GenIQ: The Second Harvest

Enterprise Innovation from AI Governance Infrastructure

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Abstract

Last Tuesday, an analyst at a regional insurer asked Claude why her water damage claims keep getting worse between first notice and final payout. She wanted to know if there's a pattern—which claims escalate, which stay contained, whether she can tell early. Claude synthesized across oncological staging, structural fatigue curves, and ecological tipping points. What came back was a framework for treating claims as staged processes—catching them at Stage I before they metastasize. She didn't know she'd invented a new insurance product. She was trying to understand her Tuesday. The session expired. The IP is gone. This is happening in your enterprise, every day. Three mechanisms drive it: quiet innovation—employees externalize tacit knowledge without recognizing it as IP; wayward innovation—workarounds reveal problems IT didn't know existed; frame collision—queries that bridge disciplinary boundaries synthesize genuinely novel instruments. All three expire with the session. Enterprises have deployed AI governance infrastructure to monitor GenAI and enforce policy. That telemetry captures everything. The first harvest is compliance value—risk mitigation, policy enforcement. The second harvest is enterprise IP—innovation hidden in the same telemetry, vanishing while you read this. This paper names the phenomenon, identifies three mechanisms driving it, proves they produce real inventions, specifies the system that captures them, and addresses the organizational conditions required for deployment.

1 The Shift

The model of human knowledge acquisition just changed.

Previously, synthesis required specialization. To combine epidemiology with deposit behavior, you needed years of cross-training, or an interdisciplinary team, or luck. Knowledge stayed in its lanes because the cost of crossing was prohibitive.

That constraint is gone. The underwriter in Des Moines can now pull from nuclear physics, epidemiology, hydrology, and thermodynamics to answer a question about deposit behavior. She doesn't need to know these fields exist. She asks; the model synthesizes. This is not search—search retrieves documents. This is synthesis: real-time integration of knowledge that was never integrated before.

The enterprise advantage is enormous: your employees have the actual problems, the proprietary data, the operational context. They can synthesize all human knowledge against real business questions—not hypotheticals, but Tuesday's queue. Startups have speed. Your people have speed *and* the problem.

What happens next: concepts separated by organizational silos and academic disciplines collide in the same query. Treasury's view of deposits meets nuclear decay curves. Underwriting's prediction models meet oncological staging. These collisions produce genuine invention—new instruments that neither source could conceive alone. It's happening now. In sessions that expire.

Three mechanisms drive this. We examine each, then prove they produce real inventions.

2 Three Mechanisms

When everyone can bring all knowledge to any problem, three phenomena emerge. Each represents intellectual property. None requires the employee to recognize what they've done.

Mechanism	What happens	Routes to
Quiet	Tacit knowledge externalized	Knowledge mgmt
Wayward	Unmet needs revealed	IT / Product
Collision	Novel instruments invented	Innovation leadership

Table 1: Three innovation mechanisms, what they produce, and where GenIQ routes them.

2.1 Quiet Innovation

Most innovation isn't recognized as innovation.

An underwriter uses Claude to articulate why she declines risks the pricing model approves. Fifteen prompts. Twenty years of judgment encoded—loss patterns the model doesn't see, contractor behaviors that predict claims, geographic signals invisible in the data. She's not "inventing." She's externalizing tacit knowledge that exists nowhere else [9]. The enterprise doesn't know this knowledge exists. When she retires, it walks out the door. But today, it's sitting in a session log that compliance will never read.

A relationship manager builds a client attrition framework—not a dashboard, a reasoning structure. Signals that predict departure: tone shifts, timing patterns, questions clients ask before they leave. His framework outperforms the official churn model. He men-

tions it to two colleagues. No one tells product. Session expires.

This is Nonaka's knowledge creation [8]—tacit made explicit, often for the first time. Traditional capture fails because it requires self-identification: *Expertise blindness*—"Anyone with experience would know this." *Effort asymmetry*—Creating took forty minutes; formalizing takes longer. *Intake mismatch*—Innovation programs want business cases, not "I taught the AI how I decide."

The telemetry signature: sustained multi-turn refinement, domain vocabulary, increasing specificity, solution construction.

Example: Prompts 1–3 ask about "claim escalation patterns." Prompts 4–8 narrow to "water damage" and "time between notice and inspection." Prompts 9–15 build a decision tree with specific thresholds. Domain vocabulary increases; abstraction decreases. This is quiet innovation in progress—visible in telemetry, invisible to the employee.

