Hypermarket Vegetable Sales Dashboard Project — Analysis Report

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Project Overview

The Hypermarket Vegetable Sales Dashboard Project aims to analyze and visualize vegetable sales performance across various categories, products, and wholesale transactions. The main objective is to deliver actionable insights on profitability, loss rates, and pricing trends to support business decision-making for procurement and operations teams. The dataset integrates information from multiple tables — including product details, sales transactions, wholesale prices, and loss rates — and transforms it into a structured Power BI model for analysis and dashboard visualization.

Dataset Summary

The dataset is composed of four interrelated tables that collectively represent the hypermarket's vegetable sales data:

• **Product Table:** Contains item-level details such as Item Code, Item Name, Category Name, and Category Code.
• **Sales Table:** Includes transaction data with columns like Date, Item Code, Initial Selling Price, and Quantity.
• **Loss Table:** Tracks loss information, containing columns like Item Code, Item Name, and Loss Rate.
• **Wholesale Table:** Captures wholesale pricing and cost details with columns such as Date, Item Code, and Wholesale Price.

These tables form the basis for the Power BI data model and DAX-based calculations of profit, markup percentage, and loss percentage.

Column-wise Assessment Summary

Each column of the dataset was reviewed to ensure data accuracy and readiness for analysis. The assessment identified and resolved issues such as inconsistent naming, null values, and data type mismatches.

Key Highlights:

• **Date Columns:** Standardized to a consistent date format and used for time intelligence functions.
• **Item Names and Categories:** Text standardized for consistent categorization.
• **Numeric Columns:** Converted to appropriate data types and formatted for currency or percentage values.
• **Loss Rate:** Verified for valid percentage values and applied in calculations for net

profitability.
• **Wholesale Price:** Used to calculate markup percentage and overall profitability.

Data Model Overview

The data model follows a star schema structure with a central Fact Table and supporting dimension tables.

Tables and Relationships:
• Product_Details[Item Code] → Sales[Item Code]
• Product_Details[Item Code] → Loss_Rate[Item Code]
• Product_Details[Item Code] → Wholesale[Item Code]
• Date[Date] → Sales[Date]

Key DAX Calculations:
• Total Profit = SUM(Sales[Profit])
• Total Cost = SUM(Sales[Cost])
• Markup % = DIVIDE(([Selling Price] - [Wholesale Price]), [Wholesale Price]) * 100
• Loss % = AVERAGE(Loss_Rate[Loss Rate])
• Profit per Unit = DIVIDE([Total Profit], [Quantity])
• Total Sales = SUM(Sales[Initial Selling Price] * Sales[Quantity])

Analysis & Insights

The Power BI dashboard provides a clear, data-driven overview of the hypermarket's vegetable sales:
• **Sales Performance:** Shows the total sales and profitability trends by product and category.
• **Product Analysis:** Identifies top and low-performing vegetables based on sales and profit.
• **Loss Insights:** Visualizes products with higher loss rates impacting net margins.
• **Pricing Trends:** Analyzes markup and cost variations between wholesale and retail prices.
• **Temporal Trends:** Displays performance across different time periods for forecasting and trend analysis.

Conclusions

The analysis of the hypermarket’s vegetable sales data highlights consistent profitability in certain product categories but reveals inefficiencies in others due to high loss rates and fluctuating wholesale prices. The established Power BI model enables dynamic exploration of cost structures and revenue patterns, supporting improved business strategies.

