



Mo Tu We Th Fr Sa Su

Memo No. _____

Date / /

① Analytics Type

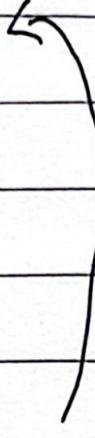
a) Descriptive

- what happened

- summary of historical data

- dashboard showing

revenue



② Data interpretation

- histogram ↗ Trends
- box plots

B9
exam tips

c) predictive

b) Diagnostic

- what could happen

- why happen

happen

- data to find

- Statistics

cause

- forecast

- analysis on revenue

drap

③ Data warehouse

Star schema

fact table - quantitative

- dimension tables

- contain context

- forecast

OLAP operations

- roll up - summarize data

- drill down - break down

a) prescriptive

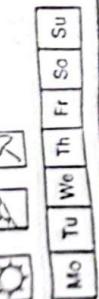
Summarize

- what should we do

- slice and dice - filter data

- suggest best action

to slice



formula

③ Key metrics

- RMSE / MAE
- accuracy of model
- ↓ = better
- Cost of error
- over forecasting expensive
- no solo MFE
- ensure high prediction

$\text{Support} = \frac{\text{Count}(C \cap B)}{\text{Total trans}}$

percentage of transaction that contain specific itemset

- popularity

Supply chain strategy

- Just ready in time vs stock
- JIT: reduce waste (goods when needed)
- Safety stock extra buffer but higher cost

④ Association rules

$$\text{Confidence} = \frac{\text{Count}(C \cap B)}{\text{Count}(C)}$$

$$= \frac{\text{Count}(B \mid C)}{\text{Count}(C)}$$

- cost vs service
 - no max efficiency and max service levels
 - Safety stock for critical items
 - JIT for less critical items.

lift = $\frac{\text{Support}_{CB}}{\text{Support}_{C} \cdot \text{Support}_{B}}$

if lift > 1, strong link

① optimisation

② feasible region

- shaded region on graph that satisfies all constraints

- outside shading (can't achieve)

③ P&T tips

Constraint impact

- binding constraints

- non binding constraints

- optimal point.

④ Data conflict → governance.

Owner vs stewards

⑤ Data owner

- senior/primary stakeholder for data quality/security

⑥ Data steward

- day-to-day management of data

stewards → speed access

owners → compliance

⑦ Roles

operational (get things done)

policy (follow rules)

Strategies

- automatic validation

- use software to check data quality

- role based access.