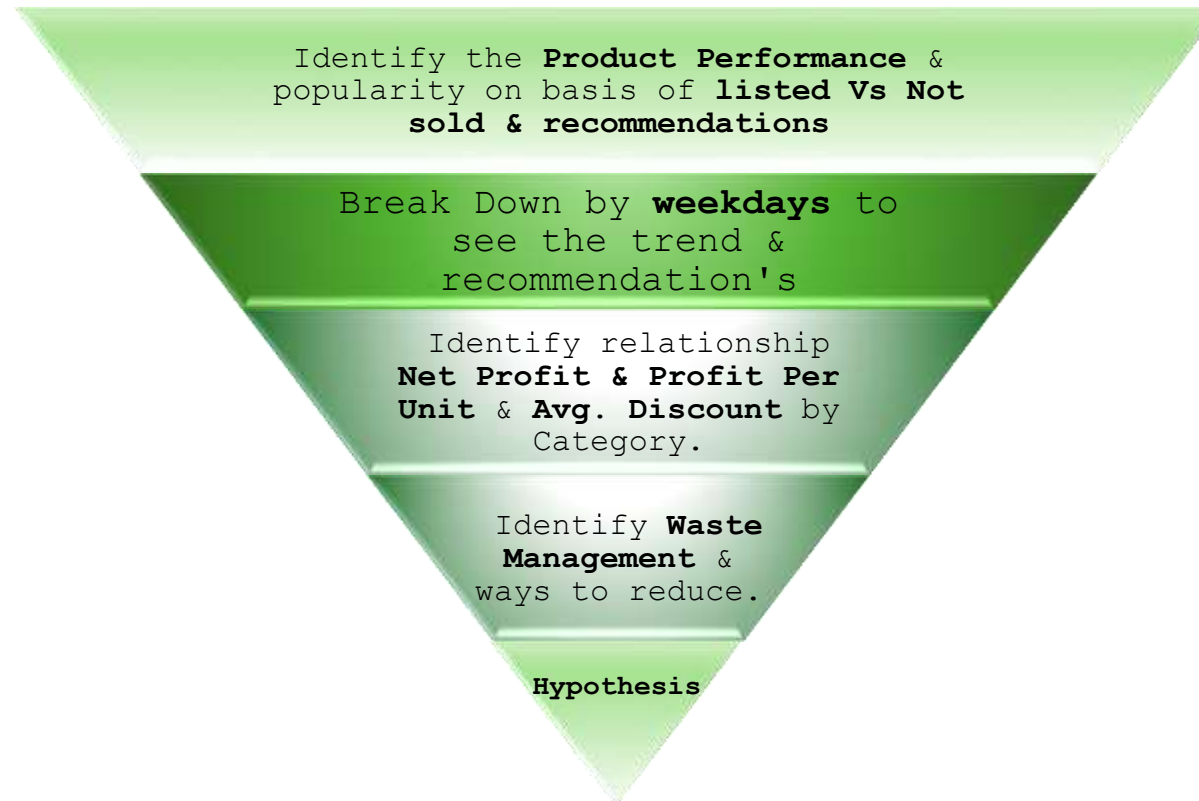


TASK - 1

Please provide **Commercial and Supply chain teams** with relevant insights you extracted from the **SKU dataset**. Also provide recommendations.



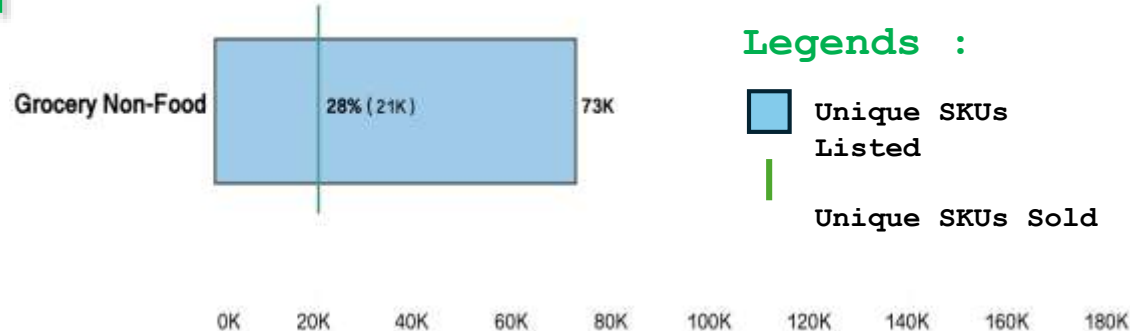
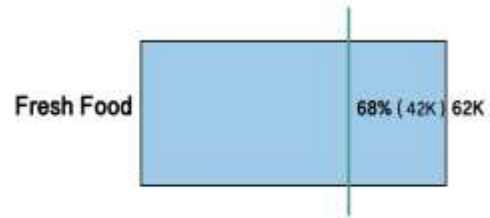
The **First Step** involves in Identifying the **Product Performance & Popularity**

