

An IBS Intelligence & Novel Patterns Publication

The Decision Operating System:

Why Lending's Next Leap
Isn't Another Platform



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1. Executive Foreword

Digital lending is entering a new era. What was once a largely linear journey between borrower and lender is becoming a continuous, data-rich experience spread across digital channels, partner ecosystems and moments of need. Customers can now enter through mobile, embedded finance, partner and assisted channels, while lenders draw on bureau, banking, transaction, income and behavioural data to assess eligibility and risk.

Digitalisation has made credit more accessible and journeys more efficient, but it has also multiplied the points at which lenders must interpret context, apply policy and determine what happens next. Every new channel, product and data signal creates another point at which the institution must interpret context, apply policy, balance risk and determine what happens next. The next performance frontier is therefore moving beyond how efficiently a lender executes a predefined process to how intelligently it can adapt as customer, market and risk conditions change rapidly.

Straight Through Intelligence (STI)

A lending model in which journeys do not simply move automatically from one stage to the next, but adapt intelligently as customer, risk and policy context changes.

This whitepaper explores that transition, from Straight Through Processing to **Straight Through Intelligence**, and why the next leap may not come from digitising another step or adding another specialist application. Instead, it may come from enabling the intelligence already distributed across the lending stack to work together as one operating environment. Digital lending has solved for speed. The next challenge is making lending continuously intelligent, governed and capable of learning from outcomes.

This creates the central paradox at the heart of the paper: **nothing is fundamentally broken in the modern lending stack, yet something is still missing**. Loan origination systems originate, loan management platforms service, rule engines execute policy, risk models score and specialist analytics generate increasingly sophisticated signals. Each continues to perform an essential function; the challenge emerges when those outputs must come together, in context, as one coherent outcome.

Our partner for this whitepaper, Novel Patterns, has developed DecisionOS around this requirement. It is designed to support a progressive operating model in which institutions can begin with a specific intelligence capability, lending journey or use case and extend the architecture across the lifecycle over time. As adoption expands, the platform brings intelligence, orchestration, governance and outcome feedback into a common operating environment.



2. From Straight Through Processing to Straight Through Intelligence



Straight-through processing established the first benchmark for digital lending: remove manual intervention from predictable steps, digitise information flows and move an application from intake to outcome with fewer hand-offs.

But as lending has become more data-rich, omnichannel and dynamic, the limitation of that model has become clearer. STP can move a process straight through; the next frontier is enabling the process to respond intelligently as conditions change. This is the shift towards Straight Through Intelligence (STI).

77%

of India's personal-loan sanction volume came from digital-first NBFCs in FY26.

India's digital lending market shows how dramatically the operating equation has changed. In FY26, digital-first NBFCs sanctioned personal loans worth ₹2.15 lakh crore, representing just 19% of sanctioned value, but accounted for 77% of sanction volume, with 13.2 crore personal loans – underscoring the scale and operational complexity of high-volume lending. This shift is also reflected in the changing profile of digital lending, with more than half of sanction value now coming from loans above ₹50,000 to borrowers with shorter bureau histories and mid-to-high risk profiles.⁹

The implication is not simply more digital credit. It is decision intensity at scale. Lenders are processing vastly more customer interactions while moving into larger tickets and broader borrower profiles, multiplying the policies, signals and exceptions that must be interpreted without slowing the journey.

When processing speed outpaces decision speed

As lending digitises, the constraint shifts with it. The challenge is no longer simply the speed of a predefined journey, but the institution's ability to change the decision logic behind that journey as customer, market and risk conditions shift.

That lag is already visible. Policy changes still move through business, risk and technology queues even when the customer journey itself is digital. Fraud patterns evolve continuously, while underwriting rules are refreshed periodically, and portfolio behaviour can shift between model and policy review cycles. The front end may operate in real time, while the decisioning machinery behind it often moves on a much slower clock.

