

Zepto Grocery Analysis Report

Operational Efficiency & Pricing Strategy Analysis of Zepto Data **Objective:** To analyze inventory distribution, pricing strategies, and revenue potential across product categories using PostgreSQL. The goal is to identify high-value products, stock inefficiencies, and discount trends to optimize inventory management.

2. Data Preparation & Cleaning

Before analysis, the dataset underwent rigorous validation to ensure accuracy.

- **Null Value Investigation:** Checked for missing values in critical columns (name, mrp, discountPercent, stock status).
- **Data Integrity:**
 - Identified and removed invalid records where MRP or DiscountedSellingPrice was **0** to prevent skewed averages.
 - **Unit Conversion:** Transformed pricing columns from **Paise to Rupees** (dividing by 100) to make the data readable for business stakeholders.
- **Duplicate Analysis:** Identified product names appearing multiple times (SKU variations) to understand product assortment depth.

3. Key Business Insights

A. Pricing & Discount Strategy

- **Best Value Products :**
 - *Analysis:* We isolated the top 10 products with the highest discount percentages.
 - *Insight:* These products act as "loss leaders" or customer magnets. High discounts here likely drive traffic to the app.

	name character varying (150)	mrp numeric (8,2)	discountpercent numeric (5,2)
1	Dukes Waffy Orange Wafers	45.00	51.00
2	Dukes Waffy Chocolate Wafers	45.00	51.00
3	Dukes Waffy Strawberry Wafers	45.00	51.00
4	RRO Mozzarella Block Cheese	295.00	50.00
5	Ceres Foods Laal Maas Instant Liquid Mas...	220.00	50.00
6	Chef's Basket Durum Wheat Elbow Pasta	160.00	50.00
7	RRO Mozzarella Pizza Cheese	275.00	50.00
8	Ceres Foods Fish Mustard Instant Liquid M...	220.00	50.00
9	Dukes Waffy Strawberry Roll	150.00	50.00
10	Ceres Foods Nalli Nihari Instant Liquid Mas...	220.00	50.00

- Category Discount Trends :**

- Analysis:* Calculated the average discount per category.
- Insight:* Identified which categories (e.g., perhaps *Personal Care* or *Snacks*) rely heavily on discounts to move volume versus categories with stable pricing.

	category character varying (120)	avg_discount numeric
1	Fruits & Vegetables	15.46
2	Meats, Fish & Eggs	11.03
3	Ice Cream & Desserts	8.32
4	Chocolates & Candies	8.32
5	Packaged Food	8.32

- Premium Low-Discount Products :**

- Analysis:* Filtered for products with MRP > ₹500 and Discount < 10%.
- Insight:* These are premium, high-demand items where customers are less price-sensitive. This list represents opportunities for higher margin retention.

	name character varying (150)	mrp numeric (8,2)	discountpercent numeric (5,2)
1	Dhara Kachi Ghani Mustard Oil Jar	1250.00	8.00
2	Saffola Gold (Jar)	1240.00	0.00
3	Dhara Filtered Groundnut Oil (Jar)	1050.00	1.00
4	Fortune Rice Bran Health Oil (Jar)	1050.00	1.00
5	Dhara Filtered Groundnut Oil (Jar)	1050.00	0.00
6	Fortune Soyabean Oil	1005.00	0.00
7	Fortune Sunlite Refined Sunflower (Jar)	925.00	0.00

Total rows: 39 | Query complete 00:00:00.263

B. Revenue & Inventory Potential

- **Revenue Projection by Category :**

- *Analysis:* Calculated SUM(Selling Price * Available Quantity).
- *Insight:* This metric highlights the "Potential Revenue" sitting in the warehouse. It identifies which category holds the most monetary value (Risk of holding cost vs. Reward of sales).

	category character varying (120) 	total_revenue numeric 
1	Fruits & Vegetables	10846.00
2	Meats, Fish & Eggs	20693.00
3	Biscuits	25007.60
4	Beverages	55051.00
5	Dairy, Bread & Batter	55051.00
6	Health & Hygiene	64180.00
7	Home & Cleaning	122661.00

