Governance as a Business Performance System

A Systems-Oriented Framework
for AI Governance and Value Realization in Banking

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Abstract

Artificial intelligence initiatives are often justified through business cases that project improvements in productivity, decision quality, operational efficiency, and financial performance. Yet many organizations deploy AI successfully while realizing only a portion of the anticipated value. Existing AI governance frameworks emphasize risk management, compliance, and model oversight but provide limited guidance for evaluating governance's contribution to business performance. This paper introduces a systems-oriented framework that positions governance as a business performance system for preserving and realizing projected value. Drawing on control systems principles, the framework defines Value Realization Efficiency (η) as a measure of how effectively organizations convert projected AI benefits into realized outcomes while balancing governance effectiveness with governance friction. The proposed framework provides executives and practitioners with a structured approach for evaluating AI governance beyond protection, emphasizing measurable value realization as a core objective.

Keywords

Artificial Intelligence (AI); AI Governance; Value Realization; Enterprise Performance; Control Systems; Governance Calibration; Banking; Organizational Effectiveness

1. Introduction

A bank invests $10M in an AI-enabled loan origination platform and projects $20M in benefits through reduced processing costs, lower error rates, improved throughput, and reduced operational losses. Eighteen months later, the project is delivered on schedule, adopted by users, and generates $13 million in measurable benefits. By conventional measures, the initiative would be considered a success: it achieved a positive return on investment and produced meaningful business outcomes.

Yet an important question remains.

What happened to the remaining $7 million?

The project did not fail. The technology worked. Governance reviews were completed. Regulatory requirements were satisfied. Nevertheless, only a portion of the projected value was ultimately realized.

This scenario is becoming increasingly relevant as financial institutions accelerate investment in artificial intelligence. Industry analysts forecast billions of dollars in AI-related spending across banking and financial services as organizations seek to improve operational efficiency, enhance customer experiences, strengthen risk management, and create competitive advantage.

At the same time, evidence suggests that many AI initiatives struggle to achieve their intended outcomes, scale beyond pilot deployments, or realize their full projected value. Recent industry analyses, including findings reported by MIT's *State of AI in Business 2025*, suggest that many enterprise AI pilots fail to progress beyond experimentation and generate measurable business impact (*MIT Project NANDA / MIT Media Lab, 2025)*

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These observations suggest that the challenge facing many organizations is not simply AI adoption, but the conversion of AI capability into sustained business value.

Existing AI governance frameworks appropriately emphasize risk management, transparency, fairness, explainability, and regulatory compliance. These objectives remain essential for protecting consumers, institutions, and the broader financial system. However, comparatively less attention has been paid to a complementary question: how governance influences an organization's ability to convert projected AI benefits into realized business outcomes.

This paper proposes a systems-oriented perspective in which governance is viewed not only as a control mechanism, but also as a business performance system. Drawing upon concepts from control systems theory, enterprise governance, and value realization, the paper introduces a framework for understanding how organizations preserve, measure, and optimize the realization of projected AI value. The central argument is straightforward: successful AI governance should not only protect value, but also help ensure that expected value is ultimately realized.

2. Evolution of AI Governance

As artificial intelligence systems become increasingly embedded within critical business processes, governance frameworks have evolved to address emerging risks associated with model complexity, transparency, fairness, accountability, and regulatory compliance. In banking and financial services, where AI-driven decisions can directly influence customer outcomes, credit decisions, fraud detection, and operational resilience, effective governance has become a strategic necessity.

Historically, governance efforts focused on traditional model risk management practices. Frameworks such as SR 11-7 established foundational expectations for model validation, independent review, monitoring, and ongoing performance assessment. While originally developed for statistical and predictive models, these principles provided the foundation upon which many modern AI governance frameworks have been built.

As machine learning and generative AI capabilities expanded, governance frameworks evolved beyond traditional model validation toward broader lifecycle management and continuous monitoring. Industry and regulatory guidance increasingly emphasizes transparency, explainability, human oversight, risk management, accountability, and ongoing assessment of model performance throughout deployment.