The result is a widening gap between **processing speed and response speed**. A lender may acquire and serve customers digitally while still taking too long to incorporate a new risk signal, adjust underwriting logic or implement a revised policy. In high-frequency lending, that delay creates friction and missed opportunity. In more complex credit,

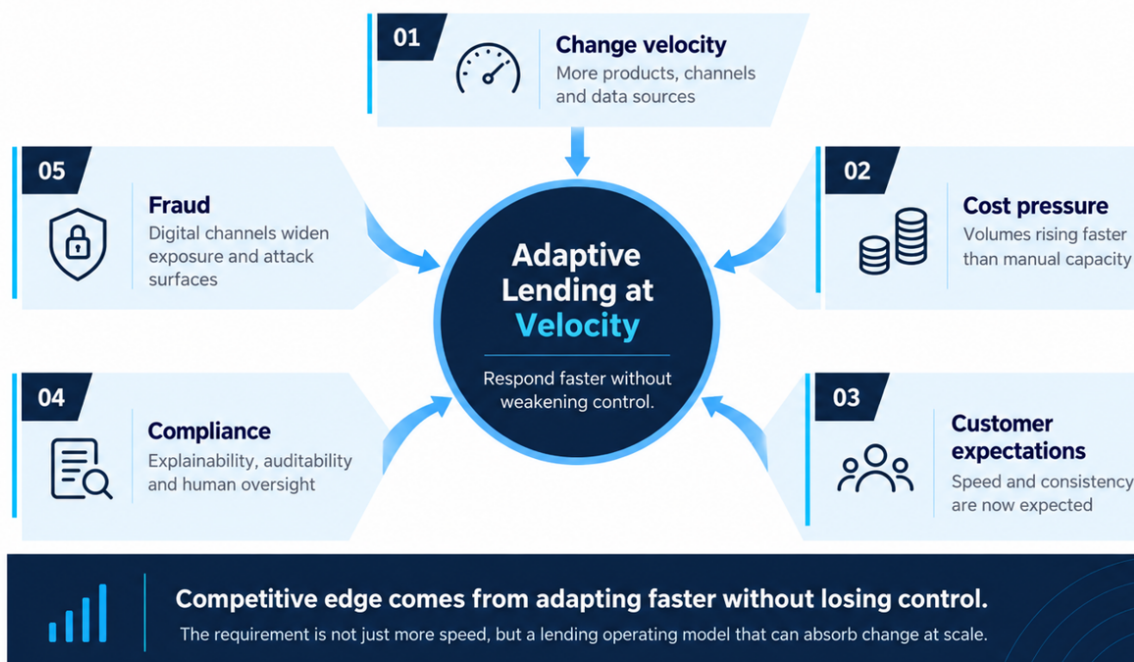
greater speed must still coexist with deeper analysis and human judgement.

AI is compressing that clock further. The Reserve Bank of India's 2025 assessment identified 583 AI applications in production or development across regulated financial entities, with 13.7% focused on credit underwriting.¹ A separate global study of 44 financial institutions found 52% had already made GenAI adoption a strategic priority, with credit decisioning, pricing and early-warning among areas attracting implementation.²

The more meaningful benchmark is therefore **time-to-change**: how rapidly a lender can recognise a new condition, adjust the response, validate it and operationalise that change.

Five Forces, One Operating Requirement

Five external pressures are compressing the lending operating model simultaneously. Together, they create one common requirement.



Source: IBS Intelligence analysis

These forces reinforce one another. Faster product change creates more policy combinations; digital channels expand both customer choice and fraud exposure; greater automation raises the importance of explainability and control. The requirement is therefore not simply greater speed, but the ability to absorb change without losing governance.

Straight Through Intelligence: The Next Era of Straight-Through

Straight Through Intelligence extends the original promise of STP. Where STP automates the movement of an application through a known process, STI enables the institution to interpret changing information, adjust policies and models, resolve exceptions and determine the next appropriate action as that process unfolds.

Processing automation answers a known path efficiently. Intelligence enables the **path itself to respond when the context changes**. For lenders, that means moving from processes that are merely digital to decisioning that is adaptive, governed and context-aware.

The competitive imperative is therefore no longer just processing at velocity. It is decisioning at velocity, which raises the next architectural question: **where should that intelligence live, and how should it operate across the lending stack?**





3. The Rise of the Intelligence Layer

100+

analytical ratios

can now be generated within a single loan-origination environment.

The challenge has shifted from generating more signals to interpreting them in customer context.

The lending stack has become significantly better at producing information. Bureau scores, bank-statement analytics, income assessments, fraud checks, legal and technical reports, behavioural signals and risk models can now feed into a single credit journey. Yet more information does not automatically produce a better outcome.

