Arcesium®

The Evolution of Investment Operations:

From Component Modernization to Integrated, AI-Ready Operating Models

Whitepaper



© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

Contents

1.	Executive Summary	02
2.	From Investment to Impasse	04
3.	The Fragmentation Trap	05
4.	What Fragmentation Breaks	06
5.	Integration Maturity Framework: The Five Dimensions of Integrated Modernization	08
6.	AI in Practice: What Works Today—and What Comes Next	13
7.	How Firms Actually Move Forward	15
8.	From Components to Cohesion	17
9.	How Arcesium Can Help	18
10.	About the Research	19

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

01

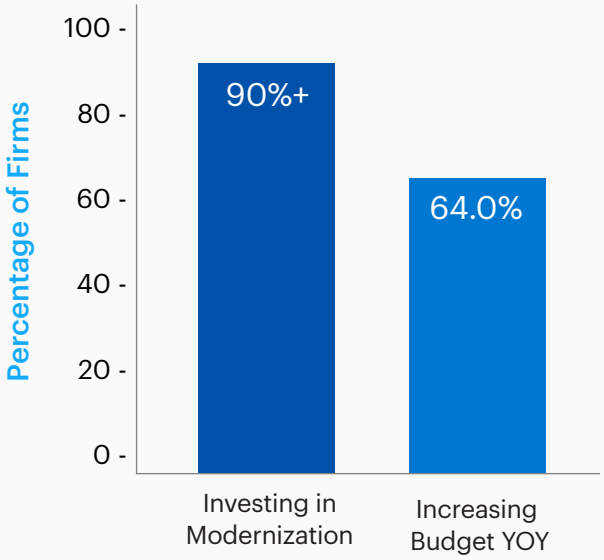
Executive Summary

Artificial intelligence has moved from experimentation to a board-level priority in under two years for institutional asset managers. By 2025, AI appears on virtually every technology roadmap, and modernization intent is effectively universal. Nearly all firms have allocated budgets toward data and technology modernization.

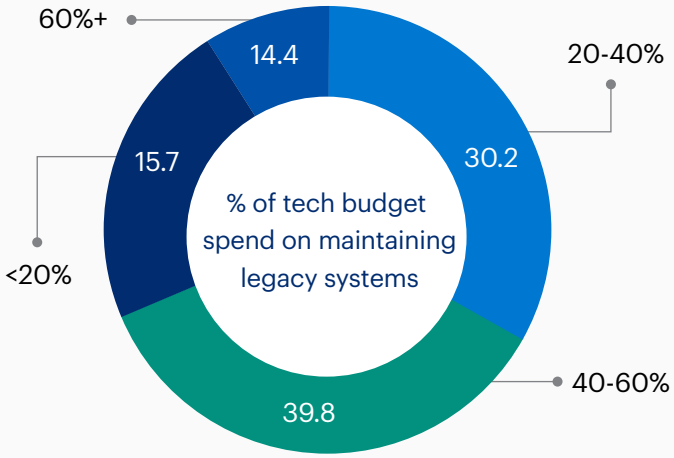
Yet execution tells a different story. Survey results reveal a stark disconnect:

Modernization Intent & Legacy Drag

Strong Modernization Intent



Majority of Firms Still in Maintenance Mode



Legacy drag limits capacity for integration and AI scale

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

01 Executive Summary

This gap is not driven by complacency or cultural resistance. Institutional asset managers operate at scale, under regulatory scrutiny, and with low tolerance for error. Interviews consistently indicate that firms are deliberately cautious, unwilling to scale AI unless it can function reliably inside real workflows.

Taken together, the evidence points to a clear conclusion: the primary constraint on AI readiness is not a lack of tools, budget, or awareness, but fragmented operating models. Modern components exist, but they do not operate as a cohesive system.

The competitive divide now emerging is not between firms that have adopted modern components and those that have not. It is between firms that modernize in pieces and those that modernize in flow.