Examples include the NIST AI Risk Management Framework (AI RMF), ISO 42001, Gartner's AI Trust, Risk and Security Management (TRiSM) framework, and evolving regulatory guidance such as *SR 26-2*. Although these frameworks differ in scope and implementation, they share a common objective: establishing controls and oversight mechanisms that promote responsible, trustworthy, and reliable AI deployment.

This evolution reflects an important shift. Governance is no longer viewed as a point-in-time compliance activity performed before deployment. Instead, governance is increasingly treated as a continuous process involving monitoring, assessment, escalation, remediation, and adaptation throughout the AI lifecycle.

Table 1 compares several prominent AI governance frameworks and their primary objectives.

Table 1 *Governance Framework Comparison*

Governance Area	NIST	ISO	TRiSM	SR11-7	SR26-2	Proposed
Risk Management	✓	✓	✓	✓	✓	✓
Compliance	✓	✓	✓	✓	✓	✓
Transparency	✓	✓	✓			
Monitoring	✓	✓	✓	✓	✓	✓
Cont. Improvement	✓	✓			✓	✓
Value Realization						✓
Enterprise Performance						✓
Enterprise Value						✓
Governance Calibration						✓

The comparison reveals substantial alignment across existing governance frameworks. Risk management, compliance, monitoring, transparency, accountability, and continuous improvement are consistently emphasized.

These objectives remain essential and form the foundation of responsible AI deployment.

Importantly, the primary purpose of these frameworks is to protect consumers, institutions, and markets from harm through controls that promote safety, fairness, transparency, and trust. They establish the guardrails necessary for responsible AI adoption and help organizations manage the risks associated with increasingly complex and autonomous systems.

While these frameworks govern how AI systems are developed, deployed, monitored, and controlled, they generally do not address how governance may influence the effectiveness of enterprise execution and the realization of projected business benefits. The realization of value depends not only on the AI capability itself, but also on how effectively that capability is integrated into organizational processes, operational workflows, decision-making structures, and ongoing management practices. Accordingly, this paper focuses primarily on factors that remain substantially within organizational control, including governance activities, operational execution, monitoring, escalation, and adoption. Although external market conditions may influence ultimate business outcomes, they generally fall outside the direct scope of governance systems.

As a result, organizations operating under similar governance frameworks and satisfying comparable regulatory expectations may achieve materially different levels of value realization from comparable AI investments. An AI initiative may be compliant, well-controlled, and operationally stable, yet still underperform its original business case because expected benefits were not fully translated into realized outcomes.

This distinction suggests an opportunity to extend the governance conversation beyond protection and control toward enterprise execution and value realization. The following section introduces a systems-oriented perspective in which governance functions not only as a control mechanism, but also as a business performance system that helps organizations preserve and realize the value originally projected from AI investments.

3. Governance as a Business Performance System

Organizations typically evaluate AI initiatives through business cases that project future benefits such as improved productivity, reduced operational costs, enhanced decision quality, lower risk exposure, faster processing times, or improved customer experiences. These projected benefits establish the expected value that supports investment decisions, resource allocation, and executive sponsorship.

However, the realization of projected value is not guaranteed simply because an AI capability has been successfully deployed. Between initial deployment and realized business outcomes lies a complex enterprise execution system consisting of operational processes, human decision-makers, technology platforms, governance mechanisms, and feedback loops. Each of these elements can either preserve or diminish the value originally anticipated within the business case.

Traditional governance frameworks primarily evaluate whether AI systems operate safely, responsibly, and in accordance with regulatory and organizational expectations. While these objectives remain essential, they do not directly address a related management question: how effectively is the organization translating projected AI benefits into realized business outcomes?

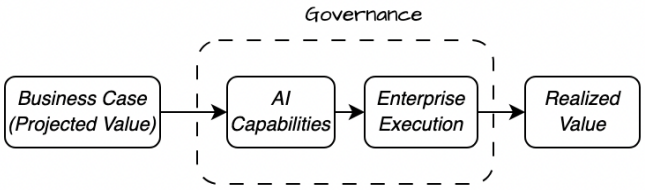
This paper proposes an additional perspective in which governance functions not only as a control mechanism, but also as a business performance system. Under this view, governance serves two complementary purposes. First, it protects the organization by managing the risks associated with AI deployment. Second, it helps preserve and realize the value originally projected from AI investments by identifying performance degradation, operational friction, process breakdowns, adoption challenges, monitoring gaps, and other sources of value leakage.