Objective:- Listed vs Sold

- Identify which SKUs are **listed but not selling** This can help in understanding consumer preferences and making decisions about which products to continue offering or promote more aggressively.
- A **low percentage** of listed SKUs sold might indicate a need for better marketing or repositioning of certain products.

Insights:-

- It is evident that **Grocery Non-Food Category** is most **non- performing category** with only **28% (21K)** of Listed SKU is sold against 73 K Listed SKU.
- Fresh Food being the **best performing category** with **68 % (42k)** Listed products were sold, as compared to Grocery Food with approximately 44%.
- Interestingly, Grocery Food is the most **diverse category** with **164K** unique products were available



The **Second Step** involves break down **Sub-Categories** to identify the **trend by Weekdays**

| Category | Sub_Category | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|------------------|------------------|--------|--------|---------|-----------|----------|--------|----------|
| Grocery Non-Food | Toys & Games | 2% | 1% | 1% | 2% | 1% | 2% | 2% |
| | Home Accessories | 7% | 7% | 7% | 7% | 6% | 6% | 8% |
| | Pet Care | 31% | 32% | 30% | 28% | 31% | 30% | 31% |
| | Baby Care | 12% | 9% | 9% | 11% | 10% | 10% | 8% |
| | Personal Care | 38% | 36% | 31% | 35% | 35% | 37% | 34% |
| | Home Care | 48% | 46% | 46% | 48% | 46% | 44% | 48% |
| | Health & Safety | 20% | 17% | 13% | 14% | 18% | 15% | 18% |
| | Tobacco | 59% | 56% | 58% | 58% | 57% | 59% | 59% |
| Grand Total | | 30% | 28% | 27% | 28% | 28% | 28% | 29% |

Objective:- (Grocery Non - Food)

By leveraging these Trends, the Commercial and Supply Chain teams can make informed decisions to **improve sales, optimize inventory, and enhance overall customer satisfaction.** such as Resource allocation on peak day, and can do the Targeted Promotions for less popular purchased categories.

Overall Trends:-

- Sunday** and **Saturday** have the highest total sales percentages (30% and 29% respectively), while **Tuesday** has the lowest overall sales percentage at 27%.
- Tobacco** consistently shows **high percentages** across all days, makes it most popular sub-category while **Home Accessories** and **Toys & Games** have the **lowest** sales percentages across all days, indicating they are **less** preferred choices for customers.
- Personal Care** sees the highest sales percentage on Sunday (38%) and the lowest on Tuesday (31%). There is a **noticeable increase** from Tuesday to Friday while **Pet Care** sales percentages are relatively stable across the week.

| Category | Sub_Category | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------------|---------------------|--------|--------|---------|-----------|----------|--------|----------|
| Grocery Food | 🍦 Ice Cream | 81% | 71% | 72% | 72% | 72% | 77% | 78% |
| | 🍪 Sweet Snacks | 47% | 45% | 44% | 43% | 47% | 46% | 47% |
| | 🍷 Wine | 19% | 14% | 14% | 16% | 18% | 19% | 18% |
| | 🍺 Beer & Cider | 67% | 58% | 59% | 60% | 60% | 65% | 64% |
| | 🍟 Salty Snacks | 73% | 69% | 67% | 68% | 69% | 71% | 73% |
| | 💧 Water & Flavoured | 83% | 81% | 80% | 83% | 80% | 79% | 82% |
| | 🍷 Spirits | 22% | 20% | 19% | 20% | 21% | 27% | 25% |
| | 🍲 Instant Meals | 47% | 44% | 47% | 45% | 44% | 39% | 45% |
| | 🍹 Beverages | 68% | 65% | 64% | 65% | 65% | 66% | 67% |
| | 🥫 Canned Goods | 34% | 34% | 33% | 31% | 31% | 30% | 33% |
| | 🍲 Pantry | 32% | 32% | 31% | 29% | 29% | 29% | 29% |
| Grand Total | | 47% | 44% | 43% | 43% | 44% | 45% | 46% |

