Part 1 : Data Arrangement

Key: (model_code,week_no)

Model	Target	Required Features (Inputs)	Source
Tertiary Model	ter_val	forecasted_tertiary_pilot, forecasted_tertiary_parameters, forecasted_tertiary_national_drr, w_pilot, w_param, w_nat	From collections holding forecast and weights info
Secondary Model	sec_val	ter_val (from tertiary output), denom_days, ret_dos, opening_ret	From tertiary results + return/stock collections
Primary Model	prim_val	ter_val, sec_val, denom_days, dbr_dos, opening_dbr	From secondary results + distributor collections

- ter_val = forecasted_tertiary_pilot * (w_pilot / 100.0) + forecasted_tertiary_parameters * (w_param / 100.0) + forecasted_tertiary_national_drr * (w_nat / 100.0)
- sec_val = max((ter_val / denom_days) * ret_dos - opening_ret + ter_val, 0.0)
- prim_val = max((ter_val / denom_days) * dbr_dos - opening_dbr + sec_val, 0.0)

[*while training no inter-dependency]

Dataset for secondary model:
{
model_code,week_No,year,ter_val,no_days_week,ret_dos,opening_ret,sec_val
}

Input Columns Breakdown: 👇🏻

1. *(daily_primary_vol, daily_secondary_vol, daily_tertary) mongo db collections
Secondary(sec_val): 2024 -> weekly -> qty sum
Tertiary(ter_val): 2024 -> weekly -> qty sum
Primary(prim_val) : 2024 -> weekly -> qty sum

ret_dos = retailer_stock_vol/national_l7_drr
retailer_stock_vol= 2024 -> weekly -> qty sum [collection daily_retailer_stock]
national_l7_drr=tertiary/no. Of days in that week

Opening_ret = 2024-> each week -> first day qty sum [collection daily_retailer_stock]
first day qty sum ≡ previous week's last day qty sum

dbr_dos=dbr_stock/national_l7_drr
dbr_stock=2024 -> weekly -> qty sum [collection daily_dbr_stock]

national_l7_drr=tertiary/no. Of days in that week [same]

opening_dbr = 2024-> each week -> first day qty sum [collection daily_dbr_stock]
first day qty sum ≡ previous week's last day qty sum