Importantly, this perspective focuses on factors that remain substantially within organizational control. Governance can influence how effectively AI capabilities are integrated into enterprise processes, monitored over time, challenged when performance deteriorates, and adjusted through corrective action. External influences such as market demand, competitive dynamics, macroeconomic conditions, and customer preferences may also affect ultimate business outcomes, but generally remain outside the direct control of management and governance systems.

Figure 1 illustrates this concept. AI capabilities create the potential for improved enterprise performance. Governance provides the monitoring, oversight, escalation,

challenge, and corrective feedback necessary to support effective enterprise execution and improve the realization of projected business value. In this context, governance becomes a feedback mechanism that continuously evaluates whether realized performance remains aligned with expected performance.

***Figure 1**. Governance as a Business Performance System. AI initiatives are approved through business cases that project future value. Governance provides oversight and feed-back throughout deployment and enterprise execution to help translate projected value into realized value.*



This perspective does not replace existing governance frameworks. Rather, it extends them by introducing value realization, enterprise performance, and governance calibration as complementary objectives. The result is a broader governance model in which protection and performance operate together to support sustainable AI adoption and improved realization of AI-enabled business value.

4. Amplification Potential and Value Realization

The business value generated by artificial intelligence is rarely determined by technology alone. While advances in AI capabilities continue to expand what organizations can automate, predict, optimize, and augment, the realized benefits of these investments depend on how effectively those capabilities are translated into operational performance.

This paper introduces two related concepts: Amplification Potential and Value Realization.

Amplification Potential

Amplification Potential represents the theoretical capacity of an AI capability to improve enterprise performance. Depending on the use case, AI may increase productivity, reduce costs, improve decision quality, enhance customer experiences, reduce operational risk, or accelerate business processes. These improvements create the potential for value generation and form the basis of most AI business cases.

Amplification Potential should not be interpreted as realized business value. Instead, it represents the maximum performance improvement that could be achieved under favorable operating conditions.

Value Realization

While AI creates potential, organizations ultimately measure success through realized outcomes. The difference between projected benefits and realized benefits reflects the organization's ability to convert potential into measurable business results.

To evaluate this relationship, we define Value Realization Efficiency (η) as:

$$\eta = \frac{Realized\ Value}{Projected\ Value}$$

where *Projected Value* represents the expected benefits identified within the business case and *Realized Value* represents the benefits ultimately achieved after deployment.

A Value Realization Efficiency of 1.0 indicates that realized value matched the original projection. Values below 1.0 indicate that a portion of the expected benefits was not realized. Values greater than 1.0 indicate that realized outcomes exceeded original expectations.

Table 2 illustrates how realization efficiency can be evaluated across multiple business-case objectives.

Table 2. Illustrative Value Realization Measurements

Benefit Category	Projected Benefit	Realized Benefit	η
Processing Cost Reduction	$4.0M	$3.4M	0.85
Fraud Loss Reduction	$3.0M	$2.1M	0.70
Productivity Improvement	$2.0M	$1.7M	0.85
Cycle Time Reduction	40%	30%	0.75
Manual Review Reduction	30%	21%	0.70

For simplicity, the example above presents projected and realized benefits in aggregate form. In practice, AI initiatives are often evaluated over multi-year horizons using measures such as ROI, NPV, IRR, and payback period.

Governance and Realization Efficiency

The realization of value is influenced by numerous organizational factors including user adoption, process integration, operational execution, monitoring effectiveness, escalation mechanisms, decision latency, model performance, and governance practices. Some factors improve realization by identifying emerging issues and enabling corrective action. Others may reduce realization through delays, excessive review cycles, inefficient controls, or operational friction.

As a result, governance influences not only risk outcomes but also the efficiency with which projected value is converted into realized business outcomes. This perspective provides the foundation for viewing governance as a performance system capable of affecting enterprise value realization over time.

The following section introduces a conceptual framework that examines how governance effectiveness and governance friction interact to influence realization efficiency.