This paper outlines what it truly means to be AI-ready in institutional investment operations—from establishing trusted data foundations to embedding explainability, accountability, and human oversight directly into day-to-day workflows. It reframes AI readiness not as a race to adopt new tools, but as an operating-model challenge. The firms that succeed with AI will not be those that adopt it fastest, but those that operationalize it responsibly, within integrated systems designed for scale, control, and durability.

> “The competitive divide now emerging is not between firms that have adopted modern components and those that have not. It is between firms that modernize in pieces and those that modernize in flow.that, every model or new pipeline has to go through fairly strict review with risk and compliance, which is understandable given the UK and EU regulatory focus. We’re not short of ideas, but turning them into production-grade solutions that meet our data-quality thresholds and documentation requirements are slower than many people expect.”

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

03

From Investment to Impasse

As AI initiatives expand, many firms are encountering a consistent pattern: increased activity without corresponding operational impact. Investment is rising, experimentation is widespread, yet production adoption remains limited.

This disconnect is not due to lack of investment or ambition—it is structural. Firms are layering modern AI tools onto operating models designed for manual coordination. Legacy accounting and order management systems remain central. Data is distributed across platforms with inconsistent models. Controls and approvals often sit outside the core workflow.

Modern tools can accelerate individual tasks, but they cannot compensate for disconnected operating flow. In fragmented environments, scaling AI increases operational and governance risk faster than it delivers value. As a result, firms intentionally constrain AI to bounded use cases.

The impasse is not a failure of ambition. It is the predictable outcome of attempting to scale intelligence on top of operating models built for manual coordination.

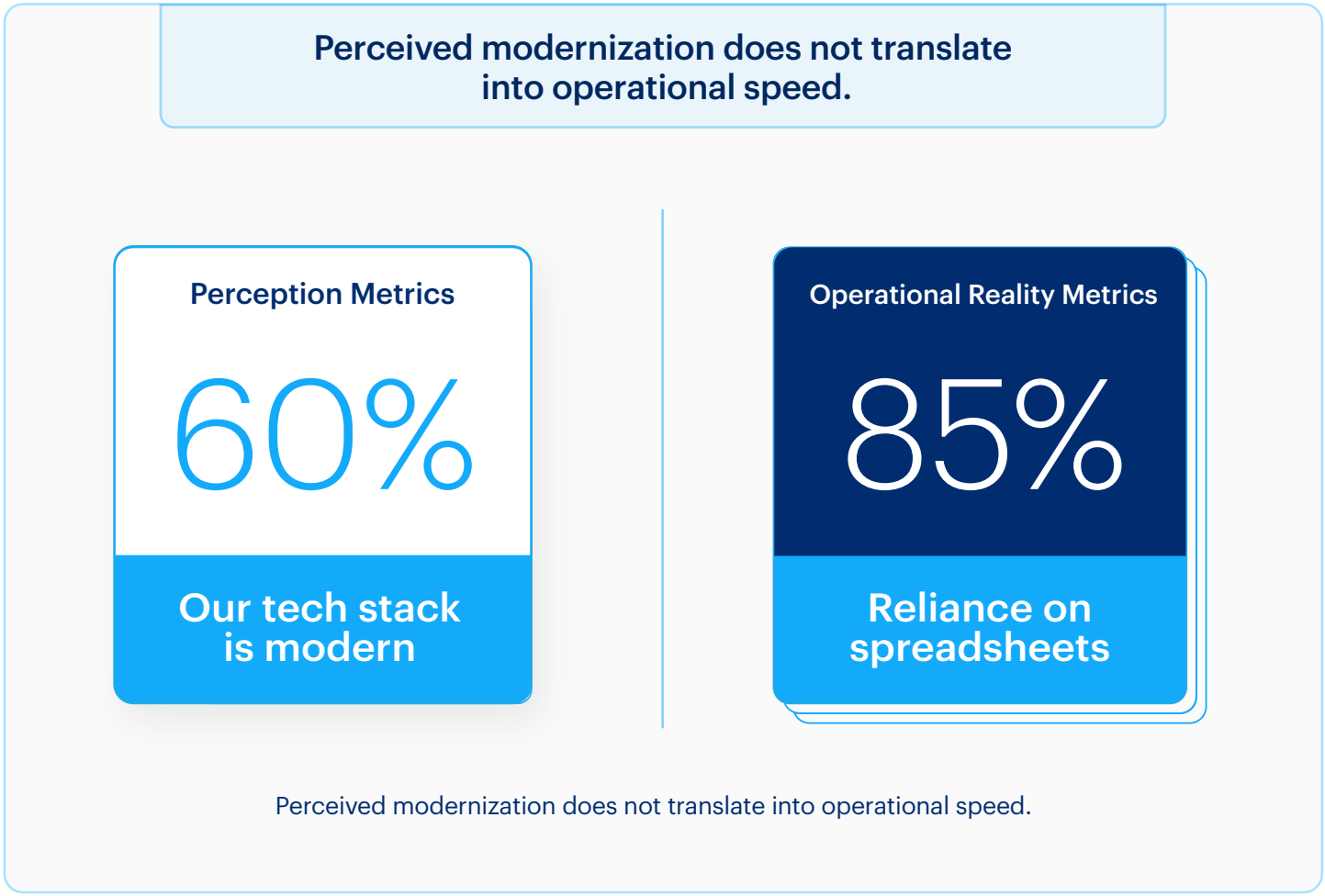
> “Our investment committee is very conservative about touching core fund-accounting and trading platforms that have been stable for years. MAS expectations and internal risk committees mean every major change needs a full impact assessment, so we default to extending what we already have. We all know we’re over-spending on maintenance, but leadership would rather carry that cost than introduce operational or regulatory risk with an aggressive migration.”
>
> **Head of Investment Operations, Singapore**

