Datanest

Business Cases *Machine Learning on Retail*

Part I

- 1. Demand Forecasting
- 2. Customer Segmentation
- 3. Customer Targeting
- 4. Product Bundling
- 5. Order Recommendation



Demand Forecasting

Action

If the Stock won't sufficient for next certain periods demand, then we do restocking

Step 6

Success Criteria

Minimize the occurrence of understock and overstock phenomenon

Step 7

Threshold

Stock Amount less than next certain time unit demand

Step *

Assumption

Forecasting in time unit, it can be adjust to another time frame.

Business Problem Statement

How much **demand** on the **several periods ahead,** so we can restock properly? Step 2

Define Data - *Unit Analysis*

Time Unit (week/month/other)

Step 3

Define Data - Variable

Unit, Volume, Weight, Demand in previous period

Step 4

Define Data - Label

Demand over time in certain period



Customer Segmentation

Business Problem Statement

What is the **characteristics** of our **customer**?

Step 2

Define Data - *Unit Analysis*

Customer ID

Step 3

Define Data - Variable

Frequency, Recency, Monetary

Step 4

Define Data - Label

No-label (Unsupervised)

Action

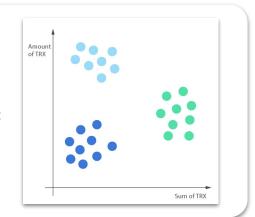
To subset customer for better promotion targeting

Step 6

Success Criteria

Get interpretable customer archetype

Expected Output







Customer Targeting

Business Problem Statement

How to **target** promotion or offer to **potential customer** based on previous customer?

Step 2

Define Data - *Unit Analysis*

Customer ID

Step 3

Define Data - Variable

Frequency, Recency, Monetary

Step 4

Define Data - Label

Customer Loyalty Level (Previous Customer)

Action

Offer Product Promotion to the Selected Customer

Step 6

Success Criteria

Maximize the Return On Investment

Step 7

Threshold

Top 10% Customer with highest response rate





Product Bundling

Business Problem Statement

What kind of **product** that Customer might to **buy**?

Step 2

Define Data - *Unit Analysis*

Ascendant-Descendant pair

Step 3

Define Data - Variable

Product pair, Order ID, Frequency

Step 4

Define Data - Label

No-label (Unsupervised)

Action

Offer Product Recommendation to Customer if lift score below certain number

Step 6

Success Criteria

Customer buy the offered product

Step 7

Threshold

Lift score below certain number





Order Recommendation

Business Problem Statement

What kind of **product** that Customer might to **buy**?

Step 2

Define Data - *Unit Analysis*

Ascendant-Descendant pair

Step 3

Define Data - Variable

Product pair, Order ID, Frequency

Step 4

Define Data - Label

No-label (Unsupervised)

Action

Offer Product Recommendation to Customer if lift score below certain number

Step 6

Success Criteria

Customer buy the offered product

Step 7

Threshold

Lift score below certain number

