### Data Tables:

- Product\_list: List of products sold by Yes4all.

- Transaction: Sales data, advertising performance, and other transactional records.

- Projection (Forecast): Forecasted sales volume and expected costs.

- Event\_list: List of sales events on the platform.

- Inventory: Current stock levels and the schedule for incoming inventory.

### Key Definitions:

- RS (Real Sales): The number of units sold to customers (= shipped\_units).

- Promotion: Discount costs on the product's retail price (= coupon + vc\_promo + vm\_promo).

- Ads: Advertising costs for search campaigns on the platform (= sbv + sp + sd + sb + dsp).

- Frozen Time: A product requires 3 months to complete; therefore, "frozen time" is the period during which no additional inventory can be ordered (3 months from the current month).

- Levels of Product: Category (Product Type) >> Subcategory (Product Group) >> SKU (Product Code).

- Holiday Month: High-sales months on the platform.

- GMV (Gross Merchandise Value): Revenue from the product (= price \* real sales).

- Ordered Date: The date when the customer placed the order on the app.

- Shipped Date: The date when the customer received the product.

- Incoming: Expected stock arrivals.

- Spend: Expenditure.

## Business Context:

As of mid-June 2023, the sales team is in a critical phase, evaluating and preparing forecasts for the upcoming months to ensure sufficient inventory for sales through the end of the year.

## Question 1

Visualize Data for daily monitoring, with no restrictions on the information displayed but including:

- Number of products launched to date, as of April, May, etc.

- Data as of which specific date?

- Top 10 best-selling products of the month and 10 slowest-selling products of the month.

## Question 2

To support the Sales PICs (person in charge of sales) in forecasting upcoming sales, the team has been tasked to review and automate the logic of the forecast and create visualizations for use by sales.

### Logic Review and Visualization:

|  |  |  |
| --- | --- | --- |
| Alert metrics | Logic | Output |
| Real sales (RS) | ● Alert if that month has Forecast RS < Average RS of the last 3 months (pay attention to months with special events - Event) | “To check real sales” |
| ads spend/GMV | ● Alert if that month has Forecast ads spend/GMV < average ads spend/GMV of the last 3 months (pay attention to months with special events - Event) | “To check ads spend” |
| promotion spend/GMV | ● Alert if that month has Forecast promotion spend/GMV < promotion spend/GMV average of the last 3 months (pay attention to months with special events - Event) | “To check promotion spend” |

### Questions:

1. Evaluate the logic review for Sales.

2. Visualize automated alerts for Sales.

3. To improve the quality of the forecast, what suggestions would you offer Sales to enhance their approach?

## Question 3

(Forecast Accuracy Analysis) Analyze the quality of the team's projection (forecast) to evaluate its reliability.

- Comment on the accuracy of the projections over time.

- Provide insights into the behavior of the person creating these projections. To improve projections, which metrics need closer monitoring?

- Are these projections reliable? Why or why not?