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

04
The Fragmentation Trap

Most executives view their technology stacks as modern. Operational signals suggest otherwise.

Despite confidence in their platforms, **85%** of firms report moderate to critical reliance on spreadsheets, macros, or user-managed scripts for daily workflows.



Fragmentation—not stagnation—is the dominant failure mode. Modern tools coexist without orchestration. Data governance exists, but usability lags. AI pilots run in isolation, while core workflows remain manual. Shadow IT persists not because teams resist change, but because business users must bridge disconnected systems to get work done. These behaviors are not edge cases; they are signals that integration, not innovation, is the limiting factor.

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

05
What Fragmentation Breaks

When fragmentation is embedded in the operating model, its effects cascade.

AI stalls in production.
Despite extensive pilots, 44.8% of firms report no AI in production. The most cited barriers are integration with legacy systems (58.9%) and data quality (58.8%).

Reporting remains slow.
Data must be reconciled manually across systems before it can be trusted, extending close cycles and limiting transparency.

Governance becomes friction.
Controls, lineage, and approvals are applied on top of workflows rather than embedded within them.

Vendor sprawl increases complexity.
Multiple AI tools and copilots add coordination overhead without resolving underlying integration gaps.

Taken together, these breakdowns make clear that progress depends less on adding new capabilities and more on understanding where integration must occur first.

> “The biggest barriers I see from the data side are fragmentation, quality, and governance workload. Our datasets live in different legacy and cloud environments, each with its own standards, so preparing something robust enough for an AI use case takes a lot of groundwork. On top of that, every model or new pipeline has to go through fairly strict review with risk and compliance, which is understandable given the UK and EU regulatory focus. We’re not short of ideas, but turning them into production-grade solutions that meet our data-quality thresholds and documentation requirements are slower than many people expect.”
>
> **Head of Data, London**

