



# The Pathway to HB8 Success:

*Predictive Modeling Meets  
Improvement Science*

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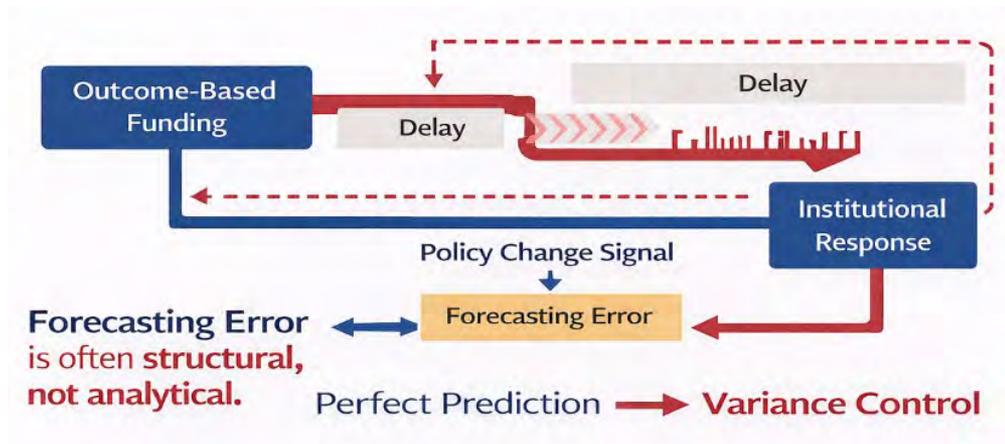
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# Why HB8 Forecasting Is Structurally Hard

- ▶ Outcome-based funding introduces delayed feedback loops
- ▶ Data availability lags decision timelines
- ▶ Institutional behavior adapts faster than policy models
- ▶ Rural-serving colleges face higher volatility per student



# Common Forecasting Failure Modes

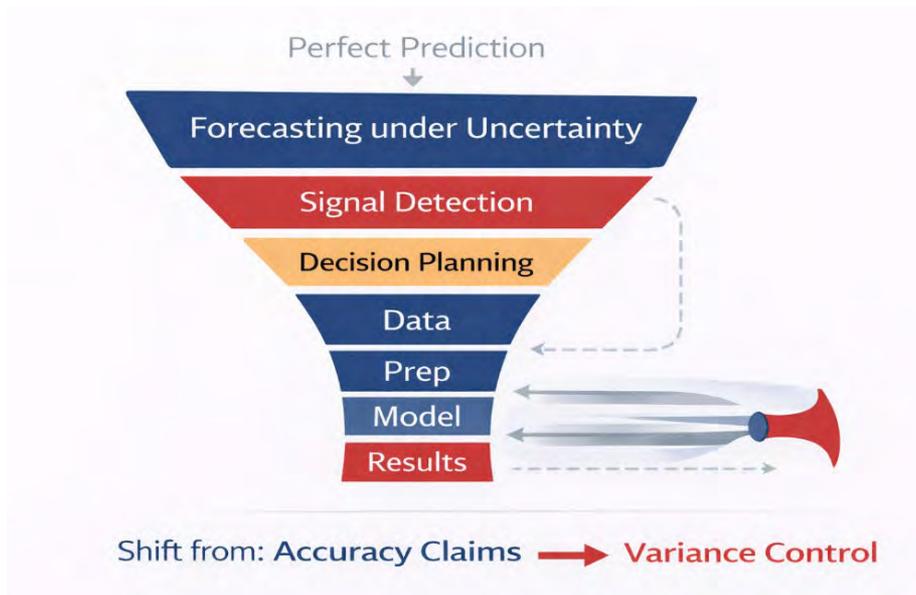
- ▶ Treating forecasts as static instead of provisional
- ▶ Over-weighting model precision
- ▶ Late data corrections cascading across systems
- ▶ Siloed responsibility for shared outcomes