5. Sources of Value Leakage

Organizations rarely realize the full value projected within AI business cases. While AI capabilities may perform as intended, a variety of organizational, operational, and governance-related factors can reduce the degree to which projected benefits are ultimately achieved. These factors create value leakage, defined here as the gap between projected value and realized value.

Value leakage may occur throughout the lifecycle of an AI initiative, including deployment, adoption, monitoring, operational integration, model maintenance, and governance activities. Table 3 summarizes representative sources of value leakage that can reduce the realization of projected business value.

Table 3 Sources of Value Leakage and Examples

Value Leakage Source	Example
Adoption	Users bypass AI recommendations
Integration	AI not embedded in workflows
Data Quality	Poor or incomplete inputs
Model Drift	Performance degrades over time
Escalation Delays	Slow corrective action
Governance Friction	Excessive reviews and approvals
Monitoring Gaps	Issues remain undetected
Change Resistance	Users resist new processes

While these sources of value leakage appear diverse, many share a common characteristic: they reduce the organization's ability to convert AI-enabled potential into realized business value. Adoption challenges, weak process integration, poor data quality, monitoring gaps, and change resistance can impair enterprise execution even when the underlying AI capability performs as intended.

Importantly, many reported AI implementation failures are attributed not to deficiencies in model performance, but to challenges involving workflow integration, organizational adoption, operational readiness, and value realization. These observations reinforce the importance of examining governance and organizational effectiveness as determinants of business outcomes rather than focusing exclusively on model capability. Recent industry analyses have suggested that many enterprise AI initiatives fail to achieve measurable business impact because of integration, adoption, and operational challenges rather than deficiencies in model capability (*MIT, 2025*).

Some leakage sources arise from insufficient governance and oversight, while others originate from weaknesses in operational execution. Still others result from excessive governance, operational delays, or unnecessary control activities. As a result, organizations with similar AI capabilities may experience substantially different levels of value realization due to differences in operational capability and governance effectiveness.

This observation suggests that governance effectiveness cannot be evaluated solely by the number of controls, reviews, or oversight activities implemented. Instead, governance must be assessed based on its contribution to *value realization.* The following section introduces a governance-calibration framework that examines the relationship between governance effectiveness, governance friction, and realization efficiency.

6. Governance Calibration

Figure 2. Governance as a Business Performance System

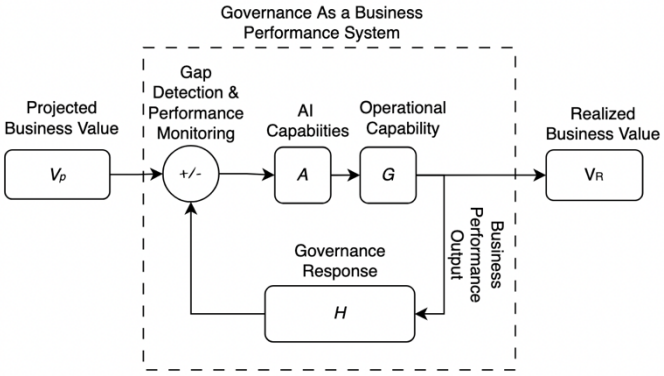


Figure 2 illustrates governance as a business performance system. Projected business value (V_p) enters the system through an AI-enabled execution environment consisting of AI capabilities (A) and baseline operational capability (G). AI capabilities provide the potential for performance improvement, while baseline operational capability represents the organization's inherent ability to integrate, adopt, and execute those capabilities within business processes. Governance response (H) represents the operational execution of governance activities, including monitoring, review, escalation, human oversight, and corrective action. Realized business value (V_R) therefore reflects not only the capabilities of the underlying AI system and the organization's baseline execution capability, but also the effectiveness of governance responses throughout the value realization process.

Consistent with classical control-system principles, governance acts as a feedback mechanism that continuously compares expected outcomes against observed performance and initiates corrective action when deviations emerge. The objective is not merely risk reduction, but improved realization of projected business value.

While governance is frequently discussed as a mechanism for managing risk, governance activities also consume organizational resources. Reviews, approvals, documentation requirements, committee oversight, escalation procedures, and human validation activities require time and effort and are therefore typically incorporated into business-case assumptions and normal execution planning.