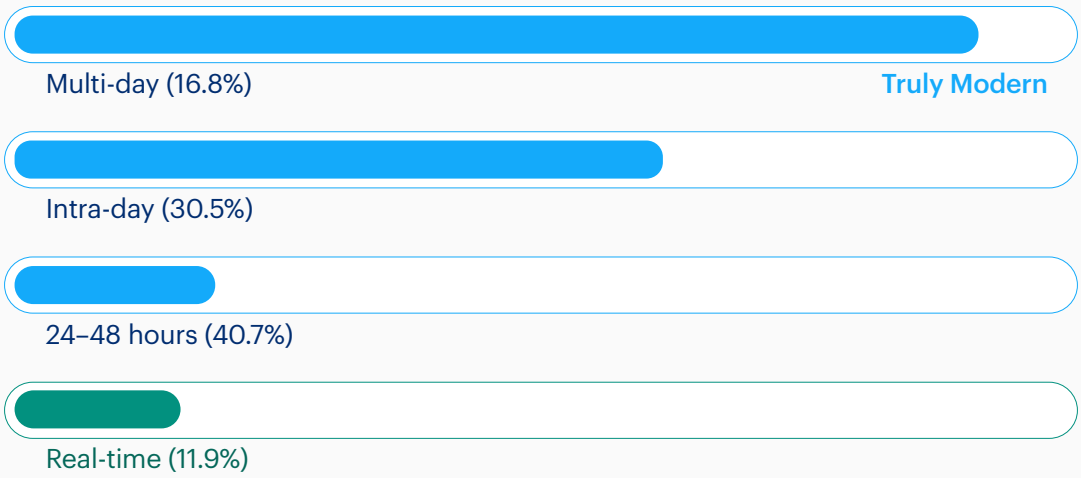
© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

AI Experimentation vs. Production Reality



45%
with no AI in production

Time to Trusted Exposure



Top Barriers to AI in Production

Structural Barriers

58.9%	58.8%	40.7%
Integration	Data Quality	Governance

Secondary Barriers

38.3%	41.4%
Talent	ROI Uncertainty

Top barriers are structural, not cultural or budget-related

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

06

Integration Maturity Framework: The Five Dimensions of Integrated Modernization

Fragmentation shows up differently across firms, but it follows consistent patterns. To move from diagnosis to action, we introduce the following framework to help leaders understand where integration breaks down in their operating model—and what that means for AI readiness.

Its purpose is not to score technology adoption, but to assess whether an organization's operating model can support integrated execution and AI at scale. Integration maturity is evaluated across five key dimensions that collectively determine how work flows through the organization. AI readiness is an outcome of operating-model integration, not a parallel initiative.

Each dimension is assessed across three maturity levels—Foundational, Advanced, and Leading—which describe a consistent shift from people-mediated execution to system-mediated flow. Organizations often span multiple levels; in those cases, progress is constrained by the weakest link in the operating flow.