*This is a systems problem, not a tooling problem.*



# Framing the Work as Risk Management

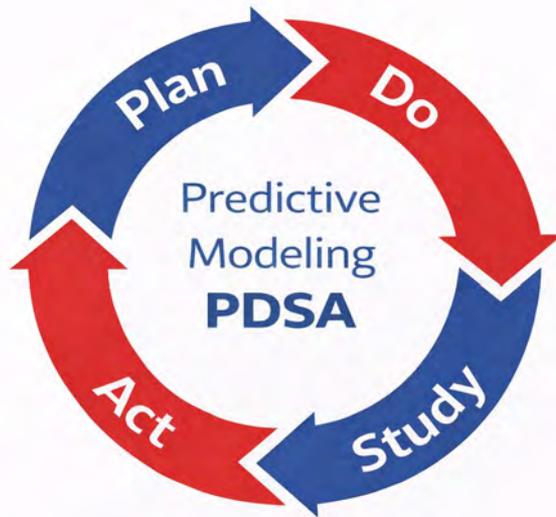
- ▶ HB8 forecasting is fundamentally a risk mitigation exercise
- ▶ The goal is not perfect prediction
- ▶ The goal is earlier, more reliable signal detection



# Methodological Choice

## Why Improvement Science?

- ▶ Designed for complex, adaptive systems
- ▶ Explicitly accommodates uncertainty
- ▶ Prioritizes learning over optimization



# Why Not Start With the Model?

- ▶ Models amplify unstable processes
- ▶ Precision without process control increases institutional risk
- ▶ Improvement science establishes preconditions for modeling

*Choose to delay sophistication intentionally.*



# Case Study Context

Northeast Texas Community College

- ▶ Small, rural-serving institution
- ▶ Limited analytic capacity
- ▶ High sensitivity to funding swings
- ▶ Strong need for planning reliability



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**COMMUNITY COLLEGE**



**NORTHEAST TEXAS**  

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**COMMUNITY COLLEGE**

# NTCC Predictive Funding Process Driver Diagram

Primary Drivers

Secondary Drivers

Change Ideas

Priority



**The Problem:**

NTCC lacks a proactive process for accurately forecasting HB8 performance-based funding.

Implement a predictive funding process estimating HB8 allocations with 2-5% gains in accuracy yearly; by July 2030 be within 5% accuracy.

**Aligned Budget Planning and Reporting Processes**

- Process Measure:*
- 100%
  - Beginning of May 2026

Evaluate and align reporting workflows

Establish clear reporting calendar

Align budget timeline to initial runs

Clarify and Modify integrated budget and reporting calendar

Redesign budget timeline to align with THECB initial run release

Establish a reporting process map shared by IE and Registrar

Impact: **Low**  
Implementation: **Easy**

Impact: **High**  
Implementation: **Hard**

Impact: **High**  
Implementation: **Hard**

**Enhanced Cross-Department Collaboration**

- Process Measure:*
- 100%
  - December 2025

Cross-functional forecasting meetings

Shared data definitions

Consistent reporting methodologies

Schedule monthly cross-functional team forecasting meetings

Create shared data definitions guide

Impact: **High**  
Implementation: **Easy**

Impact: **High**  
Implementation: **Easy**



**Improved Predictive Modeling Capacity**

- Process Measure:*
- 100%
  - By July 2030

Model refinement and validation

Repeatable modeling approach

Leadership review and approval cycle

Refine and validate predictive model

Implement resources, such as additional training and new technologies

Develop clear documentation of modeling methodologies

Impact: **High**  
Implementation: **Hard**

Impact: **High**  
Implementation: **Hard**

Impact: **Low**  
Implementation: **Easy**

**Stakeholder Engagement**

- Process Measure:*
- 100%
  - By September 2025

Model limits and workload

Leadership forecast briefings

Establish quarterly leadership briefings on model evolution

Impact: **Low**  
Implementation: **Easy**



# Control Structure #1

## Integrated Reporting Calendar

- ▶ Aligned academic, fiscal, and reporting timelines
- ▶ Reduced late data discovery
- ▶ Clarified ownership of forecasting inputs