Primary research for this paper illustrates the shift clearly. Credit analysis that once depended on a relatively small number of manually calculated ratios has evolved to systems that can now generate 100+ ratios within the loan-origination environment. The challenge has moved beyond producing more signals to interpreting them in the context of the customer and translating them into a journey that can respond with the speed and relevance customers increasingly expect.

That becomes more important beyond highly standardised retail credit. An MSME borrower, affordable-housing customer or larger commercial exposure can introduce cash-flow interpretation, promoter intent, sector conditions, collateral characteristics, field intelligence and policy exceptions alongside structured financial data.

Practitioners interviewed for this paper repeatedly pointed to the same underlying challenge: **financial institutions increasingly operate with an “ocean of data”, while specialist systems continue to generate individual outputs that must ultimately come together before the lender can act.** The constraint is therefore no longer the availability of information, but the ability to channel information into intelligence while keeping pace with the customer.



The current lending stack is not inadequate.

AI has simply raised the bar: the stack now needs to be strengthened to match the speed and depth of analysis that AI makes possible.”

Paramtosh Singh

Deputy General Manager,
State Bank of India

Reasoning moves into the stack

The next architectural step is not another data source, another model or another point solution. It is a decision operating environment capable of bringing together the intelligence distributed across the lending lifecycle.

Each already performs an important role. A bureau platform can identify credit behaviour, policy engines apply predefined conditions, risk models estimate probability of default, workflows move applications forward and underwriters interpret circumstances that cannot be reduced entirely to rules.

The capabilities already exist. The missing element is an intelligence layer above them that can interpret their outputs together and determine what should happen next. APIs, middleware and workflow platforms have already made it easier for information to move across the lending estate, but connectivity alone does not preserve the meaning behind each output.

A connected journey can still leave employees reconciling conflicting signals, identifying missing evidence and interpreting exceptions before the customer can move forward. Integration moves information; the intelligence layer preserves context and reasons across it. This is the shift from connected systems to coordinated intelligence.

From point automation to lifecycle intelligence

Agentic AI expands what can sit within that layer. Within appropriate permissions, an intelligent agent can retrieve information, interpret structured and unstructured inputs, invoke relevant models or policies, identify missing evidence, initiate the next action and escalate cases requiring human intervention.

The greater opportunity is not simply automating each stage independently, but maintaining continuity across the lifecycle. Information established during acquisition should remain relevant during underwriting; an exception accepted at origination should remain visible after disbursement; and emerging behavioural signals should be capable of influencing servicing or risk monitoring before deterioration becomes visible through delinquency.

This creates a different model of lending intelligence: instead of context being reconstructed at every hand-off, the institution develops a persistent understanding of the borrower and the journey.

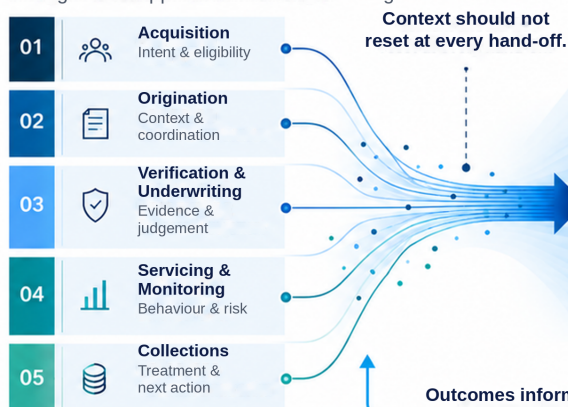
As that intelligence becomes more active, explainability and human oversight become part of the architectural requirement. The question is no longer simply which systems an institution runs, but where the thinking happens and how intelligence is translated into action across the lending estate.

From Point Automation to Lifecycle Intelligence

Context should travel with the customer across the lending lifecycle.

POINT AUTOMATION

Intelligence is applied within individual stages.



LIFECYCLE INTELLIGENCE

Persistent, connected intelligence across the entire lending lifecycle.



Outcomes inform future policy, treatment and lending decisions

Governed by permissions | policies | escalation | human oversight

The opportunity is not intelligence at every stage, but intelligence that travels between them.

Source: IBS Intelligence analysis

Lending institutions will continue to operate a combination of core systems, specialist technologies and external data services. The architectural requirement is therefore not simply greater connectivity, but an intelligence layer that can

preserve context and coordinate reasoning across them. How that layer is structured, governed and operationalised is the next question — and where DecisionOS enters the discussion.