Overall Trends:- (Grocery Food)

- **Sunday & Saturday** were preferred choice for Grocery shopping while **Tuesday** has the lowest sales.
- **Ice Cream & Water Categories** were dominating consistently shows high percentages across all days, while **Beer & Cider** is stable across the complete week.
- **Wine, and Canned Goods** were the least preferred & **Ice-cream** preferred.

The Fact is now we know **Tuesday** has least sales & **Wine** is the favourite choice.

Recommendations for Commercial & Supply Team

- Actionable steps :-

Personalised Target Marketing - Provide the **combo** deals of **Ice-cream & Wine** on **Monday** and identify the product with most probable waste and give the best feasible offer on the specific product, In this way we

:-

1. Focus on Peak Days:

Since Sunday and Saturday have the highest sales, ensure **optimal stock levels** for high-demand items, particularly Tobacco and Home Care, to prevent stockouts.

2. Targeted Promotions:

Consider running promotions for lower-performing sub-categories (e.g., Toys & Games, Home Accessories) on busier days (Sunday and Saturday) to boost their sales.

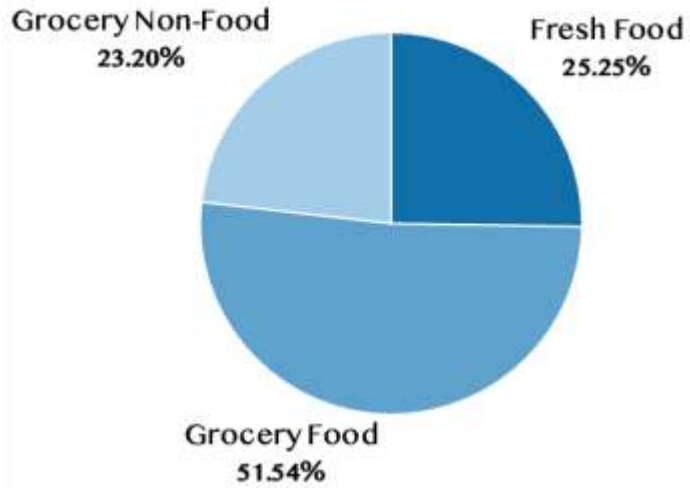
3.Dynamic Pricing Strategies: Implement dynamic pricing and targeted discounts based on inventory levels and sales trends to maximize revenue.

4.Customer Satisfaction: Understanding which products have higher sales can help in anticipating customer needs. Focus on improving delivery accuracy and timeliness for best-selling SKUs. ents.

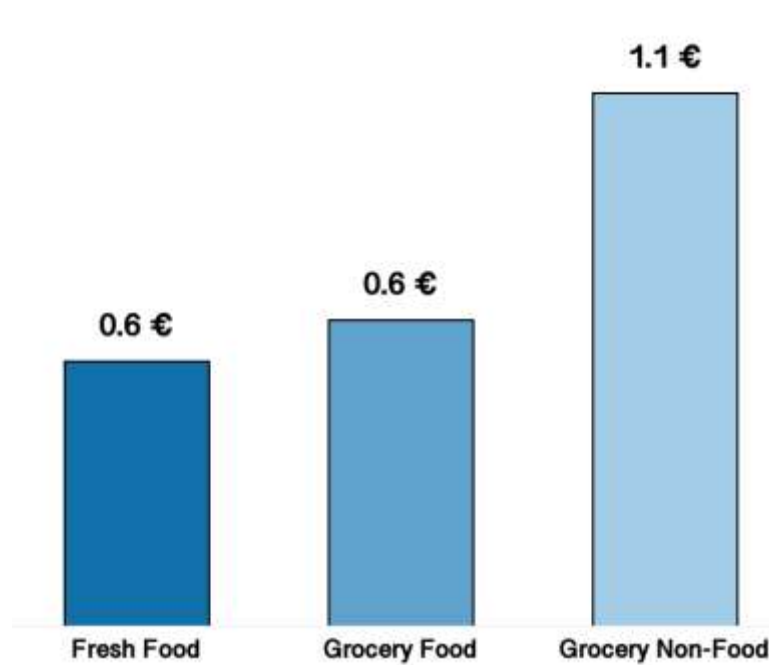
5. Resource Allocation:

Allocate more resources (e.g., staffing, marketing efforts) on peak days to ensure smooth operations and **enhanced customer satisfaction**.

