

procurement - Questions

Q1. In the Procurement & Supplier Management notebook, you discover that the Supplier column contains values like "A", "Supp A", and "supA". According to the SEETREATVERIFY pattern, which action belongs to the TREAT phase?

- A. Listing all distinct supplier labels and printing them.
- B. Mapping "Supp A" and "supA" to the canonical label "A" in df_treat.
- C. Checking how many POs each supplier has after cleaning.
- D. Plotting a bar chart of number of POs per supplier in df_raw.

Correct answer: B. Mapping "Supp A" and "supA" to the canonical label "A" in df_treat.

Q2. In STEP 2B, missing Delivery_Date values are imputed using supplier-specific median lead time. For a PO from Supplier B with PO_Date = 2024-02-10 and median Lead_Time_Days for B = 9, what is the correct imputed Delivery_Date?

- A. 2024-02-10
- B. 2024-02-19
- C. 2024-02-18
- D. 2024-02-28

Correct answer: B. 2024-02-19

Q3. In STEP 4A you define Late_Flag using a promised lead time of 10 days. Which implementation correctly computes Late_Flag and On-Time Delivery % (OTD%) per supplier in the VERIFIED df_treat?

- A. `Late_Flag = (df_treat['Lead_Time_Days'] >= 10).astype(int)`
`OTD = df_treat.groupby('Supplier')['Late_Flag'].mean() * 100`
- B. `Late_Flag = (df_treat['Lead_Time_Days'] > 10).astype(int)`
`grp = df_treat.groupby('Supplier')`
`OTD = (1 - grp['Late_Flag'].mean()) * 100`
- C. `Late_Flag = (df_treat['Lead_Time_Days'] < 10).astype(int)`
`OTD = grp['Late_Flag'].mean() * 100`
- D. `Late_Flag = (df_treat['Lead_Time_Days'] > 10).astype(int)`
`OTD = grp['Lead_Time_Days'].mean()`

**Correct answer: B. `Late_Flag = (df_treat['Lead_Time_Days'] > 10).astype(int)`
`grp = df_treat.groupby('Supplier')`
`OTD = (1 - grp['Late_Flag'].mean()) * 100`**

Q4. In the KPI table, Supplier A has Mean Lead_Time_Days = 10 and Std = 3, while Supplier B has Mean Lead_Time_Days = 9 and Std = 1.5. Which statement best

describes the implication for safety stock?

- A. Supplier A requires less safety stock because its mean lead time is only 1 day higher than B.
- B. Supplier A requires more safety stock than B because its CV% is higher (30% vs 16.7%), meaning lead times are less predictable.
- C. Safety stock requirements are the same, because both suppliers are under 15 days average lead time.
- D. Supplier B needs more safety stock because it delivers faster on average and is therefore riskier.

Correct answer: B. Supplier A requires more safety stock than B because its CV% is higher (30% vs 16.7%), meaning lead times are less predictable.

Q5. After STEP 7C you obtain the following averages from the logistic regression model: Supplier A Late_Prob = 0.22, Supplier B Late_Prob = 0.10, Supplier C Late_Prob = 0.35. All three have similar prices, but Supplier C also has the highest defect rate. Which allocation strategy is most consistent with the prescriptive logic in STEP 8?

- A. Allocate 100% of volume to Supplier C to help them improve and reduce risk.
- B. Split volume equally: 33% to each supplier, because prices are similar.
- C. Allocate most volume to Supplier B (e.g. 70%), some to Supplier A (e.g. 30%), and avoid Supplier C due to high Late_Prob and defect rate.
- D. Allocate all volume to Supplier A because its Late_Prob is higher than B and thus includes more safety margin.

Correct answer: C. Allocate most volume to Supplier B (e.g. 70%), some to Supplier A (e.g. 30%), and avoid Supplier C due to high Late_Prob and defect rate.