4. Inside the Decision Operating System

DecisionOS is Novel Patterns' operating architecture for putting the intelligence layer into practice. Positioned above the systems already supporting the lending journey, it maintains the context required to interpret their outputs, apply intelligence and coordinate the appropriate next action without requiring institutions to rebuild what already works.

DecisionOS brings together a growing set of 9 intelligence capabilities. Its value comes not simply from what each capability does independently, but from how they operate against the same customer and lending context.

Intelligence in a common operating context

DecisionOS brings together multiple forms of intelligence across the lending lifecycle. Their value lies in operating within the same customer and lending context rather than as isolated capabilities. The architecture is deliberately extensible as institutions expand into additional decisions, journeys and lifecycle stages.

- 01 CRM Intelligence** captures, qualifies and routes every lead from arrival to action, rather than leaving it in a queue.
- 02 Journey Intelligence** adapts according to the customer and available context rather than forcing every borrower through the same sequence.
- 03 Credit Intelligence, powered by CART**, turns financial evidence, bank statements, bureau, income and cash-flow data, into a decision-ready recommendation with its reasoning attached.

- 04 Document Intelligence** makes every document machine-readable, comparable and explainable, so an underwriter reviews what needs judgement rather than what needs reading.
- 05 Policy Intelligence** converts policy into executable logic that can be simulated and stress-tested before affecting live lending journeys.
- 06 Post-Disbursal Intelligence, powered by HawkEye**, monitors borrower behaviour and emerging risk after disbursement, so a missed payment becomes a late signal rather than the first one.
- 07 Incentive Intelligence** automates incentive payouts and reconciliation across channels, replacing a cycle-end spreadsheet exercise with a continuous operating workflow.
- 08 Collateral Intelligence** keeps valuation, ownership and lien status current across every secured exposure, rather than static until the next scheduled review.
- 09 Partner Portal Intelligence** manages the partner ecosystem from onboarding through case allocation, performance and risk, in one operating layer.

Explainable AI operates across these domains rather than as a separate operating function. As these capabilities contribute to an outcome, explainability makes the underlying reasoning and action trail visible enough to be reviewed, challenged and audited.

Intelligence in a Common Operating Context

Nine intelligence capabilities. One shared operating context.



Growing capabilities. One customer context. One coordinated operating environment.

Source: IBS Intelligence analysis

The architecture therefore connects customer journeys, policy execution, credit assessment, portfolio behaviour and information interpretation within one operating environment.

Consider policy. In a conventional environment, a change may move through documentation, interpretation, configuration, testing and deployment before becoming visible in production. DecisionOS treats policy as executable intelligence that can be simulated and stress-tested beforehand, allowing

institutions to understand its potential consequences before they reach customers or the portfolio.

The same principle applies to the journey. Not every borrower requires the same documents, checks or sequence of interactions. Journey Intelligence can adapt the path according to the context available while retaining the relevant policy and compliance requirements underneath it.

Credit is where those capabilities begin to converge. In a DecisionOS personal-loan example, bureau information, income stability and account aggregator cash-flow signals contribute to a recommendation that can then be approved, modified or escalated by an authorised underwriter. Evidence, reasoning and action remain part of the same operating context.

The Decision Loop: AI recommends, humans decide, policy and outcomes remain traceable

At the point of action, DecisionOS separates three activities that are often blurred together in discussions about AI.