Total rows: 14 Query complete 00:00:00.3

- **Inventory Weight Analysis:**

- *Analysis:* Aggregated total weight per category.
- *Insight:* Essential for logistics planning. Heavier categories (like Staples or Beverages) require different supply chain handling than lighter, high-value items.

	category character varying (120) 	total_weight bigint 
1	Meats, Fish & Eggs	48016
2	Biscuits	84431
3	Fruits & Vegetables	91794
4	Health & Hygiene	142904
5	Dairy, Bread & Batter	143735
6	Beverages	143735
7	Paan Corner	348187

Total rows: 14 Query complete 00:00:00.3

C. Stock Health & Efficiency

- **Stock Availability:**

- *Analysis:* Grouped data by OutOfStock status.
- *Insight:* Provides a clear ratio of Available vs. Stocked-out items. A high out-of-stock rate indicates lost revenue opportunities.

- **High Value Stock-Outs (Q2):**

- **Analysis:** Identified products with MRP > ₹300 that are currently unavailable.
- **Insight: Critical Alert.** These are expensive items that should be contributing to revenue but aren't. Restocking these should be a priority.

	name character varying (150)	mrp numeric (8,2)
1	Patanjali Cow's Ghee	565.00
2	MamyPoko Pants Standard Diapers, Extra Large (12 - 17 ...	399.00
3	Aashirvaad Atta With Mutigrains	315.00
4	Everest Kashmiri Lal Chilli Powder	310.00

D. Unit Economics

- **Price Per Gram Efficiency:**

- **Analysis:** Calculated the cost per gram for items > 100g.
- **Insight:** Helps in comparing "value packs" vs. standard packs. Useful for recommending "Best Value" tags on the app interface.

	name character varying (150)	weightingms integer	discountedsellingprice numeric (8,2)	price_per_gram numeric
1	Tata Salt	1000	24.00	0.02
2	Onion	1000	21.00	0.02
3	Onion	3000	57.00	0.02
4	Shubh kart - Nirmal sugandhi mogra wet dhoop zipper 20 sticks	1160	28.00	0.02
5	Vicks Cough Drops Menthol	1160	20.00	0.02
6	Aashirvaad Iodised Salt	1000	19.00	0.02
7	Carrot	500	15.00	0.03

