EDUCATION PERFORMANCE & RESOURCE PLANNING DASHBOARD EXECUTIVE SUMMARY

TRAN NGUYEN

---

1. Business Objective

This dashboard was developed to support three key operational decisions:

- Academic performance monitoring
- Intervention staffing allocation (Tier 2 & Tier 3)
- Testing cost forecasting and budget planning

The model connects student assessment performance directly to workforce and financial planning.

---

2. Executive-Level Findings

Academic Performance

- Performance shows cyclical semester patterns (Spring peak, Fall lower baseline).
- No structural decline observed across academic years.
- Early grades (especially Grade 1–3) show highest intervention exposure.

Cost Structure

- Testing cost increases are volume-driven, not price-driven.
- Grades 2–3 generate the highest total testing cost.
- Cost concentration aligns with enrollment distribution.

Enrollment Dynamics

- Enrollment declines significantly from Grade 10 onward.
- Population shifts directly influence both staff demand and cost forecasts.

---

3. Strategic Conclusion

- Academic variation is seasonal, not systemic.
- Testing cost growth is scale-driven.
- Accurate intervention forecasting is critical to avoid staffing under-allocation.

ANALYTICAL FRAMEWORK & KEY INSIGHTS

1. Academic Monitoring Layer

KPIs Analyzed:

- Average Standard Score by Semester
- % Assessment Level Distribution
- % Below Average vs Average & Above
- Tier 2 / Tier 3 student counts

Insight:

Intervention demand is concentrated in early grades, creating predictable staffing pressure in Winter semester.

---

2. Cost Allocation & Efficiency

Metrics:

- Total Cost by Assessment Type
- Cost by Grade & School
- Cost per Student
- Cost Trend Over Time

Insight:

Cost increases correlate strongly with student volume.
No abnormal structural inflation detected.

---

3. Diagnostic Cost Drivers

Scatter analysis confirms:

- Higher cost grades = Higher enrollment
- Cost is scale-driven, not inefficiency-driven.

This reframes the conversation from “cost reduction” to “capacity planning.”

FORECASTING LOGIC & WORKFORCE PLANNING

1. Critical Forecasting Insight

Distinct student counts across semesters ≠ Average student count per semester

Correct Forecast Method:

Forecast = (Sem1 + Sem2 + Sem3) / 3

NOT:

DistinctAcrossAll / 3

Incorrect logic would significantly underestimate staffing demand.

---

2. Forecasting Model Comparison

Two approaches evaluated

A. 3-Semester Rolling Average
- Stable and smoothing-based

B. Delta % Change Model
- Responsive to recent trend acceleration

Example Impact:

20-student forecast gap = 2 teachers (Tier 2 ratio 10:1)