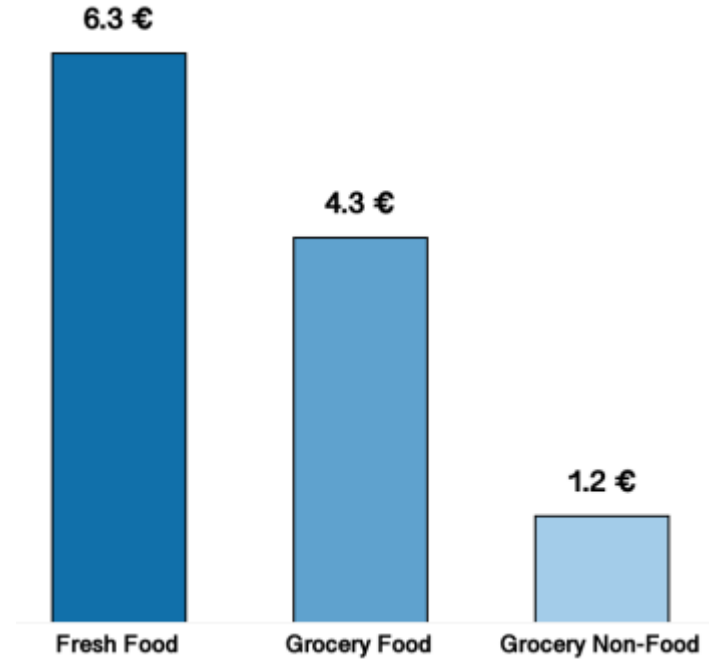
The **Third Step** involves the **Net Profit & Profit Per Unit & Avg. Discount** relationships



Profit
Concentration %



Profit per unit
sold



Average Discount per unit

Objective:-

The visualization aims to provide a detailed overview of the **net profit, profit per unit, and discount relationships** for different product categories within Bolt Food. In order to compare the **profit** generated per unit sold across different categories to keep the **focus on High-Profit Items** and to **Optimize Inventory and Logistics**.

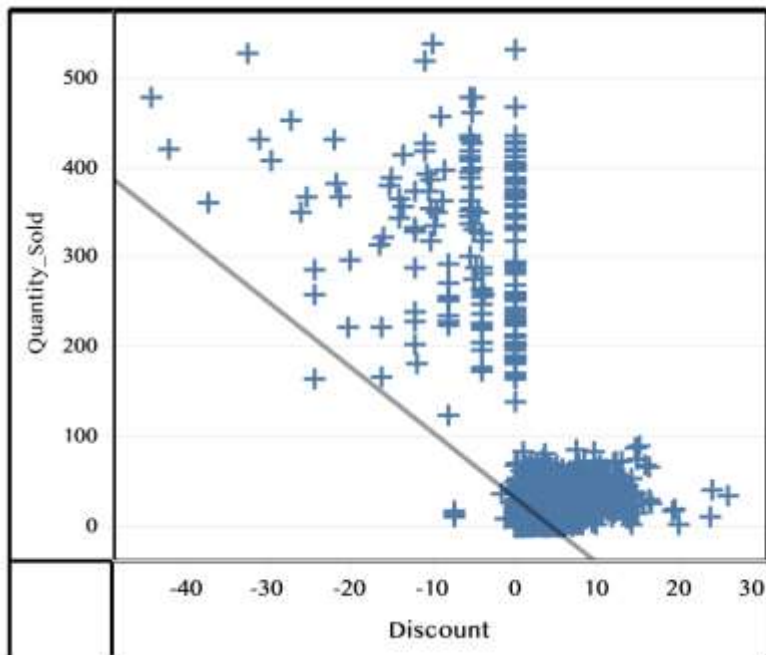
The **Fourth Step** involves the **relationship between Qty Sold, Discount & Profit.**

| Category | Quantity_Sold | Discount | Net_Profit |
|------------------|---------------|----------|------------|
| Fresh Food | 195,185 | 27,113 | 108,575 |
| Grocery Food | 336,804 | 36,391 | 221,612 |
| Grocery Non-Food | 89,360 | 4,443 | 99,771 |