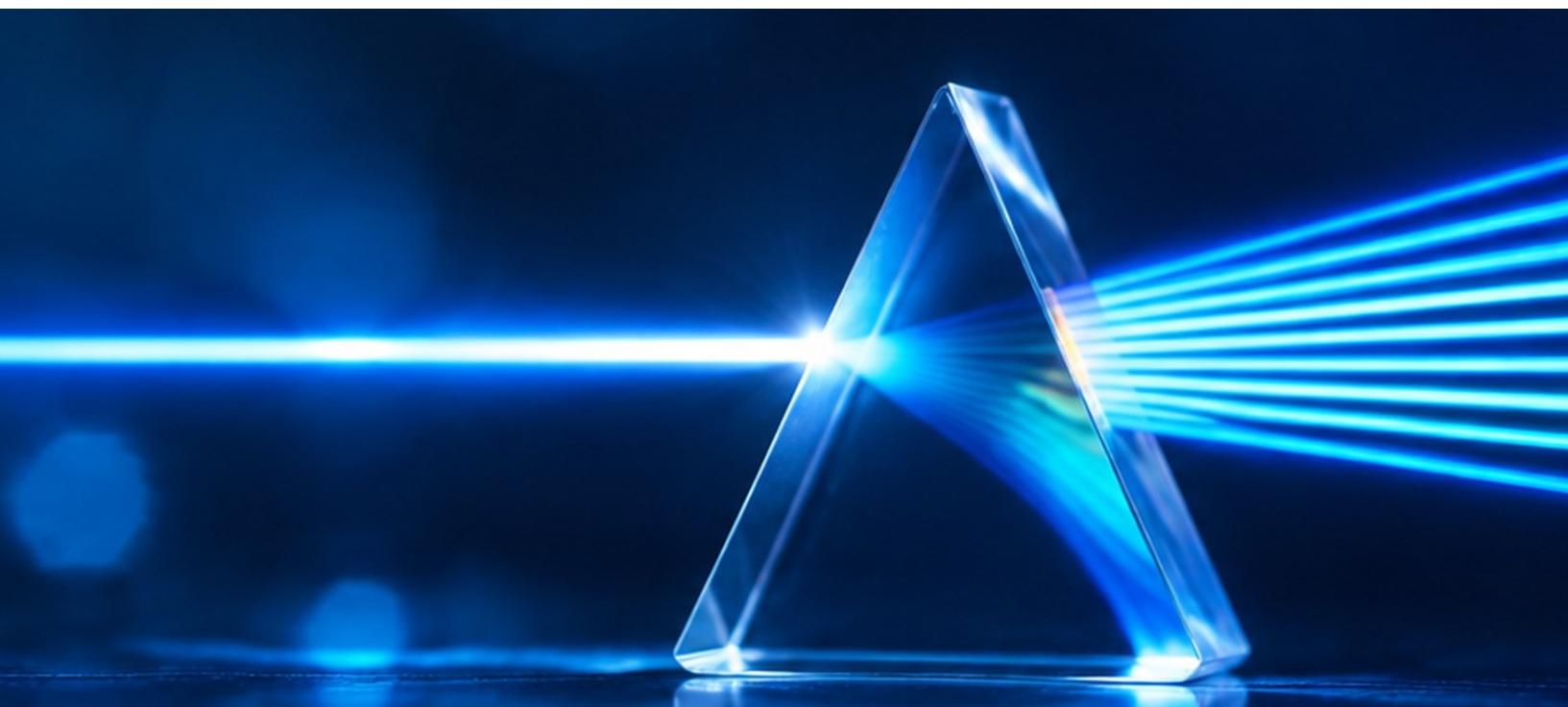
Agentic AI can assemble the available evidence and generate a recommendation with its reasoning. An authorised decision-maker can approve it, change the terms or escalate the case, while the applicable

policy, reasoning and final action are retained in the operating record.

The degree of human intervention can vary by product, exposure and complexity. Highly standardised cases may require minimal involvement, while judgement-intensive lending can retain a deliberate human boundary. The objective is not to remove the underwriter from the architecture, but to ensure that **human intelligence is applied where it adds the greatest value.**

Governance cannot be a layer added later

As autonomy increases, governance must remain visible within the operating model. A lender needs to reconstruct the information used, the applicable policy, the reasoning generated, any intervention and the final outcome.



“

AI can move at lightning speed, but lenders have to ensure it does not cross regulatory guardrails. The institutions that thrive will be the ones that preserve trust through sound governance.”

Ravi Doshi
Chief Executive Officer,
Mirae Asset Financial
Services India Pvt Ltd

DecisionOS supports this through an operating record that retains policy versions, reasoning and final actions, while explainability runs across the intelligence layer. This provides the basis for **traceability, bounded autonomy, human escalation and explicit accountability** without treating governance as a separate activity after the decision. Governance should focus on making four elements reconstructable: the data and evidence used, the recommendation or decision taken, the policy governing that action, and the resulting outcome.