Baseline governance activities are therefore assumed to be embedded within the projected value estimates used throughout this paper. However, governance requirements may expand beyond the level originally anticipated. Additional review cycles, excessive approval layers, prolonged committee deliberations, duplicative controls, or inefficient oversight activities can introduce incremental friction that slows execution and reduces realization efficiency.

Consequently, governance produces both benefits and costs. Effective governance improves value realization by identifying emerging issues, enabling corrective action, improving accountability, and reducing the likelihood of operational failures. At the same time, excessive governance may introduce delays, increase operational complexity, and reduce organizational agility.

This creates a governance calibration problem: how much governance is necessary to improve realization efficiency without creating unnecessary performance drag?

Note: The framework illustrated in Figure 2 draws inspiration from classical closed-loop control systems, where feedback is used to compare expected performance against observed performance and initiate corrective action when deviations occur. While enterprise governance systems are considerably more complex than physical control systems, the feedback concept provides a useful foundation for understanding how governance responses may influence value realization over time. To examine this relationship, a simplified governance-calibration model is introduced.

Governance Effectiveness

While baseline operational capability (G) represents the organization's available operational capacity, processes, systems, and operating model, organizational effectiveness (a) reflects how efficiently that capability is translated into realized performance. Two organizations may possess similar operational capabilities yet achieve materially different outcomes due to differences in adoption, accountability, execution discipline, responsiveness, and management effectiveness.

To examine this relationship, organizational effectiveness may be represented as:

$$E(H) = a + bH$$

where:

- a represents organizational effectiveness
- b represents organizational responsiveness to governance activities,

- H represents governance intensity.

As governance intensity increases, governance effectiveness initially improves the organization's ability to convert projected value into realized value through monitoring, challenge, escalation, accountability, and corrective action.

In highly mature organizations, strong operational capability (G) and high organizational effectiveness (a) may reduce the need for intensive governance intervention. Governance therefore should not be viewed as an objective in itself, but rather as a feedback mechanism used to identify deviations from expected performance and support corrective action. As organizational capability and effectiveness improve, the governance intensity required to sustain value realization may decline.

Governance therefore provides the greatest value when organizational capability and effectiveness alone are insufficient to consistently achieve desired outcomes.

Governance Friction

Governance friction may be represented as:

$$F(H) = kH$$

where:

- k represents the incremental execution burden associated with governance activities beyond the baseline level assumed within the business case,

Governance friction captures the cumulative impact of additional reviews, approvals, documentation requirements, committee oversight, and other activities that consume organizational resources while delaying execution.

Governance effectiveness and governance friction operate as opposing forces within the value realization process. As governance intensity increases, organizations may benefit from improved monitoring, challenge, accountability, and corrective action. At the same time, additional reviews, approvals, documentation requirements, and decision latency may introduce execution friction. Consequently, increasing governance intensity does not necessarily produce proportional improvements in value realization. Instead, organizations face a governance calibration problem in which the objective is to balance governance effectiveness against governance friction.

To illustrate this relationship, realization efficiency may be represented conceptually as:

$$\eta = A \cdot G(a + bH)(1 - kH)^*$$

The variables used throughout the governance calibration model and their ranges are summarized below for reference. Their ranges presented in Table 4 are illustrative and are intended to demonstrate the behavior of the proposed framework rather than represent empirically calibrated industry benchmarks.

Table 4. Model Variables and Their Description

Var.	Description	Range
η	Value realization efficiency	≥ 0
A	AI amplification factor	≥ 1
G	Baseline organizational capability	0–1
a	Organizational effectiveness coefficient	0–1
b	Organizational responsiveness to governance activities	0–1
H	Governance intensity	0–1
k	Governance friction coefficient	0–1

For purposes of illustration, the variables G, a, b, H, and k are represented on a common scale ranging from 0 to 1, where larger values indicate greater operational capability, organizational effectiveness, governance responsiveness, governance intensity, and governance friction.

Governance intensity (H) is expressed on a relative scale from 0 to 1, where 0 represents minimal governance intervention and 1 represents the highest governance intensity considered within the organizational environment being evaluated.

