Data Model for Decision Support

Version 1.0

Commented [OIP1]: How do we structure our data so we can actually calculate those formulas?

1. Logical Data Model

1. Fact_Trades (The "Raw" Truth)

- **Grain:** One row per individual trade.
- **Purpose:** Calculates Risk % and Duration Drift.
- **Columns (Headers):**
  - TradeID (The MT5 Ticket Number)
  - Symbol (e.g., "Step Index 200")
  - OpenTime (DateTime)
  - CloseTime (DateTime)
  - DurationSeconds (Formula: CloseTime - OpenTime)
  - LotSize
  - OpenBalance (Used as Proxy for Equity at Entry)
  - NetProfit (Swap + Commission + Profit)
  - RiskPercent (Formula: [StopLossDistance * Lot] / OpenBalance)

2. Fact_Daily_Account (The "Manager" View)

- **Grain:** One row per calendar day (00:00 to 23:59).
- **Purpose:** Tracks your 15% Drawdown Limit and 3/5 Consistency Rule.
- **Columns (Headers):**
  - Date (e.g., 2025-01-07)
  - StartBalance (Balance at 00:00)
  - EndBalance (Balance at 23:59)
  - DailyNetProfit
  - DailyDrawdown (The lowest point reached that day vs. StartBalance)
  - IsPositiveDay (TRUE/FALSE - for the "Reliability" KPI)

3. Fact_Symbol_Performance (The "Optimizer" View)

- **Grain:** One row per Symbol per Day.
- **Purpose:** Tells you *which* Step Index is carrying the load.
- **Columns (Headers):**
  - Date

- Symbol
- DailyTradeCount
- DailySymbolProfit

2. KPI-to-Table Mapping

This table validates that every KPI defined in Module 2 has a specific home in the Module 3 data model.

Module 2 KPI	Source Table	Justification for Grain Choice
KPI 1: Single-Trade Risk Exposure	**Fact_Trades**	**Why Trade Grain?** Risk is calculated at the moment of entry for a *single* position. Aggregating this to a daily level would hide dangerous trades that exceeded the 3% limit but were masked by other safe trades.
KPI 2: Session Drawdown (Max)	**Fact_Daily_Account**	**Why Daily Grain?** The decision criterion is a 15% limit on the *aggregate* account. This table captures the "High Water Mark" and "Low Water Mark" of the entire day, which is exactly what the KPI measures.
KPI 3: Reliability Rate (Daily)	**Fact_Daily_Account**	**Why Daily Grain?** To calculate "4.5 out of 7 days," we need a binary "Win/Loss" flag per day. This table provides the clean IsPositiveDay boolean needed for that simple count.
KPI 4: Recovery Factor	**Fact_Daily_Account** *(Aggregated)*	**Why Daily Grain?** Recovery Factor is a long-term metric (Total Profit / Max Historical Drawdown). We derive this by summing DailyNetProfit and finding the MIN(DailyDrawdown) from this table over the full history.
KPI 5: Trade Duration Drift	**Fact_Trades**	**Why Trade Grain?** To detect "drift," we need to see the outliers. If we averaged duration at a daily level, one "stuck" trade of 12 hours would be diluted by ten quick scalps. Trade-level grain exposes the specific outliers.
Attribution (Step Index Selection)	**Fact_Symbol_Performance**	**Why Symbol Grain?** This is the specific table needed to answer the "Which Step Index should I fire?" question. It isolates profit and drawdown per instrument.

3. Design Justification

Standard MT5 reports are transactional, listing trades sequentially. To support Decision Analysis, this model normalizes data into three grains: Trade Level for behavioural diagnostics (duration/risk), Daily Account Level for capital governance (drawdown/consistency), and Symbol Level for attribution analysis. This structure prevents aggregation errors where a profitable day masks a failing specific instrument.