is retained as profit?
* **Average Item Rating (CSAT)** – What is the average customer satisfaction rating?
* **Sales by Fat Content** – How do Regular vs Low Fat items perform?
* **Sales by Tier** – Which outlet tiers (Tier 1/2/3) are most profitable?
* **Sales by Outlet Type** – Which outlet formats perform best?
* **Sales Trend (if date field present)** – How are sales growing month over month?
* **Item Visibility Impact** – Does higher visibility correlate with higher sales?

### **5. Dashboard Development**

#### **A. Expected KPIs (Cards)**

* Total Sales
* Average Sales per Outlet
* Average Item Rating (CSAT)
* Profit Margin % (if applicable)
* Sales per Kg (efficiency metric)
* Years of Operation (avg across outlets)

#### **B. Dashboard Questions (to guide analysis)**

Students should be able to answer these from the dashboard:

* Which product categories contribute most to overall sales?
* How does item fat content (Regular vs Low Fat) affect sales?
* Which outlets (by size, type, or tier) are most profitable?
* What is the trend of sales growth across outlet establishment years?
* Which items have the highest visibility but lowest sales (underperformers)?
* Which are the **Top 10 items** by sales and rating?
* How does customer satisfaction vary by category, outlet type, and city?

### **Must-Include Dashboard Features**

* **Drill-through** (Outlet Tier → Outlet Type → Outlet → Item)
* **Conditional Formatting** (highlight outlets with sales below average in red)
* **Sales vs Target** (Gauge/Bar visual for benchmarking)
* **Interactive Filters/Slicers** (Tier, Outlet Type, Item Type, Fat Content)
* **KPI Cards** (Total Sales, CSAT, Sales per Kg, Profit Margin %, YoY Growth)

### **Expected Deliverables**

* **Cleaned and transformed Power BI Data Model**
* **DAX measures answering the business challenge questions**
* **Interactive Power BI Dashboard with KPIs and required features**
* **Business Insights Report (1–2 pages of recommendations for management)**