Recommendations

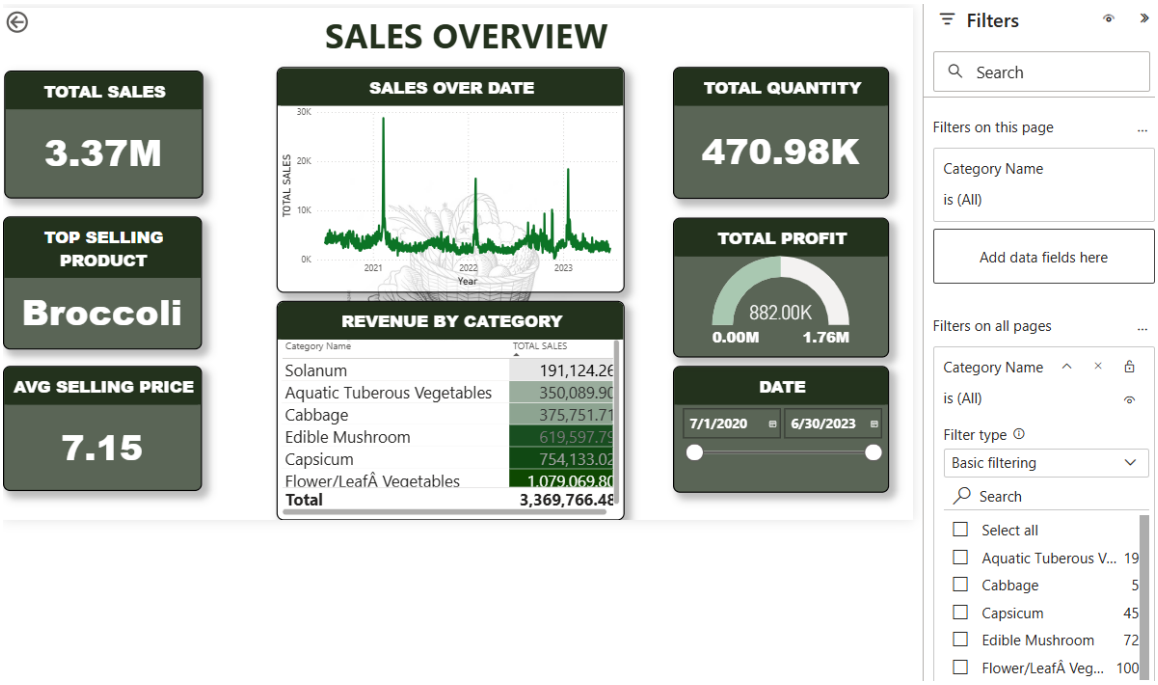
1. **Monitor Loss Rates:** Identify and minimize high-loss products through better storage and handling.
2. **Optimize Pricing:** Adjust markup percentages to balance competitiveness and

profitability.
3. **Strengthen Supplier Management:** Review wholesale pricing data regularly to negotiate better rates.
4. **Enhance Category-Level Insights:** Use category-based KPIs to manage stock and reduce waste.
5. **Implement Automated Refresh:** Schedule regular Power BI data updates for real-time decision support.

