

Sentiment Global (Companies) — Architecture, Dynamic Scoring and Playbooks

Deale — Churn Prevention (v3)

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1 Executive summary

Objective. Define a churn-risk component, *Sentiment Global*, that:

- Outputs a score in $[0, 1]$ where 1 = highest churn risk.
- Is **dynamic by lifecycle phase** (not all categories exist at all times).
- Uses a robust **time-aware** treatment for **First Meeting** (repeatable).
- Activates **operational playbooks** based on bucket and phase.

Categories.

1. Sales
2. Post-Onboarding
3. Post-Valuation
4. First Meeting (repeatable)

2 Definitions and conventions

2.1 Risk scale

All scores follow the same orientation:

$$0 = \text{healthy/low-risk} \qquad 1 = \text{highchurnrisk}$$

2.2 Base weights per category

Base weights (when all categories exist):

Category	Base weight	Symbol
Sales	0.07	w_{Sales}
Post-Onboarding	0.26	w_{Onb}
Post-Valuation	0.30	w_{Val}
First Meeting (repeatable)	0.37	w_{FM}

2.3 Global score

Given category scores $S_i \in [0, 1]$:

$$S_{\text{Global}} = \sum_{i \in \mathcal{A}} w_i^{\text{eff}} \cdot S_i$$

where $\mathcal{A}$ is the set of **available** categories for a given company.

3 Dynamic weight redistribution (by availability)

3.1 General rule

Let $W_{\mathcal{A}} = \sum_{i \in \mathcal{A}} w_i$ be the sum of base weights for available categories. Then:

$$w_i^{\text{eff}} = \frac{w_i}{W_{\mathcal{A}}} \quad \forall i \in \mathcal{A}$$

This preserves relative importance while adapting to the lifecycle stage.

3.2 Safety constraint for Sales

To prevent Sales from dominating when few categories exist:

$$w_{\text{Sales}}^{\text{eff}} \leq 0.25$$

If normalization exceeds 0.25, cap Sales at 0.25 and redistribute the excess proportionally across remaining available categories.

3.3 Reference examples (effective weights)

- **Sales + Onboarding only:** $W = 0.33 \Rightarrow \text{Sales} \approx 0.21, \text{Onboarding} \approx 0.79$
- **Sales + Onboarding + Valuation:** $W = 0.63 \Rightarrow \text{Sales} \approx 0.11, \text{Onboarding} \approx 0.41, \text{Valuation} \approx 0.48$
- **Onboarding + Valuation only:** $W = 0.56 \Rightarrow \text{Onboarding} \approx 0.46, \text{Valuation} \approx 0.54$

4 Category scoring

4.1 Post-Valuation

$$S_{\text{Val}} = 0.6 S_{\text{ratio}} + 0.2 S_{\text{fric}} + 0.2 S_{\text{sat}}$$

(1) **Valuation vs. seller expectation (ratio).**

$$S_{\text{ratio}} = \begin{cases} 0 & \text{if ratio} > 1 \\ 0.5 & \text{if ratio} \in [0.8, 1] \\ 1 & \text{if ratio} < 0.8 \end{cases}$$

(2) **Emotional friction (AM assessment).**

$$S_{\text{fric}} = \begin{cases} 1 & \text{High} \\ 0.5 & \text{Medium} \\ 0 & \text{Low} \end{cases}$$

(3) **Explicit satisfaction (1–10).**

$$S_{\text{sat}} = \begin{cases} 0 & [8, 10] \\ 0.5 & [5, 7] \\ 1 & [0, 4] \end{cases}$$

4.2 Sales

Recommended explicit internal weights:

$$S_{\text{Sales}} = 0.5 S_{\text{diff}} + 0.5 S_{\text{horizon}}$$

(1) **Subscription closing difficulty.**

$$S_{\text{diff}} = \begin{cases} 1 & \text{High} \\ 0.5 & \text{Medium} \\ 0 & \text{Low} \end{cases}$$

(2) Expected subscription duration (months).

$$S_{\text{horizon}} = \begin{cases} 1 & [1, 2] \\ 0.5 & [3, 5] \\ 0 & > 5 \end{cases}$$

4.3 Post-Onboarding

$$S_{\text{Onb}} \in \{0.1, 0.3, 0.5, 0.9, 1.0\}$$

according to:

State	Score
Very calm	0.1
Calm	0.3
Neutral	0.5
Anxious	0.9
Very anxious	1.0

Use with LTV (recommended as a separate prioritization variable).

$$\text{Adjusted_LTV} = \text{Avg_LTV}(\text{peers}) \cdot (1 - S_{\text{Onb}})$$

4.4 First Meeting (repeatable)

Each meeting t produces an instantaneous score $S_{\text{FM,inst}}^{(t)} \in [0, 1]$.