Closing the loop after approval

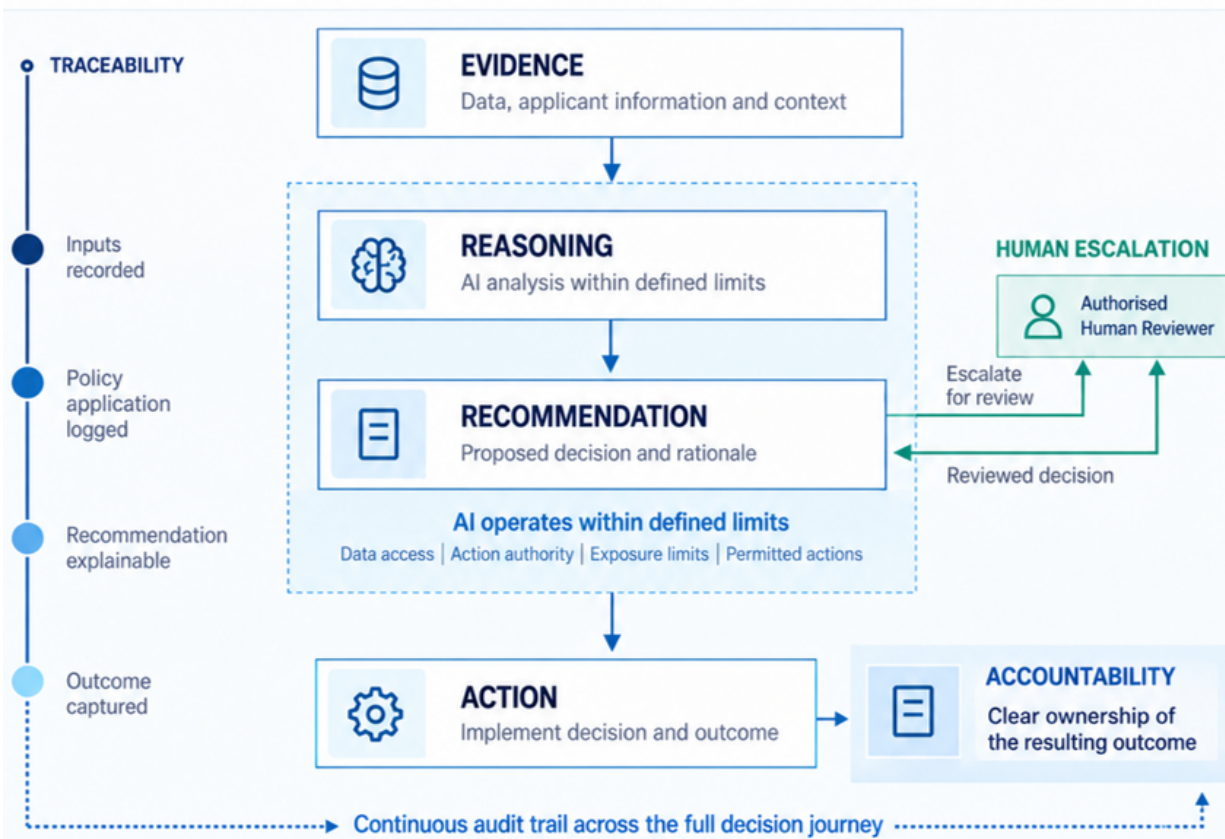
Post-Disbursal Intelligence extends the operating model beyond origination. Rather than waiting for a periodic review or missed payment to reveal deterioration, DecisionOS is designed to monitor emerging borrower signals earlier in the credit cycle. **Over time, origination, monitoring, servicing and collections can operate with greater continuity, allowing outcomes from later stages to inform future policy, treatment and lending decisions.**

This creates a feedback loop between **origination and portfolio performance**. A policy exception granted earlier can remain visible after disbursement; changes in transaction behaviour can become early-warning signals; and portfolio outcomes can inform future policy and lending treatment.

Once that capability has been established for one journey, the next question is no longer how the architecture works, but **how far across the lending estate it can scale.**

Governance by Design

Four controls embedded across AI-supported lending



Governance should operate through the decision process, not after it.

Source: IBS Intelligence analysis

5. From First Use Case to Enterprise Scale

The case for a Decision Operating System does not begin with transforming the entire lending estate at once. It begins more credibly with one journey where fragmented intelligence is already visible as a business problem.