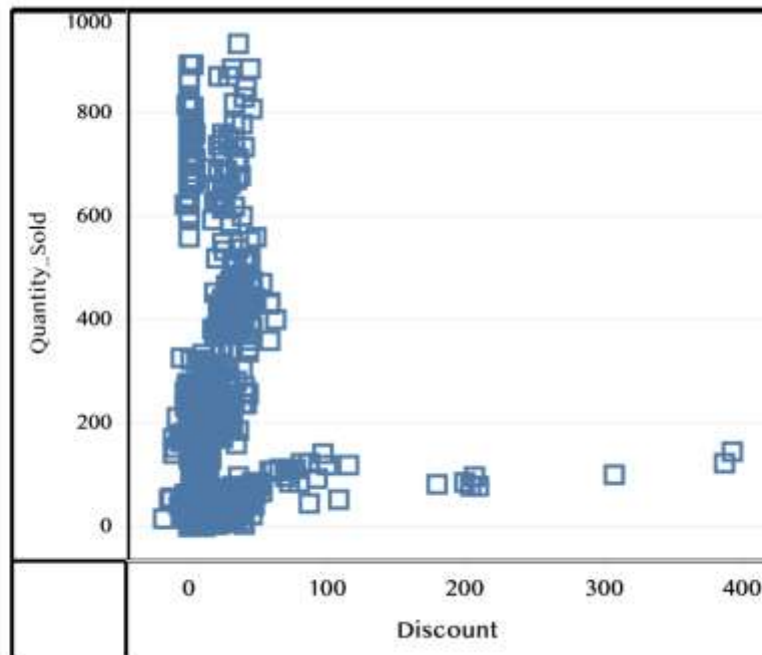
Objective:-

The visualization aims to provide a detailed overview of the the **relationship between Qty Sold, Discount** so that we can plan our discount strategies' accordingly.

