

## Functional Requirements Document (FRD)

Project Name: Vegetable Sales Analysis Dashboard

### 1. Dashboard Sections

The Power BI dashboard consists of the following key sections:

- Sales Overview: Displays total sales, total quantity, and profit trends over time.
- Profit & Cost Analysis: Compares cost, selling price, and profit margins.
- Loss & Wastage Analysis: Shows loss value, loss rate, and impact on net profit.
- Wholesale Price Insights: Highlights wholesale pricing trends and markup performance.

### 2. Data Requirements

The dashboard uses the following tables and columns from the dataset:

1. Product Details Table:

- Item Code, Item Name, Category Name, Category Code

2. Sales Data Table:

- Date, Item Code, Unit Selling Price, Quantity

3. Loss Rate Table:

- Item Code, Item Name, Loss Rate

4. Wholesale Data Table:

- Date, Item Code, Wholesale Price, etc.

### 3. Filters / Slicers

The dashboard includes interactive filters and slicers for:

- Sales Overview: Category, Item, Date
- Profit & Cost Analysis: Category, Item, Year
- Loss & Wastage Analysis: Item, Loss Rate
- Wholesale Price Insights: Category, Item, Date

### 4. Visuals / Charts

Each section of the dashboard uses the following visualizations:

Sales Overview:

- KPI Cards – Total Sales, Total Quantity, Total Profit
- Line Chart – Sales Trend over Time
- Donut Chart – Sales Distribution by Category
- Column Chart – Top Performing Products

Profit & Cost Analysis:

- KPI Cards – Profit Margin %, Total Cost, Average Selling Price
- Bar Chart – Cost vs Profit by Product
- Table – Item, Cost, Profit, Margin %, Markup %

Loss & Wastage Analysis:

- KPI Cards – Total Loss Value, Average Loss %
- Pie Chart – Loss by Product
- bar Chart – loss rate by category

Wholesale Price Insights:

- KPI Cards – Average Wholesale Price, Markup %, Markup Value
- SCATTER plots – Wholesale price by category detailed by profit
- Table – Item, Wholesale Price, Selling Price, markup value

Summary and KPI:

- KPI cards – most profitable product, profit up to last year
- Gauges-profit margin

## 5. Interactivity

The Power BI dashboard provides the following interactive features:

- Cross-filtering between visuals.
- Drill-down functionality from Category → Product → Date.
- Hierarchical date navigation (Year → Quarter → Month → Day).
- Tooltip details on hover for all visuals.
- Navigation buttons for page transitions.

## 6. Calculations / Measures

Key DAX measures used in Power BI include:

- Total Sales = SUM('Table1'[TOTAL SALES])
- Total Profit = SUM('Table1'[TOTAL PROFIT])
- Total Quantity = SUM('Table1'[TOTAL QUANTITY])
- Total Cost = SUM('Table1'[TOTAL COST])
- Profit Margin (%) = DIVIDE([TOTAL PROFIT], [TOTAL SALES])
- Avg Cost per Unit = AVERAGE('Table1'[AVG COST PER UNIT])
- Avg Selling Price = AVERAGE('Table1'[AVG SELLING PRICE])
- Avg Wholesale Price = AVERAGE('Table1'[AVG WHOLE SALE PRICE])
- Markup Value = [AVG SELLING PRICE] - [AVG WHOLE SALE PRICE]
- Markup % = DIVIDE([MARKUP VALUE], [AVG WHOLE SALE PRICE])
- Loss Value = SUM('Table1'[LOSS VALUE])
- Avg of Loss = AVERAGE('Table1'[AVG OF LOSS])
- Profit of LY = CALCULATE([TOTAL PROFIT], SAMEPERIODLASTYEAR('Calendar'[Date]))

- Sales of Last Year = CALCULATE([TOTAL SALES], SAMEPERIODLASTYEAR('Calendar'[Date]))

## **7. Export / Reporting Needs**

- Export visuals to PDF and Excel for reporting.
- Schedule Power BI refresh weekly.
- Publish and share dashboard in Power BI Service.
- Enable email subscriptions for management.

## **8. Notes / Special Instructions**

- Ensure date format is consistent (YYYY-MM-DD).
- Validate relationships between all tables using Item Code.
- Maintain uniform naming for categories and products.
- Optimize visuals for both desktop and Power BI Service.
- Apply RLS (Row-Level Security) for data privacy where required.