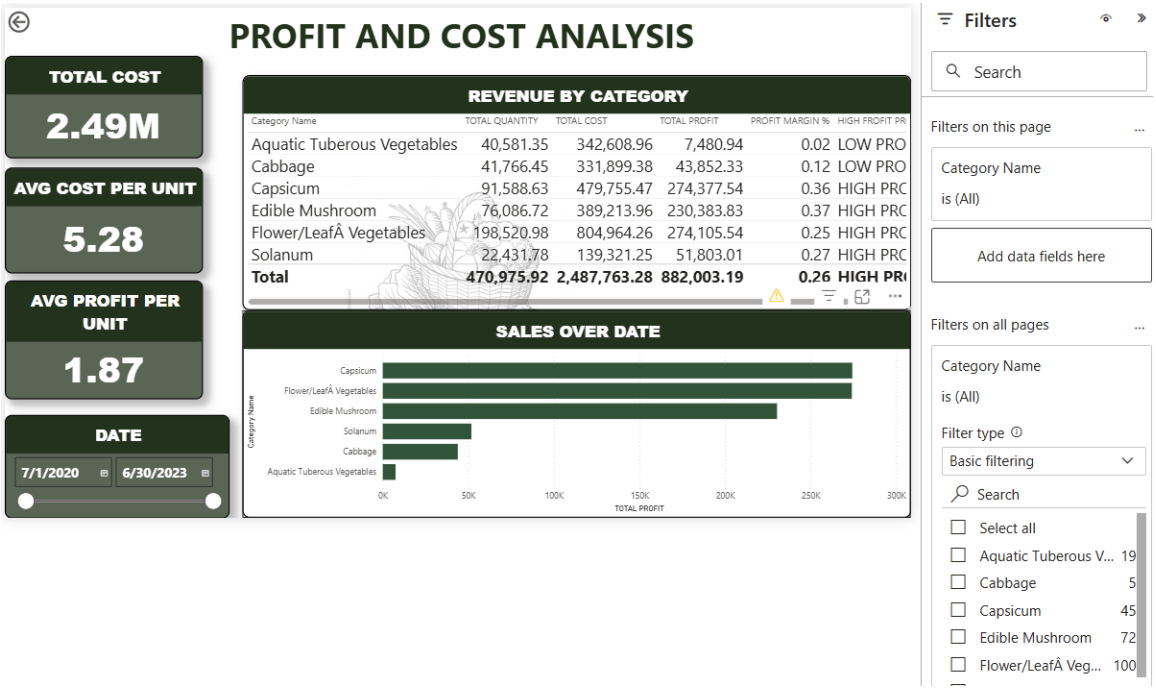
Dashboard Overview

The Power BI dashboard consists of multiple pages, each focusing on specific analytical aspects:

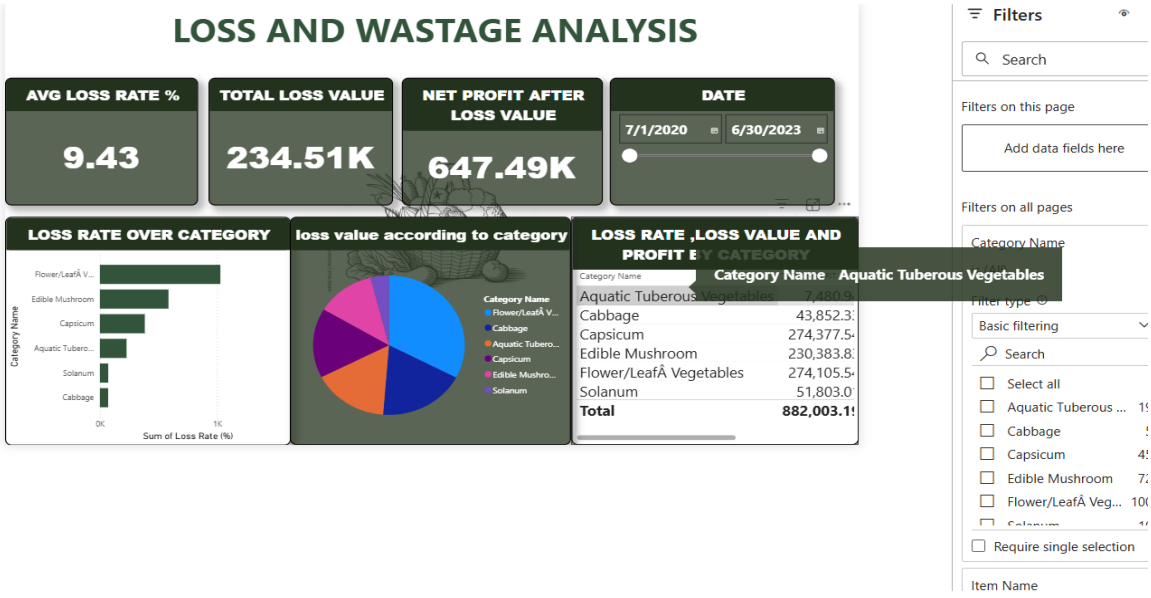
• **Sales Overview:** Displays total profit, sales, and cost trends.