(1) Personal fit.

$$S_{\text{pf}} = \begin{cases} 0 & \text{Great} \\ 0.5 & \text{Normal} \\ 1 & \text{Bad} \end{cases}$$

(2) Price & conditions fit (risk-oriented).

$$S_{\text{pc}} = \begin{cases} 0 & \text{Aligned} \\ 0.5 & \text{Negotiable} \\ 1 & \text{Not aligned} \end{cases}$$

Rule when Price & Conditions are not mentioned.

$$S_{\text{FM,inst}}^{(t)} = \begin{cases} 0.5 S_{\text{pf}} + 0.5 S_{\text{pc}} & \text{if price fit exists} \\ S_{\text{pf}} & \text{otherwise} \end{cases}$$

5 First Meeting dynamics: EMA, history penalty and inactivity decay

5.1 EMA (recency)

Use an exponential moving average with $\alpha = 0.6$:

$$S_{\text{FM,EMA}}^{(t)} = \alpha S_{\text{FM,inst}}^{(t)} + (1 - \alpha) S_{\text{FM,EMA}}^{(t-1)}$$

For $t = 1$:

$$S_{\text{FM,EMA}}^{(1)} = S_{\text{FM,inst}}^{(1)}$$

5.2 History penalty

Define:

$$r_{\text{bad}} = \frac{\#\{t : S_{\text{FM},\text{inst}}^{(t)} > 0.7\}}{\#\{t\}}$$

Apply a mild uplift:

$$S_{\text{FM},\text{final}} = \min\left(1, S_{\text{FM},\text{EMA}}^{(t)} + 0.15 r_{\text{bad}}\right)$$

5.3 Inactivity decay (weight decay, not score decay)

If no new meetings occur for D days (recommended $D \in [45, 60]$), reduce the effective weight of First Meeting:

$$w_{\text{FM}}^{\text{eff}} \leftarrow 0.9 \cdot w_{\text{FM}}^{\text{eff}} \quad \text{every 30 days without a meeting}$$

Redistribute the freed weight proportionally across remaining available categories.

6 Buckets and playbook activation

6.1 Thresholds

Bucket	Range for S_{Global}
Advocate	[0.00, 0.25)
Stable	[0.25, 0.45)
At Risk	[0.45, 0.70)
Critical	[0.70, 1.00]

6.2 Core playbooks (high-level)

Advocate. Maintain momentum; maximize quality matches; ask for referrals/case study opportunities.

Stable. Prevent degradation; structured check-ins; align expectations vs. timeline; monitor inactivity.

At Risk. Active intervention; AM + manager review; partial reset (buyers/timing/pricing); focus on quality over quantity.

Critical. Immediate outreach; stop automations; decide: rescue/pause/close; collect structured qualitative feedback.

6.3 First Meeting triggers (independent of bucket)

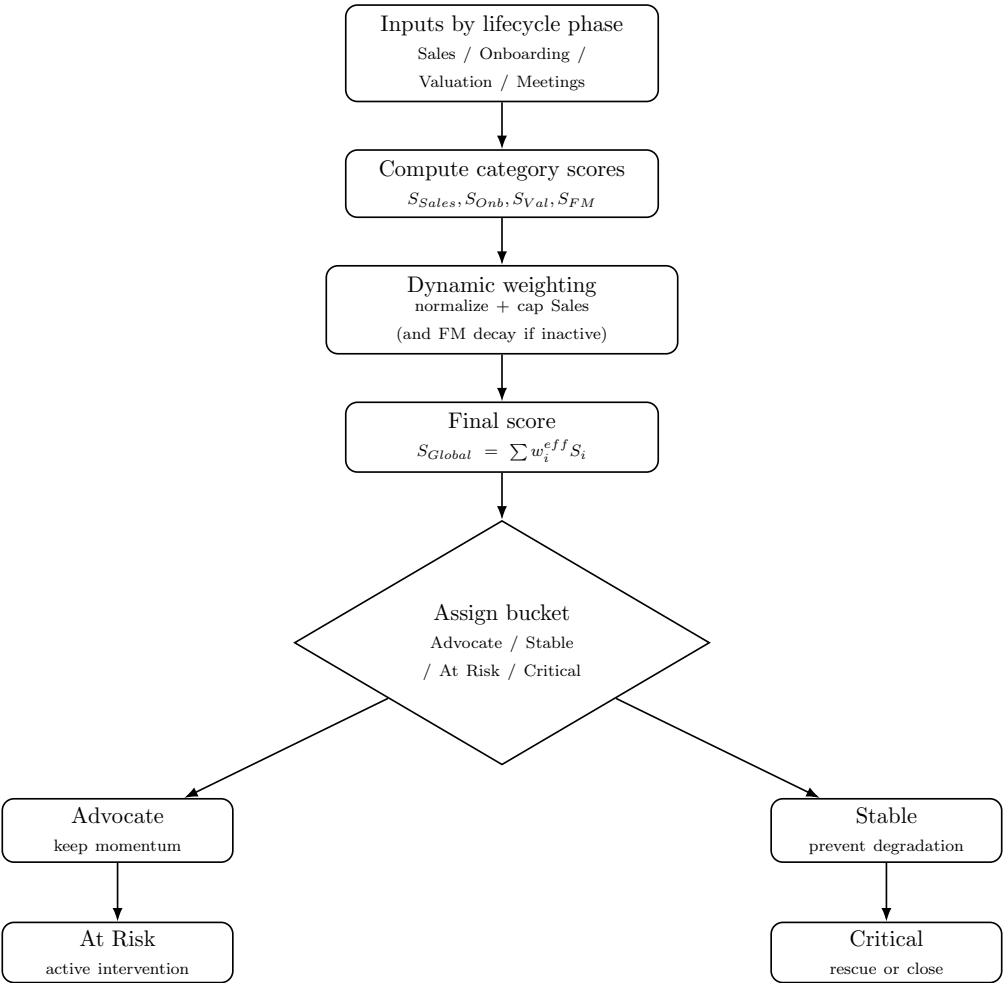
- If current meeting score $S_{\text{FM},\text{inst}}^{(t)} > 0.7$: flag immediately; avoid automations without AM review.
- If no meetings for > 60 days: outreach for blockage + apply First Meeting weight decay.
- If EMA improves steadily: increase cadence and prioritize buyers similar to the last positive match.