The term ($a + bH$) represents overall organizational effectiveness by combining baseline effectiveness (a) with incremental improvement resulting from governance activities (bH).

The interaction between governance effectiveness and governance friction suggests that increasing governance intensity does not necessarily produce proportional improvements in value realization efficiency. As governance intensity increases, organizations may initially experience improved monitoring, accountability, challenge and corrective action; however, beyond a certain point, incremental governance may introduce sufficient friction to offset those benefits.

** Conceptually inspired by closed-loop feedback systems, the model illustrates how governance interventions may influence value realization through both performance enhancement and execution friction.*

Figure 3. Governance Calibration and Efficiency

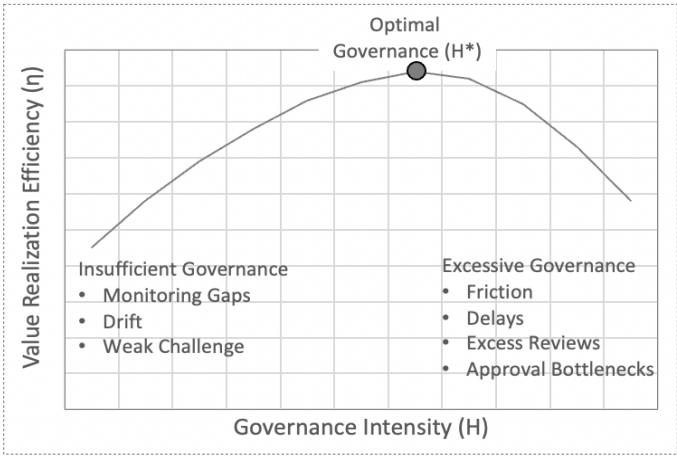


Figure 3 conceptually illustrates the governance-calibration principle introduced in this paper and is conceptually derived from the realization-efficiency model, where the optimal governance level (H*) corresponds to the turning point of the realization-efficiency function.

The relationship between governance intensity (H) and value realization efficiency (η) is not necessarily linear. Insufficient governance may result in monitoring gaps, unmanaged drift, and weak challenge, while excessive governance may create friction, delays, and approval bottlenecks. The optimal governance region represents the balance between oversight and execution that maximizes realized business value. The figure is conceptual and intended to illustrate the governance calibration principle.

The governance-calibration framework also suggests that governance requirements may vary according to organizational maturity. Organizations possessing strong operational capability and high organizational effectiveness may require less governance intervention to achieve desired outcomes than organizations with weaker operational foundations.

Table 5 Relationship Between Organization Maturity and Governance Intensity

Organizational Maturity	Operational Capability (G)	Organizational Effectiveness (a)	Governance Intensity (H)
Low	Low	Low	High
Developing	Medium	Medium	Moderate–High
Mature	High	High	Moderate
World Class	High	≈ 1.0	Low

The table is conceptual and intended only to illustrate the governance-calibration principle. Regulatory, risk, and industry-specific requirements may require governance activities even within highly mature organizations.

7. Illustrative Banking Application

While the governance-calibration framework provides a conceptual model for understanding value realization, executives ultimately require practical methods for applying these concepts within real business environments. Industry evidence suggests that organizations frequently encounter difficulties moving AI initiatives from pilot programs to sustainable enterprise-scale value creation. As a result, significant gaps often emerge between projected business benefits and realized outcomes.

The following example illustrates how the framework may be used to evaluate value realization within a banking AI initiative.

AI-Enabled Loan Origination Initiative

Consider a regional bank that secures $20 million in funding to implement an AI-enabled loan origination platform. The initiative is intended to increase lending volume, reduce processing costs, improve customer acquisition, enhance compliance monitoring, and accelerate lending decisions.

The business case projects approximately $10 million in annual benefits once the platform reaches steady-state operation, with cumulative benefits exceeding $50 million over a five-year planning horizon.

The platform is successfully deployed and performs largely as designed. However, during the first year of operation, the institution experiences lower-than-expected user adoption, integration challenges with legacy systems, elevated defect rates, and delays in identifying model-performance issues. Although the initiative generates positive business outcomes, several projected benefits fail to materialize at the expected pace.

