A Defensible Framework for Performance-Based Advisory Compensation

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1 Purpose and Commercial Context

Performance-based advisory compensation aims to reward advisors for value they help create, not for changes driven by markets, demand cycles, or unrelated internal decisions.

The central problem this framework solves is attribution:

> *How much of an observed financial improvement would not have occurred without advisory intervention?*

This document establishes accounting, statistical, and governance mechanisms to answer that question transparently.

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2 Accounting Foundation and Data Integrity

2.1 General Ledger (GL) Anchoring

All calculations are grounded in auditable accounting data. Spend is measured using:

- General Ledger (GL) account codes
- Cost centers or business units
- Defined spend categories (e.g., IT services, logistics, manufacturing)

This ensures that all baseline, observed, and adjusted values reconcile to the client's financial statements.

2.2 Commercial Rationale

GL anchoring prevents:

- Double-counting across initiatives
- Shifting savings between categories
- Disputes over data sources

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3 Baseline Establishment

3.1 Layman's Definition

The baseline represents what the organization would reasonably have spent if no advisory engagement had taken place.

It answers: *"What was normal before change?"*

3.2 Formal Definition

$$S_0 = \sum_{g \in G} P_{g,0} \cdot Q_{g,0}$$

Where:

- g = GL account
- $P_{g,0}$ = baseline unit price for GL account g
- $Q_{g,0}$ = baseline volume for GL account g
- G = set of included GL accounts

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4 Observed Spend

4.1 Definition

Observed spend reflects actual post-intervention financial outcomes:

$$S_t = \sum_{g \in G} P_{g,t} \cdot Q_{g,t}$$

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5 Rate–Volume Decomposition

5.1 Layman's Definition

Spending changes happen for two reasons:

- Paying more or less per unit (rate)
- Buying more or fewer units (volume)

Separating these effects prevents mistaking reduced activity for improved efficiency.

5.2 Formal Decomposition

$$\Delta S = \underbrace{\sum_{g} (P_{g,t} - P_{g,0}) Q_{g,0}}_{\text{Rate Effect}} + \underbrace{\sum_{g} (Q_{g,t} - Q_{g,0}) P_{g,t}}_{\text{Volume Effect}}$$

Only the rate effect is eligible for advisory compensation unless volume change is causally induced by advisory action.

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6 Difference-in-Differences (DiD) Methodology

6.1 Layman's Definition

Difference-in-differences compares:

- A group that received advisory support (treatment group)
- A similar group that did not (control group)

It asks:

> *Did the advised group improve more than an otherwise similar group over the same period?*

6.2 Commercial Rationale

DiD isolates advisory impact when:

- Markets are volatile
- Inflation affects all suppliers
- Volume changes are unavoidable

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6.3 Formal DiD Model

Let:

- Y_{gt} = spend outcome for GL account g at time t
- $D_g = 1$ if GL account g is in the advised group, 0 otherwise
- $T_t = 1$ for post-intervention period, 0 for baseline period

$$Y_{gt} = \alpha + \beta D_g + \gamma T_t + \delta(D_g \times T_t) + \varepsilon_{gt}$$

Where:

- δ = estimated advisory effect
- ε_{gt} = unexplained variation

Validated advisory savings are:

$$V = \delta$$

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7 Optional Econometric and Market Controls

7.1 Definition

External variables (inflation indices, commodity prices, labor rates) may be added:

$$Y_{gt} = \alpha + \beta D_g + \gamma T_t + \delta(D_g \times T_t) + \theta X_t + \varepsilon_{gt}$$

Where X_t represents market data. Inclusion is optional and contractually agreed.

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8 Attribution Modeling

8.1 Layman's Definition

Attribution determines what share of validated savings is reasonably credited to advisory work.

8.2 Formal Definition

$$V_A = \alpha_g V$$

Where:

- α_g = attribution weight for GL account g

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9 Performance-Based Compensation

$$F = \gamma V_A$$

Where:

- F = advisory fee
- γ = participation rate

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10 Illustrative Calculation Examples with Walkthroughs

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10.1 Example 1: Single GL Price Reduction

Variables:

$$P_0 = 100, \quad Q_0 = 10{,}000$$

$$P_t = 90, \quad Q_t = 10{,}000$$

Calculations:

$$S_0 = 1{,}000{,}000, \quad S_t = 900{,}000$$

$$V = (90 - 100) \times 10{,}000 = 100{,}000$$

$$F = 0.20 \times 100{,}000 = 20{,}000$$

Walkthrough: Volume is unchanged, so all savings arise from price improvement. No market adjustment or DiD is required.

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10.2 Example 2: Rate–Volume with Control Group

Variables:

$$P_0 = 50, \quad Q_0 = 20{,}000$$

$$P_t = 45, \quad Q_t = 16{,}000$$

Rate effect:

$$(45 - 50) \times 20{,}000 = 100{,}000$$

Volume effect (excluded):

$$(16{,}000 - 20{,}000) \times 45 = -180{,}000$$

Attribution:

$$V_A = 0.8 \times 100{,}000 = 80{,}000$$

$$F = 0.25 \times 80{,}000 = 20{,}000$$

Walkthrough: Demand fell materially. The framework prevents claiming this contraction as savings while preserving credit for price improvement.

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10.3 Example 3: GL-Based DiD Enterprise Case

GL Accounts:

- 520101 — IT Services (treated)
- 530215 — Manufacturing (treated)
- 540330 — Logistics (control)

Baseline Spend By Account:

- 520101 — $4,000,000
- 530215 — $6,500,000
- 540330 — $3,000,000

Rate and Volume Effects By Account:

GL CODE — Rate Effect — Volume Effect

- 520101 — -$400,000 — +$50,000
- 530215 — -$650,000 — -$300,000
- 540330 — -$150,000 — -$200,000

Total Baseline Spend:

$$\delta = 1{,}200{,}000$$

Market Adjustment:

$$V_{\text{net}} = 1{,}200{,}000 - 250{,}000 = 950{,}000$$

Attribution:

$$V_A = 0.7(400{,}000) + 0.85(650{,}000) + 0.6(150{,}000) = 725{,}000$$

$$F = 0.18 \times 725{,}000 = 130{,}500$$

Walkthrough: The control GL confirms that observed price improvements exceed market movement. Attribution weights (0.7, 0.85, 0.6) reflect advisory leverage by GL category.

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11 Conclusion

This framework integrates accounting discipline, causal inference, and commercial pragmatism to ensure that performance-based advisory compensation reflects true value creation rather than coincidental financial variation.