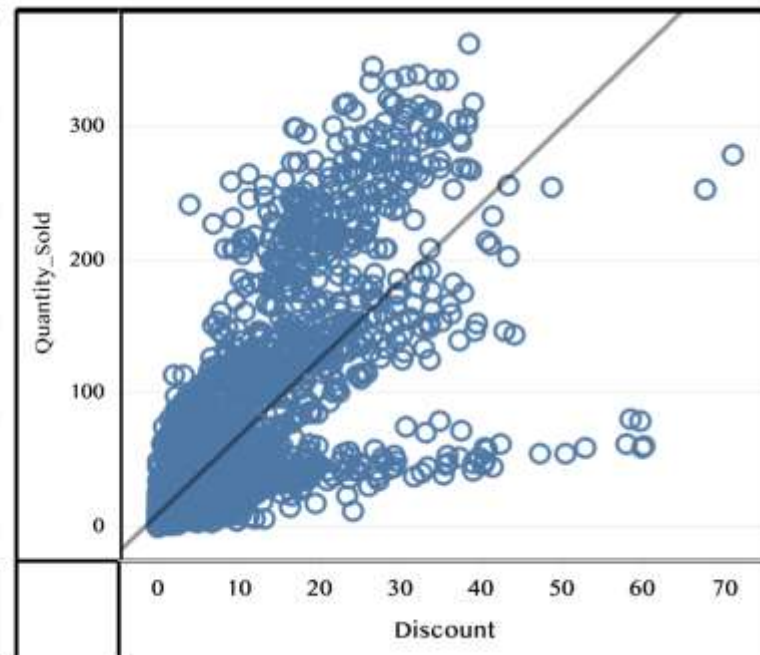
Discount Vs Quantity Sold



Grocery Non-Food



Grocery
Food



Fresh Food

Overall Trends:-

- **Grocery Food** constitutes the largest portion of the profit, making it a critical focus area for sustaining overall profitability and **Grocery Non-Food**, although a **smaller** segment, has the highest profit per unit sold, indicating it is highly profitable on a per-item basis.
- Both **Fresh Food** and **Grocery Food** have similar profit per unit, but **Grocery Non-Food** stands out with nearly double the profit per unit, suggesting a higher efficiency in generating profit from these items.
- **Fresh Food** has the highest average discount per unit, which is significantly higher than other categories. This suggests aggressive discounting strategies are being used, potentially to drive sales or manage inventory.
- **Grocery Food** and **Fresh Food** have higher discount amounts (€36,391 and €27,113 respectively), suggesting a strategy to drive higher sales volumes through discounts. **Grocery Non-Food** has a minimal discount amount (€4,443), indicating less reliance on discounts to generate sales, which contributes to its higher profit per unit.
- **For Grocery Non - Food:-** Negative correlation between discount and quantity sold as Higher discounts do not significantly increase the quantity sold, indicating that other factors might drive sales for non-food items.
- **Grocery Food** - Limited data points suggest a weak correlation between discounts and quantity sold as Discounts have a varied impact on the quantity sold with some instances showing high

1) Focus on High-Profit Items

Delivery Team: Ensure efficient and timely delivery of **Grocery Non-Food** items, as they offer the highest profit per unit. Prioritize these items in your logistics planning to maximize profitability.

Commercial Team: Consider promoting **Grocery Non-Food** items more aggressively through marketing campaigns, as they yield higher returns on sales.

2) Optimize Discount Strategies

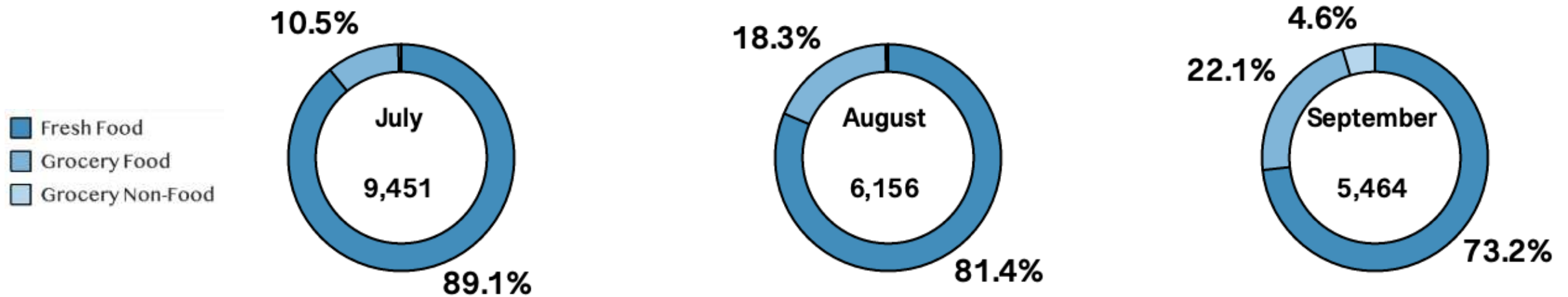
Delivery Team: Collaborate with the inventory management team to understand the necessity of high discounts on **Fresh Food**. Aim to reduce waste through improved forecasting and delivery efficiency.

Commercial Team: Re-evaluate the discount strategies for **Fresh Food** to ensure they are driving sufficient volume to justify the lower margins. Consider targeted promotions that attract customers without heavily eroding profit margins

3) Strategic Category Expansion

Delivery Team: Explore opportunities to expand the range of **Grocery Non-Food** items, given their high profit per unit, to leverage existing delivery infrastructure for maximum profitability.

The **Final Step** involves identifying the products with maximum waste to identify the trend by Months