Table 6. Projected vs Realized Benefits

Benefit Category	Projected Value	Realized Value
Increased Lending Revenue	$5.0M	$3.5M
Operational Cost Reduction	$3.0M	$2.0M
Risk & Compliance Benefits	$1.5M	$1.0M
Cust. Experience Improvements	$0.5M	$0.3M
Total	**$10.0M**	**$6.8M**

$$\eta = \frac{10.0}{6.8} = 0.68$$

Hidden Value Leakage

Importantly, the institution did not fail. The initiative remained operational, generated measurable business value, and satisfied applicable governance requirements. Nevertheless, realized value fell materially below original projections.

This example illustrates hidden value leakage. Unlike regulatory failures, operational incidents, or unsuccessful technology deployments, hidden value leakage may remain largely invisible because initiatives continue to generate positive returns while underperforming their original business cases.

Applying the Framework

Within the proposed framework, AI capability (A) contributed to automated document processing, workflow automation, decision support, and underwriting efficiency. Baseline operational capability (G) reflected the institution's ability to integrate those capabilities into lending operations. Organizational effectiveness (a) reflected the institution's ability to convert operational capability into realized performance through adoption, accountability, execution discipline, and corrective action. Governance intensity (H) included monitoring activities, reviews, escalation procedures, model oversight, and corrective interventions.

Although governance intervention generally enhances value realization through improved monitoring, accountability, challenge, and corrective action, governance activities also consume organizational resources. Additional reporting requirements, review cycles, approval layers, and oversight activities may introduce execution friction when applied beyond what is necessary to manage risk and sustain performance. The resulting balance between governance effectiveness and governance friction ultimately influences the institution's realization efficiency.

From a management perspective, the framework shifts the executive discussion from asking whether the AI system succeeded to asking why projected value was not fully realized and which organizational factors offer the greatest opportunity for improvement.

8. Conclusion

Organizations are investing heavily in artificial intelligence to improve productivity, customer experience, operational efficiency, and competitive advantage. While significant attention has been devoted to AI model performance, risk management, compliance, and responsible AI practices, comparatively less attention has been given to the challenge of converting projected AI benefits into realized business value. As a result, many organizations continue to experience a gap between expected outcomes and actual performance.

This paper proposed a value-realization perspective on AI governance by positioning governance as a business performance system rather than solely a risk-control function. Drawing upon principles from control systems theory, governance was presented as a feedback mechanism that monitors outcomes, identifies deviations, enables corrective action, and helps organizations sustain performance over time. From this perspective, governance contributes not only to risk management and regulatory compliance, but also to the realization of business value.

A conceptual framework was introduced to examine the relationship between AI capability, operational capability, organizational effectiveness, governance intensity, governance responsiveness, and governance friction. The framework highlights that realized value is influenced not only by the capabilities of AI systems, but also by the organization's ability to integrate, govern, monitor, and operationalize those capabilities within business processes. The resulting concept of value realization efficiency (η) provides a mechanism for evaluating how effectively projected benefits are translated into realized outcomes.

The paper also introduced the concept of hidden value leakage, recognizing that AI initiatives may remain operationally successful, compliant, and profitable while still failing to achieve a substantial portion of their pro-

jected value. This perspective shifts the discussion from a binary assessment of success or failure toward a more nuanced evaluation of business performance and value capture.

As organizations continue to scale AI across increasingly complex operating environments, the ability to govern for both protection and performance will become increasingly important. Future research may explore empirical validation of the framework, industry-specific applications, and practical approaches for measuring value realization efficiency across AI-enabled initiatives.

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Appendix A: Integrated Banking Case Study

A regional bank invests **$10 million** in an AI-enabled loan origination platform designed to improve underwriting productivity, reduce processing costs, accelerate approval times, and enhance compliance monitoring.

Management projects that the initiative will generate **$20 million** in cumulative business value over three years.

After deployment, the platform performs largely as expected and remains operationally successful. However, realized business value reaches only **$13 million**.