That journey may sit in acquisition, underwriting, post-disbursal monitoring or collections. What matters is the presence of a sufficiently complex environment: multiple data sources, evolving policies, repeated human intervention, difficult-to-standardise exceptions and outcomes that can be measured.

The objective is not to prove that AI can perform another lending task. It is to demonstrate that a common intelligence layer can improve how information is interpreted, actions are coordinated and context is preserved across the journey.

Where Lending Friction Becomes Visible

Where lending journeys begin to show operating strain

SEVEN EARLY SIGNALS. A CLEARER STARTING POINT.

1	High manual review	High manual-review volumes despite extensive digitisation.
2	Frequent exceptions	Repeated exceptions requiring experienced credit judgement.
3	Reconciliation across systems	Multiple systems producing outputs that employees must reconcile.
4	Slow policy change	Long policy-change or approval cycles.
5	Inconsistent case outcomes	Comparable cases receiving inconsistent treatment.
6	Low journey visibility	Limited visibility into why a case followed a particular path.
7	Late risk visibility	Post-disbursal risk becoming visible only after traditional delinquency triggers.

When these signals appear together, the issue is not just process inefficiency.

It is lending friction.



Lending friction reveals the right starting point for transformation.

The best starting point is a journey where friction is visible, measurable and strategically important.

The first step is not to transform everything. It is to identify where lending friction is already most visible.

Source: IBS Intelligence analysis



Start where the data is richest. A small-ticket, short-tenure consumer-finance journey gives lenders a controlled environment to prove decision quality before scaling.”

Ramandeep Singh Sadana
Vice President - National
Risk Manager, Capri Global
Housing Finance Ltd.

Start where friction is visible

A lender should begin by identifying where the current operating model creates material friction.

An institution can begin with a specific intelligence capability, lending journey or use case that is sufficiently focused to govern, but meaningful enough to test the operating model under real conditions. Once measurable improvement has been established, the same capabilities can progressively extend into adjacent journeys.

That expansion can be understood in three steps:

- **One Journey:** Start with a specific intelligence capability, lending journey or use case and establish measurable operational and credit outcomes.
- **Multiple Decisions:** Extend relevant capabilities across adjacent products, customer segments or lifecycle stages.
- **Enterprise Lending Estate:** Progressively extend the operating model across origination, underwriting, servicing, monitoring and collections.

The value lies in progression. If every new use case requires a new model, integration architecture and governance process, the institution has simply created another generation of point solutions.

What should a CXO test?

The strategic test is not whether a platform contains sophisticated AI, but whether it improves how the institution operates.

These questions move the evaluation away from feature comparison and towards the operating model the lender is trying to create.

Five Questions Before Scaling

1. Can we start where the value is greatest?

A horizontal intelligence platform should operate across the existing lending stack rather than force wholesale replacement of systems that continue to perform effectively.

2. Can the operating model expand?

Capabilities established in one journey should become building blocks for adjacent products, decisions and lifecycle stages.

3. Can autonomy be controlled?

The institution should be able to determine which decisions can operate autonomously, which require approval and which should remain human-led.

4. Can every material outcome be traced?

Policy, evidence, recommendations, interventions and final actions should remain traceable for review, audit and regulatory scrutiny.

5. Does the architecture improve outcomes that matter?

Transformation should become visible in lending economics, customer outcomes, operating efficiency or risk performance, not only in technology metrics.

Measure the outcome, not just the technology

An AI implementation can be technically successful while changing little in the lending operation. The relevant test is whether it improves the quality, speed and governability of outcomes.

Metrics that matter

In production at a top-five Indian private bank, DecisionOS modules reached 98% categorisation accuracy against a 93.5% incumbent baseline, zero false positives against seven on the same test set, and a 70% reduction in turnaround time. Across the wider platform, institutions report a 53% reduction in manual overhead and a 65% increase in productivity, while individual modules process 6.5 million bank accounts and 24 million scanned

statement pages every month, at an average turnaround of 0.95 seconds per case. These are the kind of outcome-level figures the questions above are designed to surface, not model accuracy in isolation, but what changed in the operation once the model was deployed.

Not every implementation should optimise every measure simultaneously. Faster straight-through processing is of limited value if controls weaken or portfolio quality deteriorates. The objective is therefore better outcomes at the required velocity.