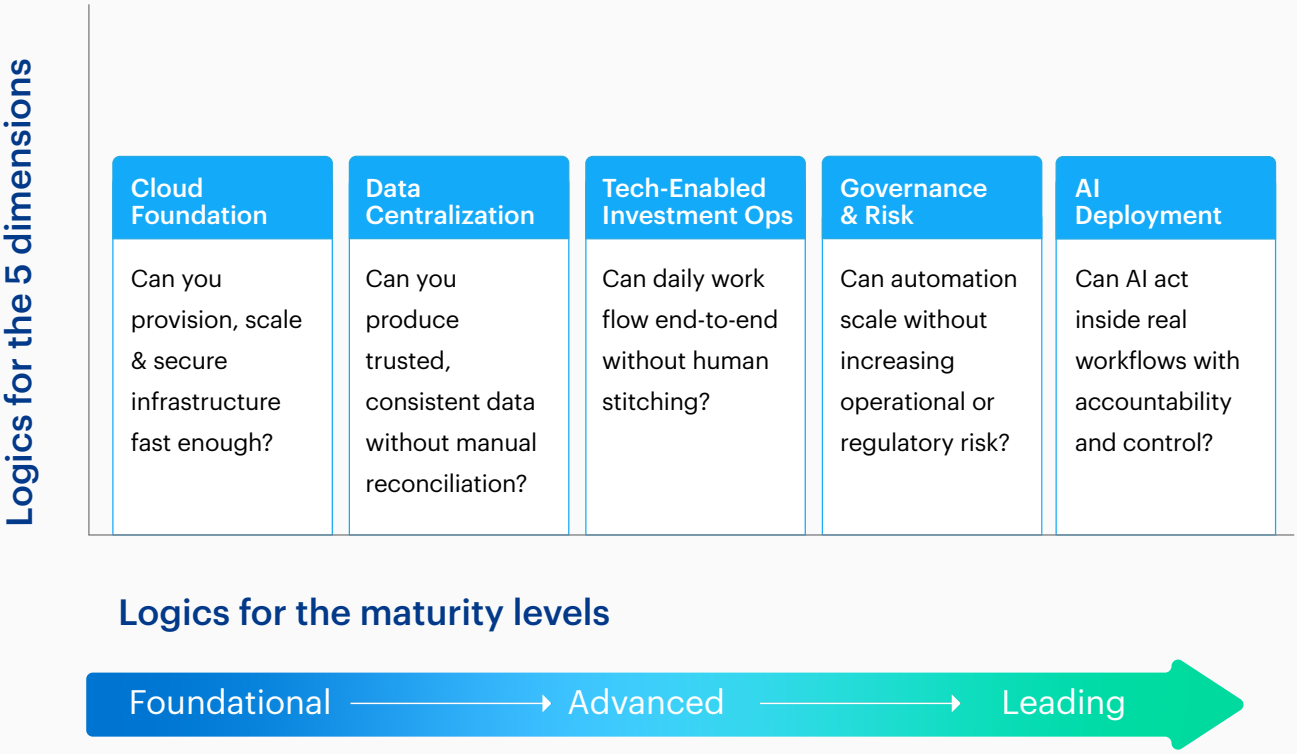


© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

06 Integration Maturity Framework: The Five Dimensions of Integrated Modernization

Integration Maturity Framework

A clear progression from manual, fragmented execution to integrated, system-mediated flow



Maturity is defined not by tools adopted, but by how work actually flow.

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

The Five Dimensions of Integration Maturity

1. Cloud Foundations

Cloud foundations determine whether an organization can provision, scale, and secure infrastructure fast enough to support integrated workflows. In institutional asset management, infrastructure friction quickly becomes execution friction, constraining modernization and AI adoption.

This dimension matters because integration cannot outpace infrastructure. Without standardized, scalable environments, automation and AI remain limited by provisioning delays and control gaps.

- At the Foundational level, infrastructure is largely on-prem or lightly hybrid. Provisioning is manual, environments are bespoke, and security and cost controls are applied after deployment. AI experimentation is possible but constrained.
- At the Advanced level, firms adopt hybrid or cloud-first models with standardized environments and infrastructure-as-code. Provisioning accelerates and baseline governance improves, enabling limited production AI use.
- At the Leading level, infrastructure is cloud-native and policy-driven. Provisioning, scaling, security, and cost governance are embedded and automated, enabling integrated workflows and AI to scale reliably.

Many firms reach hybrid cloud maturity but continue treating infrastructure as hosting rather than an operating model, limiting reuse and scale. Progress comes from standardizing environments and embedding governance directly into provisioning, allowing infrastructure to support integration by design.



© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

06 Integration Maturity Framework: The Five Dimensions of Integrated Modernization

2. Data Centralization

Data centralization determines whether firms can produce trusted, consistent information without manual reconciliation. Fragmented data forces trust to be created through human effort, limiting automation and AI. This dimension matters because AI depends on data that does not require revalidation at each step.

- At the Foundational level, data is fragmented across systems with inconsistent definitions. Trust relies on spreadsheets and manual checks. AI can assist but not act.
- At the Advanced level, core domains are partially harmonized through centralized platforms. Reconciliation effort declines, but standards and ownership remain uneven. AI supports bounded use cases with oversight.
- At the Leading level, data is treated as a product, with defined golden sources, ownership, and embedded quality controls. Reconciliation becomes the exception, enabling AI at scale.