Objective:-

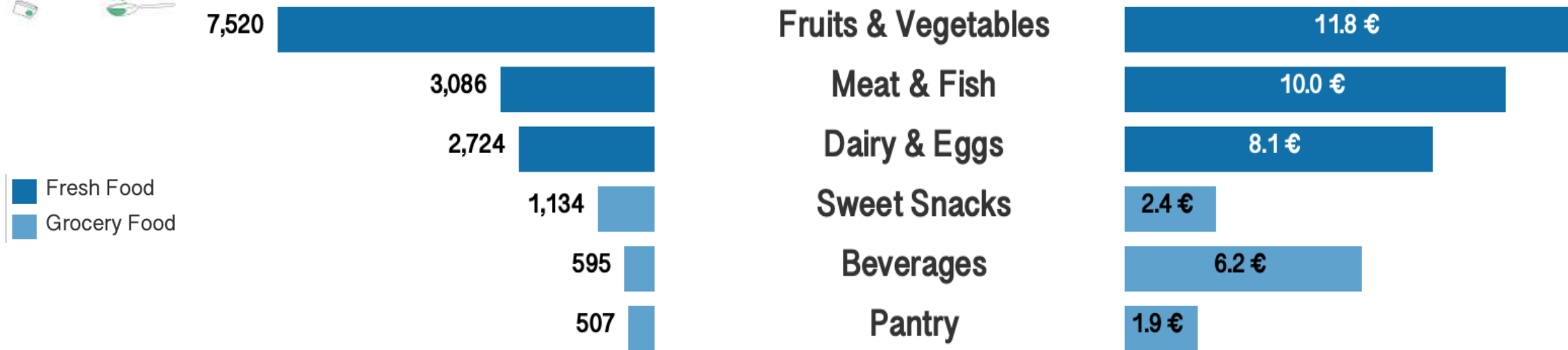
By leveraging these Trends, the delivery team at Bolt can enhance their **operational efficiency**, **reduce waste**, and improve overall customer satisfaction, contributing to a **more sustainable** and cost-effective supply chain.

Overall Trends:-

- The **highest waste** happened in July for **9,451** units with **Fresh Food** contributing 89.1% of the waste while Total waste **decreases** to 6,156 units in August, with Fresh Food and further **September observes the least waste** to 5,464 units, but interestingly Grocery Food & Non - Food waste is increasing as we proceed to winters.
- It seems seasonality as Fresh food expected to be more wasted in peak summers but There is a noticeable decrease in total waste from July to September. However Fresh Food still remains



The **further Step** involves breakdown the **Total waste Vs Avg discount** by products.



Objective:-

The breakdown of total waste versus average discount by **top 3 product categories** for Bolt Food, segmented into Fresh Food and Grocery Food. This helps in understanding the relationship between waste generation and the average discounts provided.

Overall Trends:-

- **Fruits & Vegetables** have the **highest waste** at 7,520 units and also receives the **highest average discount** at €11.8 indicates that **total waste is approximately independent of Discount** provided for Fresh Food. Remains while **Pantry** have significantly lower waste as the lower-waste categories receive much smaller discounts, with Sweet Snacks at €2.4, and Pantry at €1.9.

- Nutshell Fresh Food categories like Fruits & Vegetables, Meat & Fish, and Dairy & Eggs not

For Fresh Food Categories:

Improve Inventory Management & Demand Forecasting: Implement more accurate demand forecasting methods to reduce overstocking. (Meat & Fish, and Dairy & Eggs).Consider using historical sales data to predict future demand more accurately. Use historical sales data and seasonality trends to reduce overstocking and waste.

Discount Strategies: Review discounting strategies for high-waste categories. While higher discounts might help in reducing waste, ensure they are not contributing to excessive purchasing that leads to waste. Balance discounts with promotions that encourage immediate consumption. Trim the Discounts for specific weekdays.

Regular Audits: Conduct regular audits of inventory and waste data to identify patterns and address issues promptly. This helps in maintaining optimal stock levels and reducing waste.

Waste Reduction Initiatives:- Partner with local food banks and charities to donate surplus perishable items before they reach their expiration dates. This reduces waste and supports community welfare

For Grocery Food Categories:

Maintain Current Practices: Continue with the current inventory management practices as they are **effectively minimizing waste**. However, remain vigilant to ensure that these practices are

1. Impact of Discounts on Sales: Hypothesize that targeted discounts significantly increase sales volume. Validate this by analyzing sales data before and after discount periods.

- **Approach:** Compare sales volumes during discount and non-discount periods.
- **Expected Outcome:** Higher sales during discount periods.

2. Correlation Between SKU Listing and Sales: Hypothesize that the number of unique SKUs listed positively impacts sales. Validate by comparing categories with varying SKU counts and their respective sales performance.

- **Approach:** Analyse correlation and regression between SKU count and sales revenue.
- **Expected Outcome:** Positive relationship.

3. Effectiveness of Waste Reduction Strategies: Hypothesize that improved inventory management practices lead to a significant reduction in waste. Validate by implementing changes and monitoring waste levels over time.

- **Approach:** Compare waste levels before and after inventory improvements.
- **Expected Outcome:** Lower waste post-improvements.

4. Frequent Stockouts Lower Customer Satisfaction

- **Approach:** Correlate stockout frequency with customer satisfaction ratings.