The first journey is the proof point, not the destination. Once intelligence, governance and learning can be reused, the institution can progressively extend the model across products and lifecycle stages.

Illustrative Performance Metrics

Examples of measurable outcomes reported across DecisionOS deployments and implementation use cases.

IMPLEMENTATION IMPACT

Illustrative outcome metrics across selected use cases

1 ACCURACY

98%

Categorisation accuracy in deployment use case

2 INCUMBENT BASELINE

93.5%

Benchmark accuracy of incumbent process

3 FALSE POSITIVES

0

False positives reported in deployment use case

4 TURNAROUND TIME

70%↓

Reduction in turnaround time

5 MANUAL OVERHEAD

53%↓

Reduction in manual overhead

6 PRODUCTIVITY

65%↑

Increase in productivity

7 PROCESSING SCALE

6.5M / 24M

Bank accounts and scanned statement pages processed monthly

Selected metrics reported by Novel Patterns include large-scale processing volumes and measurable improvements in speed, accuracy and operating efficiency.

Measure the outcome, not just the technology.

Implementation value should be assessed through measurable operating and business outcomes.

Source: Novel Patterns, client-provided performance data, 2026; IBS Intelligence analysis

The long-term advantage will not belong simply to the lender with the most data, models or AI use cases. It will belong to the institution that can turn them into **better outcomes, consistently, at the speed at which modern lending now moves.**

Call to action for every lender

The future of lending will not be defined by how much technology a lender adopts, but by how effectively it turns intelligence into action. For lending leaders, the opportunity is clear: move beyond isolated use cases, build the foundations for continuous decision-making, and start creating the operating model that tomorrow's lending market will demand.

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About Novel Patterns

Novel Patterns

Novel Patterns is a financial technology company helping banks, NBFCs, housing finance companies and other financial institutions modernise lending and investment operations through AI-led technology. Its solutions support activities across onboarding, credit decisioning, collections, portfolio monitoring and investment operations.

DecisionOS

DecisionOS is Novel Patterns' Agentic AI-native operating system for lending, designed as a unified decision operating environment that institutions can adopt progressively across the lending lifecycle. It connects customer journeys with the systems, data and policies involved in lending decisions, creating a common decision context that can expand as additional capabilities are introduced.

DecisionOS brings together a growing set of intelligence capabilities, including CRM, Journey, Credit (powered by CART), Document, Policy, Post-Disbursal (powered by HawkEye), Incentive, Collateral and Partner Portal Intelligence. These capabilities allow institutions to capture and route leads, adapt customer journeys, operationalise policy logic, strengthen credit assessment, manage documents and collateral, monitor post-disbursal behaviour, and coordinate incentive and partner activity within one decision context, while allowing additional capabilities to be introduced over time.

The platform is designed around a governed human-machine operating model. Agentic AI can assemble evidence, generate recommendations and coordinate next actions, while authorised decision-makers retain control where judgement, complexity or material risk require human intervention. Explainability and governance operate across the intelligence layer to help ensure decisions remain transparent, auditable and accountable.

DecisionOS can be introduced incrementally, beginning with a specific lending journey and progressively extending across products and lifecycle stages. This allows institutions to improve decision speed, consistency and control while preserving the systems that already perform effectively.

Framework and analysis contributed by Rishabh Joshi, Assistant Vice President Marketing, Novel Patterns.

About IBS Intelligence



IBS Intelligence (IBSi) is one of the world's leading specialist FinTech research and advisory firms. Established in the UK in 1991, IBSi has built a three-decade legacy of delivering independent, data-driven research and strategic advisory services to global technology firms, consulting organizations, institutional investors and banks.

Through deep domain expertise and authoritative market intelligence, IBSi supports critical business, technology and investment decisions across the global financial services ecosystem.

IBSi delivers a comprehensive portfolio of products and services designed to provide actionable intelligence to decision-makers across financial services, technology, consulting and investment communities. Since 2009, IBSi's research platform has tracked over 34,000 banking technology system purchases across more than 5,000 technology vendors and 11,000 banks, spanning 195 countries.

This extensive intelligence base helps technology firms refine market positioning, supports consulting and investment firms with sector insights and enables banks and financial institutions to develop technology strategies, evaluate vendors and implement systems that strengthen long-term competitiveness. For more information, visit www.ibsintelligence.com.



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