Total rows: 1395 Query complete 00:00:00.363

- **Pack Size Segmentation:**

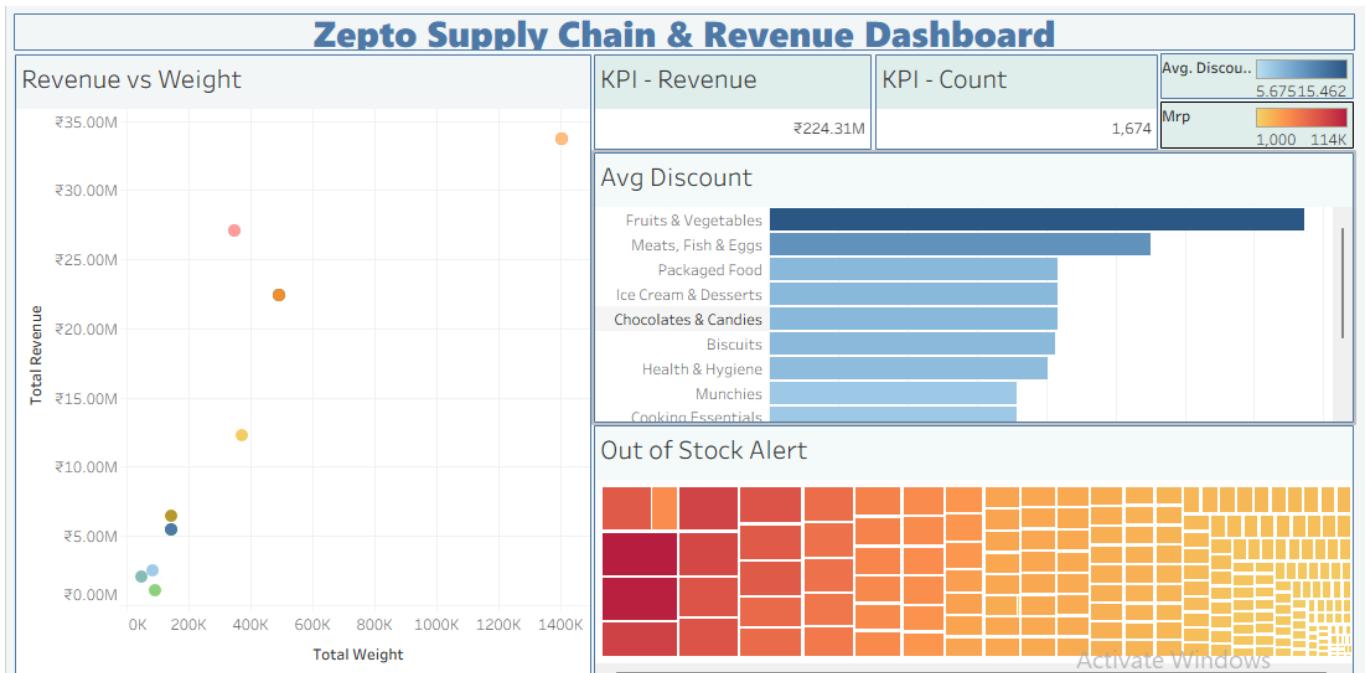
- **Analysis:** Categorized items into Low (<1kg), Medium (<5kg), and Bulk.
- **Insight:** Understanding the mix of bulk vs. single-use items helps in planning delivery logistics.

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3. Interactive Intelligence Dashboard

To operationalize the findings from the SQL analysis, an interactive Tableau dashboard was developed. This tool transforms raw data into actionable insights, allowing stakeholders to monitor inventory health, revenue potential, and pricing efficiency in real-time.

Dashboard Preview:



3.1 Dashboard Overview

The dashboard integrates four critical business metrics:

- Total Revenue Potential:** Tracking ₹224.31M in available inventory.
- Logistics Efficiency:** Visualizing the trade-off between product weight and revenue generation.
- Discount Strategy:** Analysing average discount depth across categories (e.g., Fruits & Vegetables vs. Munchies).
- Stock Health:** A real-time alert system for high-value out-of-stock items.

3.2 Strategic Conclusions & Recommendations

Based on the visual analysis, the following key trends and action items are identified:

- Inventory Optimization (The "Weight-Revenue" Matrix):**

- *Observation:* The Scatter Plot reveals a distinct "High-Volume, High-Revenue" category (indicated by the top-right orange marker). While this category generates significant revenue (~₹34M+), it also imposes the highest logistics load (>1,400K Total Weight).
 - *Recommendation:* Supply chain logistics must be optimized specifically for this category to reduce shipping costs, as it accounts for the bulk of transportation weight.
- **Discount Strategy Efficiency:**
 - *Observation:* "Fruits & Vegetables" drives volume through aggressive discounting (highest average discount >15%), whereas categories like "Cooking Essentials" and "Munchies" maintain lower discounts.
 - *Recommendation:* An A/B test is recommended by slightly lowering discounts on Fruits & Vegetables to see if volume sustains, potentially increasing net margins.
 - **Critical Revenue Leakage (Stock-Outs):**
 - *Observation:* The "Out of Stock Alert" Tree Map highlights a major operational risk. Several **High-MRP items (Red Blocks)** are currently unavailable.
 - *Immediate Action:* Restock the top 5 high-value SKUs identified in the red zone immediately. These missing items represent a direct revenue loss compared to low-cost out-of-stock items.