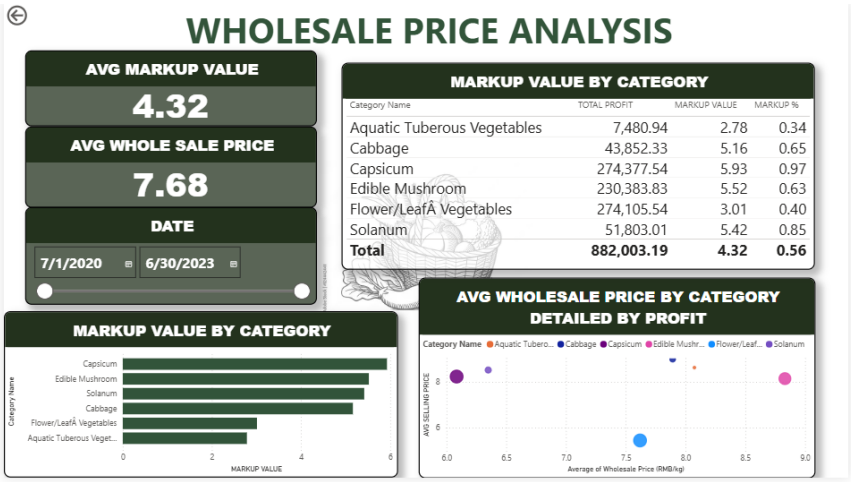
• **Product Performance:** Highlights most and least profitable items.

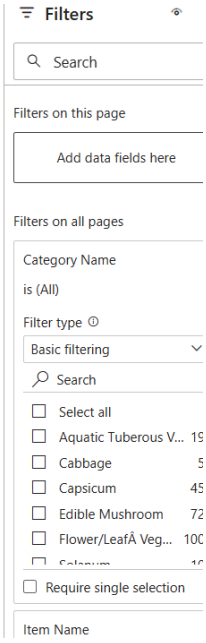


• **Loss Analysis:** Shows loss percentage per item and its impact on profit.

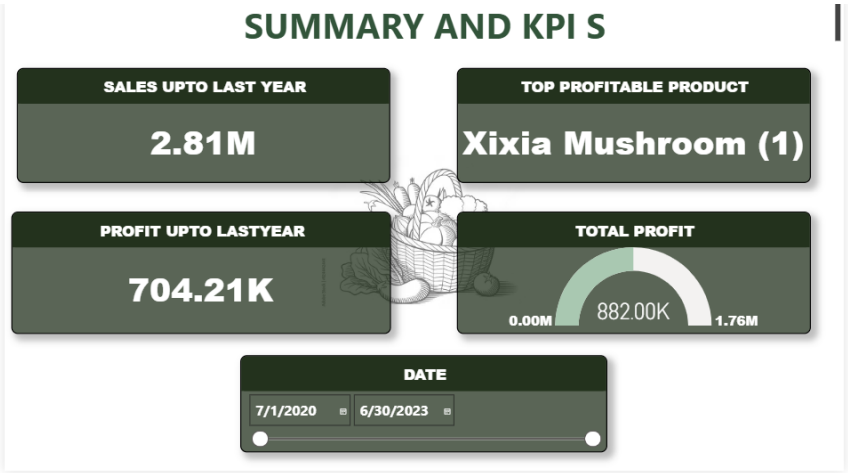


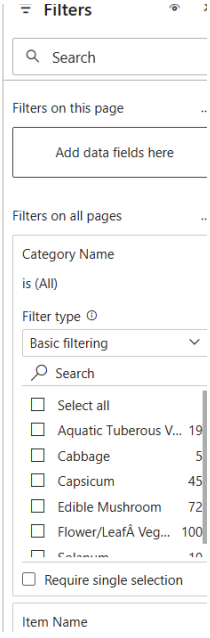
• **Pricing and Markup:** Compares wholesale versus selling price performance.





• **summary and KPI:** sales and profit up to last year , and top profitable product .





Interactive slicers allow filtering by category, date, and product for flexible exploration.

Notes / Limitations

- Dataset reflects a specific time range and may not represent long-term trends.
- Missing wholesale or loss data for certain products may impact accuracy.
- Markup and loss calculations assume consistent pricing throughout the dataset.
- Dashboard accuracy depends on regular data updates and validation.