7 Flow Diagrams

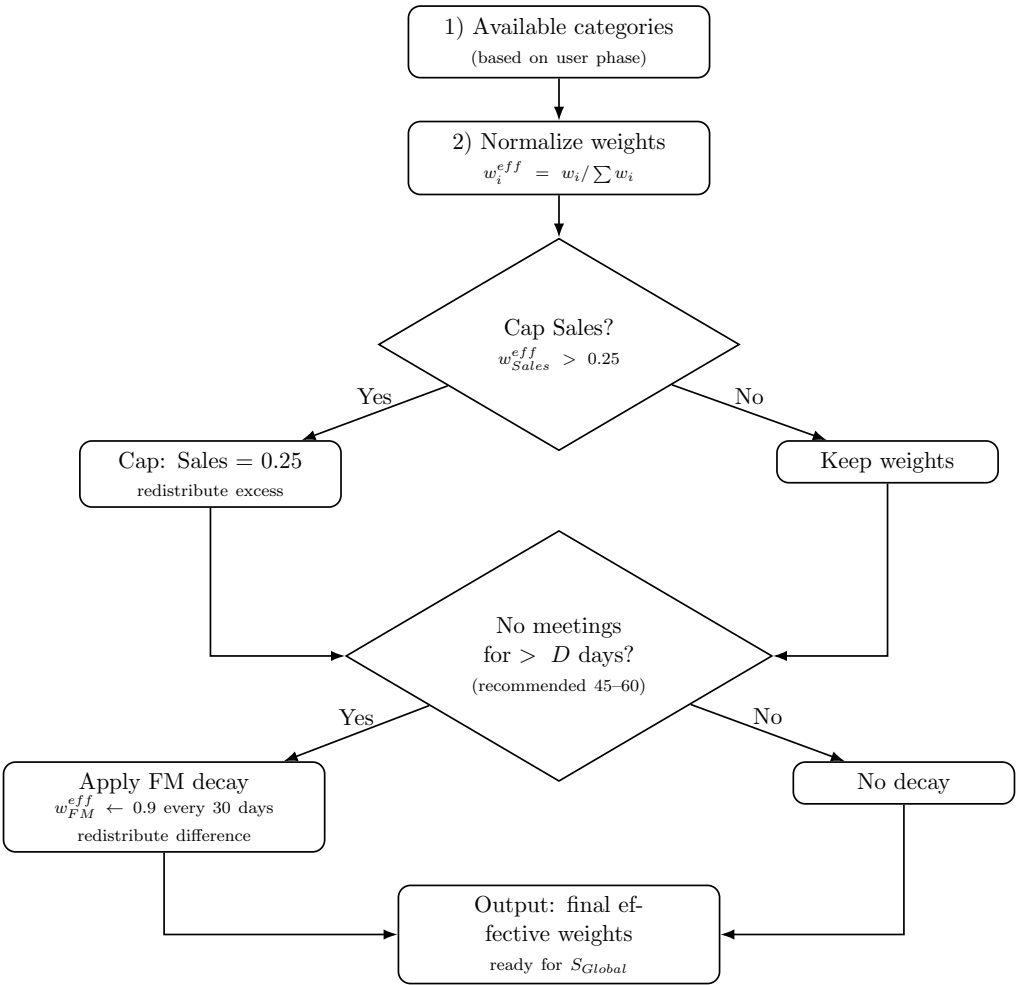
How to read these diagrams (non-technical audience)

- **Rectangles:** calculation steps or actions.
- **Diamonds:** decisions (Yes / No).
- **Arrows:** process flow.
- **Goal:** compute a risk score $\in [0, 1]$ and activate an operational playbook.