2.2 Wayward Innovation

Innovation emerges from misalignment—between intent and tooling, between prompt and completion.

Routing around broken systems: The analyst who can't get data from the warehouse asks Claude to parse a downloaded spreadsheet. The underwriter whose workflow tool lacks a calculation builds it in a prompt. Alter called these workarounds [6]—work accomplished despite official tooling. Each exposes gaps IT didn't know existed, friction invisible to management, requirements no one captured.

Productive misalignment: The user asks for X. The prompt mis-specifies. The model interprets as Y. And Y turns out valuable—a framing the user hadn't considered, a connection they didn't intend, a solution to a problem they didn't know they had.

Example: An analyst asks for a "reconciliation report" on payment discrepancies. Claude interprets this as anomaly detection and builds a pattern-matching framework. The analyst runs it—and surfaces a fraud signature no one was looking for. The "error" produced insight.

Both are exactly what Chesbrough argued enterprises must pursue [7]—innovation from beyond formal R&D boundaries. It's happening. No one's capturing it.

The telemetry signature: system references then pivots; prompts that evolve away from stated intent; completions the user didn't expect but ran with.

2.3 Frame Collision

The highest-order phenomenon: queries that accidentally bridge frames and synthesize genuinely novel instruments.

Enterprise knowledge is fragmented—silos internally, disciplines externally [1]. GenAI embeds all knowledge into shared vector space; concepts separated by org chart and academic tradition become adjacent. We call this *semantic collapse*—the flattening of disciplinary boundaries into a unified embedding space where everything is proximate to everything else. When a query spans frames within this collapsed space, most collisions produce synonymy (different names, same entity) or isomorphism (different problems, same math). But frame collision—different theories about related phenomena meeting for the first time—produces concepts transcending source frames. This is invention.

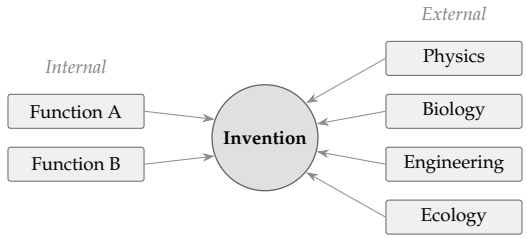

Figure 1: Frame collision: internal silos and external disciplines collide to produce inventions neither could conceive alone.

Two source types required (Figure 1). Internal silos with different theories about shared phenomena. External disciplines with frameworks for problems the enterprise hasn't named. Neither alone suffices. The combination invents.

We prove this with two inventions that emerged from collision. Neither exists in any enterprise today. Both are implementable.

3 Invention: Deposit Half-Life Pricing

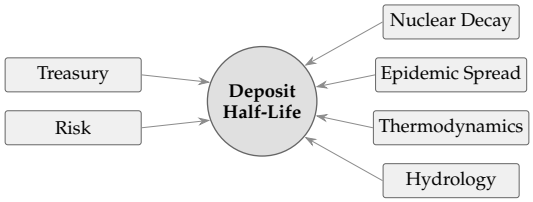

Figure 2: Deposit Half-Life: Treasury + Risk + four physics.

The gap: Treasury sees deposits as liquidity. Risk sees deposits as capital buffers. Neither prices the decay curve of specific money. They model aggregates; individual flight probability is invisible.

The collision (Figure 2): *Nuclear physics*—decay is probabilistic at particle level, predictable at population level; every isotope has a half-life. *Epidemiology*—flight risk spreads through networks; connected depositors

follow each other out. *Thermodynamics*—money disperses toward equilibrium; concentrations dissipate unless retained. *Hydrology*—deposits flow toward higher returns; friction impedes; remove friction and they move.

The invention: Price each deposit by decay probability. Every deposit gets a half-life—time to 50% departure probability. Sticky money earns more. Flighty money earns less—or pays for the optionality. Network effects adjust pricing: connected depositors share contagion risk. Thermodynamic gradients reveal pressure. Hydrological barriers—switching costs, relationship depth—create friction worth paying for.

Your rate depends on how likely you are to leave, when, and whether you'll take others with you.

No bank offers this product. It emerged from frame collision. A 10-basis-point improvement in deposit pricing efficiency across a $50B deposit base is $50M annually.