*Calendar design functioned as a process control.*



# Control Structure #2

## Cross-Functional Review

- ▶ Institutional Effectiveness
- ▶ Instruction
- ▶ Student Services
- ▶ Business Office

*Outcomes: Earlier identification of anomalies & Fewer downstream corrections*



# Predictive Modeling Within PDSA Cycles

- ▶ Forecasts treated as testable artifacts
- ▶ Regular review of assumptions
- ▶ Emphasis on directional validity

*Key question shifted from:*

*“Is the model right?” → “Is the model improving decision timing?”*



# Diagnosing Forecasting Errors

## Improvement-oriented questions:

- ▶ Was the error due to timing or structure?
- ▶ Which assumptions were unstable?
- ▶ Where did the signal first appear?

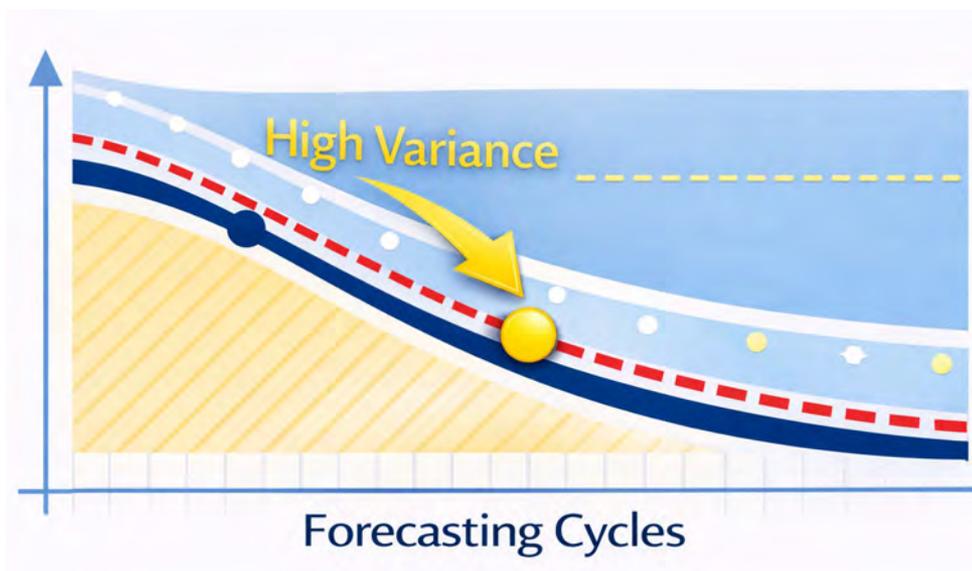
*Errors became inputs to the next cycle.*



# Outcomes (Framed Carefully)

- ▶ Reduced variance across forecasting cycles
- ▶ Earlier risk visibility
- ▶ Improved internal confidence in planning

*Claims are bounded and evidence-aligned.*



# Other Key Takeaways

## Equity as a Structural Consideration:

- ▶ Equity framed through access to stable processes
- ▶ Improvement science prevents blame-based narratives
- ▶ Accountability tied to system design, not individuals

## Implications for IR Practice:

- ▶ Forecasting should be embedded, not isolated
- ▶ Process maturity matters as much as model choice
- ▶ Improvement artifacts belong in IR toolkits

## Implications for Policy Conversations:

- ▶ Institutions vary in forecasting readiness
- ▶ Performance funding models should account for process lag
- ▶ Continuous improvement protects policy intent



# Closing Reflection

Improvement science offers a way to:

- ▶ Reduce institutional risk
- ▶ Support accountability
- ▶ Protect student success under policy volatility

Improvement Science Resources:

- ▶ Langley et al. - The Improvement Guide (PDSA & systems learning)
- ▶ Deming - Out of the Crisis (variation & process thinking)
- ▶ Scott - Fierce Leadership (clarity, accountability, trust)



# Questions & Discussion



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