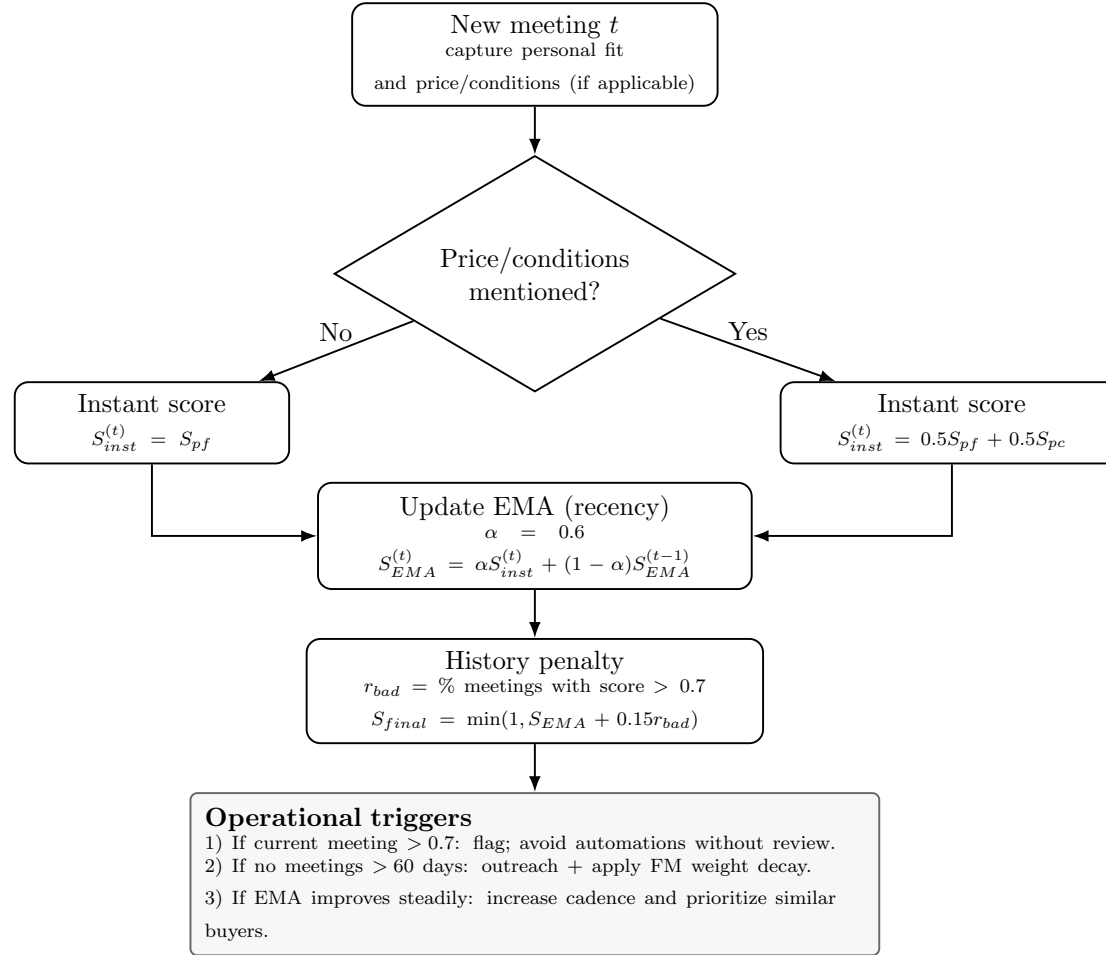
7.1 Global flow: inputs → score → playbook



7.2 Dynamic weights: redistribution by availability



7.3 Repeatable First Meeting: instantaneous score $\rightarrow$ EMA $\rightarrow$ triggers



8 Appendix: implementation checklist

- Persist per company: `S_Sales`, `S_Onb`, `S_Val`, `S_FM_EMA`, `r_bad`, `S_FM_final`, `S_Global`, `bucket`.
- Store last meeting timestamp for inactivity decay and triggers.
- Keep audit trail: human inputs (AM) vs computed score.
- Add UI explainability: % contribution per category.