Table A1: Illustrative Bank Investment Outcomes

Metric	Value
Investment	$10M
Projected Five-Year Value (V_p)	$20M
Realized Five-Year Value (V_r)	$13M

Step 1: Calculate Value Realization Efficiency

Value realization efficiency is calculated as:

$$\eta = \frac{(V_r)}{(V_p)}$$

$$\eta = \frac{13}{20}$$

$$\eta = 0.65$$

the institution therefore realizes approximately 65% of projected value.

Step 2: Hidden Value Leakage

The difference between projected and realized value may be expressed as:

$$L = V_p - V_r$$

$$L = \$20M - \$13M$$

$$L = \$7M$$

Although the initiative remains profitable and may be classified as a success, approximately $7 million of projected value is not realized.

Step 3: Evaluate Governance and Organizational Characteristics

Table A2. Illustrative Institution Capability

Variable	Description	Value
A	AI Capability Amplification	1.40
G	Organizational Capability	0.70
a	Baseline Organizational Effectiveness	0.60
b	Governance Responsiveness	0.30
H	Governance Intensity	0.80
k	Governance Friction Coefficient	0.25

Applying the conceptual governance-calibration model produces a realization efficiency approximately consistent with the observed outcome:

$$\eta = A \cdot G(a + bH)(1 - kH)$$

$$\eta = 1.40 \times 0.70 \times (0.60 + 0.30 \times 0.80) \times (1 - 0.25 \times 0.80)$$

$$\eta \approx 0.65$$

Step 4: Executive Discussion Exercise

Management is willing to invest an additional **$2 million** to improve value realization.

The budget is sufficient to improve only one area.

Which investment is most likely to produce the greatest improvement in realized business value?

Table A3. Illustrative Improvement Options

Option	Potential Improvement
A	Increase AI capability (A)
B	Improve organizational capability (G)
C	Increase governance intensity (H)
D	Reduce governance friction (k)
E	Improve organizational effectiveness (a)
F	Increase governance responsiveness (b)

Suggested Analysis

The institution already possesses relatively strong AI capability (**A = 1.40**). Governance intensity is also relatively high (**H = 0.80**), suggesting that simply increasing oversight may provide limited incremental benefit.

Several opportunities for improvement are evident:

- Organizational capability (**G = 0.60**) remains moderate, indicating potential challenges in workflow integration, operational processes, and execution capacity.
- Organizational effectiveness (**a = 0.55**) suggests opportunities to improve adoption, accountability, execution discipline, and management effectiveness.
- Governance responsiveness (**b = 0.30**) indicates that governance findings may not always translate rapidly into corrective action and operational improvement.
- Governance friction (**k = 0.25**) is relatively elevated and may contribute to delays, additional review cycles, and execution burden.

Illustrative examples of initiatives that primarily influence each model parameter are shown below. In practice, many initiatives affect multiple variables simultaneously; the mappings below represent their primary influence.

Table A4. Illustrative Improvement Initiative

Improvement Initiative	Primary Variable
Workflow redesign	G – Organizational Capability
Process integration	G – Organizational Capability
Employee adoption programs	a – Organizational Effectiveness
Operational training	a – Organizational Effectiveness
Accountability mechanisms	a – Organizational Effectiveness
Change management	a – Organizational Effectiveness
Faster escalation and corrective-action processes	b – Governance Responsiveness
Streamlined governance and approval structures	k – Governance Friction

These interventions may generate greater improvements in value realization than additional investment in AI technology alone.

Appendix B: Which Bank Will Realize More Value?

Assume three regional banks implement the **same AI lending platform**.

Therefore,

$$A=1.40$$

for all three institutions.

Their organizational operational capabilities differ:

Table B1: Institutional Capability Example

Variable	Bank A	Bank B	Bank C
A – AI Capability Amplification	**1.40**	**1.40**	**1.40**
G – Organizational Capability	0.60	0.80	0.70
a – Baseline Org. Effectiveness	0.55	0.75	0.60
b – Governance Responsiveness	0.30	0.55	0.40
H – Governance Intensity	0.80	0.70	0.90
k –Governance Friction Coeff.	0.25	0.15	0.35

Practice Exercise

Without performing detailed calculations, rank the three banks from highest to lowest expected value realization efficiency and explain your reasoning.

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