4 Invention: Staged Loss Management

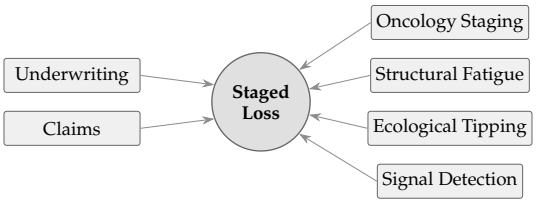

Figure 3: Staged Loss: Underwriting + Claims + four sciences.

The gap: Underwriting predicts future losses. Claims pays for past losses. Neither detects losses in progress. The temporal void between prediction and payment is where money burns.

The collision (Figure 3): *Oncology*—cancer is staged I–IV; treatment varies by stage; early detection changes everything. *Structural engineering*—fatigue accumulates before fracture; stress is measurable as gradient. *Ecology*—extinction is committed before the last animal dies; systems cross tipping points invisibly. *Signal processing*—signal exists in noise before filtering extracts it; detection precedes event.

The invention: Claims are processes with stages, not binary events.

Stage	State	Response
I	Precursor present	Alert + credit
II	Active deterioration	Intervention
III	Damage occurring	Mitigation + partial
IV	Full loss	Indemnification

Claim opens at Stage I. Premium funds monitoring. Payout is prevention, not repair.

Your next claim has already started. We stage it like cancer and treat it before it metastasizes.

No insurer offers this product. It emerged from frame collision—and would have vanished with the session. A 5-point improvement in loss ratio on a $1B book is $50M annually.

Both inventions demonstrate what frame collision produces. Neither inventor knew they'd invented. Both sessions would have expired unnoticed. This is the problem GenIQ solves.

5 The Vanishing

All three mechanisms share a property: the session expires. The underwriter's judgment—gone when she closes the tab. The workaround—vanished into browser history. The frame collision—evaporated with the context window.

How much? A 50,000-employee enterprise, 30% using GenAI weekly, thousands of sessions per day. Even if a fraction of one percent contain productizable insight, that's dozens to hundreds of IP candidates daily. Most won't survive scoring. But the ones that clear the bar are invisible to every other capture mechanism—idea portals require self-identification, patent mining looks for intent, knowledge management captures deliberate sharing.

The IP is vanishing. Every enterprise. Every hour.

6 The Sensors Already Exist

Enterprises deployed AI governance infrastructure for compliance. That infrastructure captures everything: Network platforms (Netskope, Zscaler) provide shadow AI detection and prompt visibility; AI TRiSM (Portal26, Acuvity) adds prompt forensics, intent classification, and zero-day discovery [4, 5]; AI Gateways (Portkey) log full request/response for internal applications.

The first harvest is compliance—risk mitigation, policy enforcement. Real value. Already captured. The second harvest is innovation. Same telemetry. Different lens.

7 GenIQ

The problem is clear: three mechanisms produce IP that vanishes with the session. The infrastructure to capture it already exists. What's missing is the semantic layer that reads governance telemetry for innovation, not just compliance.

GenIQ is that layer—software that classifies sessions by mechanism, scores them for novelty and value, and routes candidates to the right owners.

GenIQ is: a semantic classification layer that reads existing governance telemetry to surface innovation. **GenIQ is not**: a new data collection system, a replacement for governance tooling, or an idea management platform. It sits between the telemetry you already capture and the teams who should see what's in it.

It operates in three stages: detect, score, route.

Stage 1—Detection: Classify sessions by mechanism. Quiet innovation shows multi-turn refinement—measure prompt specificity gradient across the session; when domain vocabulary increases and abstraction decreases over 10+ turns, something is being built. Wayward innovation shows pivot patterns—queries reference internal systems then route elsewhere; compensatory patterns recur across users. Collision shows domain-crossing—embedding similarity between prompt terms and external discipline vocabularies flags boundary-spanning queries. Output: tagged sessions by mechanism type.

Stage 2—Scoring: Not all detected sessions are IP—most are routine work. Novelty scoring compares against internal knowledge bases and external corpora—known solution applied, or genuine invention? Value estimation traces potential impact across revenue, cost, and risk paths. This stage filters aggressively; high recall in detection, high precision in scoring. Output: ranked candidates with novelty and value scores.

Stage 3—Routing: Candidates go to different owners based on mechanism and value. Quiet innovation routes to knowledge management. Wayward routes to IT and product for gap analysis. Collision routes to innovation leadership for productization. Output: actionable candidates in the right hands.

GenIQ operates as a semantic layer on existing governance infrastructure—Portal26, Acuvity, Netskope already capture the telemetry. GenIQ adds mechanism detection, novelty scoring, and value routing. Context integrity validation ensures detected patterns are genuine [2]; telemetry quality assessment filters noise from signal [3].

Where to start: Pilot with quiet innovation—high volume, easiest to demonstrate. Surface three multi-turn sessions with domain specificity to product teams. That proves the signal exists. Then hunt for collision cases to demonstrate breakthrough value.

8 Organizational Realities

Technology alone doesn't capture innovation. Three organizational conditions determine whether GenIQ produces value or shelfware.

Privacy and psychological safety: If employees know their prompts might surface to "innovation leadership," will they self-censor? GenIQ addresses this through pattern-level surfacing rather than transcript attribution. What routes to knowledge management is the *structure*—not the verbatim session. For quiet innovation, notification creates positive reinforcement: "Your session was identified as high-value expertise. Would you like to formalize it?" Opt-in, not extraction. For wayward innovation, GenIQ aggregates: "12 users built spreadsheet parsers because the warehouse query takes 3 days." The gap is visible; individuals aren't named.

Ownership and governance: GenIQ routes to three different power centers. Who owns the system? Who adjudicates when a collision candidate could be productized *or* reveals IT gaps? GenIQ requires a cross-functional steering body with representation from all three destinations. The Chief Data Officer or Chief AI Officer is the natural convener.

Incentive alignment: Captured innovation must benefit the originator. If the underwriter's judgment becomes enterprise IP with no recognition, she stops externalizing. GenIQ implementations should connect to recognition systems: innovation credits, patent co-authorship where applicable, performance review input. The second harvest requires tending.

9 Limitations and Future Work

This paper identifies the phenomenon and specifies the system architecture. Several areas require further development.

Detection precision: The collision detection mechanism—embedding similarity to discipline centroids—requires empirical calibration. What similarity threshold optimizes precision/recall? How do we construct representative discipline corpora? Pilot implementations will generate the training data to refine these parameters.

Value estimation: Scoring unrealized inventions is inherently approximate. The proposed approach (domain classification, scope estimation, historical ROI multipliers) provides a starting framework, but ground truth emerges only as captured innovations are productized. Longitudinal studies tracking GenIQ candidates through implementation will calibrate value models.

Cross-enterprise validation: The mechanisms described here derive from BFSI contexts. Do the same patterns—quiet, wayward, collision—manifest in healthcare, manufacturing, or government? The underlying dynamics (tacit knowledge, workarounds, frame collision) are universal, but detection signatures may require domain adaptation.

Legal and IP considerations: When an employee's session produces a patentable invention, who owns it? How does GenIQ interact with existing employment IP

agreements? These questions require legal analysis beyond this paper's scope.

Longitudinal effects: Does knowledge that sessions are monitored for innovation change how employees use GenAI? Does it improve externalizing (because they know it matters) or suppress it (surveillance effect)? Only sustained deployment will answer this.

10 Conviction

The model of human knowledge acquisition shifted. Any employee can now synthesize across all human knowledge to solve a specific problem. When they do, they externalize expertise they didn't know was valuable, reveal failures we couldn't see, and occasionally collide frames to produce genuine invention.

They don't know they've invented. No one captures it. The session expires. The IP vanishes. And when those employees leave—and they will—the knowledge walks out the door to competitors who might be harvesting their own.

The sensors already exist. Governance infrastructure captures everything—for compliance. Read the same telemetry for innovation. That's the second harvest.

Start here: Audit your governance telemetry. Look for multi-turn sessions with increasing domain specificity. Surface three candidates to product. That's the pilot.

The second harvest begins when you read the data differently.

Acknowledgments

The inventions described in this paper—Deposit Half-Life Pricing and Staged Loss Management—emerged from conversations with OpenAI's GPT-4 and Anthropic's Claude. The frame collisions were real; the synthesis was collaborative. This paper itself was developed iteratively with Claude, demonstrating the very phenomenon it describes: domain expertise meeting cross-disciplinary reasoning to produce novel instruments.

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