Firms often stall with modern data platforms but persistent manual validation due to unclear ownership and standards. Shifting to domain-oriented data ownership and embedding governance into workflows builds trust by design.

3. AI Deployment

AI deployment determines whether intelligence can act inside real workflows with accountability. AI is not standalone; it consumes integration maturity across all other dimensions.

- At the Foundational level, AI exists in pilots or copilots outside core workflows. Production use is viewed as high risk.
- At the Advanced level, AI is embedded in bounded workflows with human-in-the-loop oversight, delivering measurable efficiency gains.
- At the Leading level, AI is orchestrated across processes, including agentic execution within defined guardrails. Humans supervise outcomes.

AI initiatives stall when data, workflows, or governance cannot support scale — even if models perform well. Treating AI as a consumer of integration, not a parallel initiative, allows adoption to scale naturally.

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

06 Integration Maturity Framework: The Five Dimensions of Integrated Modernization

4. Governance & Risk

Governance and risk determine whether automation and AI can scale without increasing exposure. In regulated environments, confidence is as critical as capability. This dimension matters because controls layered after execution slow change and constraint scale.

- At the Foundational level, governance relies on manual approvals and reactive audits. AI adoption is cautious and limited.
- At the Advanced level, controls are partially embedded, supported by monitoring and audit trails. AI scales carefully within defined guardrails.
- At the Leading level, governance is embedded across data, workflows, and models. Traceability and compliance are real-time, enabling AI at scale.

Governance is often treated as a gatekeeper rather than an enabler, creating friction instead of confidence. Embedding controls directly into execution transforms governance into a scaling mechanism.

5. Tech-Enabled Investment Operations

This dimension determines whether day-to-day operations can execute end to end without manual stitching. Operations are where fragmentation is most visible — and most costly. It matters because automation cannot compound value if workflows still rely on human coordination.

- At the Foundational level, operations depend on spreadsheets, inboxes, and manual handoffs. Automation exists at the task level, limiting AI impact.
- At the Advanced level, priority workflows are automated through pipelines and rules. Exceptions decline but remain material. AI augments efficiency in specific processes.
- At the Leading level, operations are system-mediated, with embedded logic and proactive monitoring. Humans supervise outcomes. AI enables scalable, low-cost execution.

Many firms automate tasks without redesigning workflows, improving speed but not reducing complexity. Progress requires redesigning operations around flow rather than tasks, embedding execution logic directly into systems.

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

07

AI in Practice: What Works Today —and What Comes Next

AI is delivering real value today in institutional asset management, but that value is highly concentrated in specific types of use cases. The common thread is not sophistication of models, but clarity of workflow, data ownership, and control.

Across the industry, the most successful AI deployments share four characteristics: they address well-defined operational pain points, operate on trusted data, include clear human-in-the-loop controls, and deliver measurable efficiency gains.



Where AI works today

The highest-value use cases are operational and efficiency-driven:

- **Unstructured document ingestion and normalization.** AI is being used to extract structured data from fund statements, capital calls, notices, and regulatory documents, reducing manual processing and error rates.
- **Data quality validation and rule generation.** Machine learning models help identify anomalies, generate data-quality rules, and surface issues earlier in the lifecycle.
- **Reconciliation triage and exception summarization.** AI accelerates matching, prioritizes breaks, and summarizes root causes, allowing teams to focus on true exceptions rather than volume processing

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

06 AI in Practice: What Works Today—and What Comes Next

AI Use Cases in Production

Which of the following AI use cases do you currently have running in production (i.e., live in day-to-day business processes)? Please do not include pilots, proofs of concept, or limited experiments. (Select all that apply.)

AI use cases	Results
Data quality & cleansing - exception identification or validation	23.5
Reconciliations - exception identification or validation	23.1
Risk analytics and portfolio construction	18.8
Investor / client reporting	15.2
Predictive / prescriptive insights (e.g., risk, liquidity, compliance alerts)	12.9
Unstructured data ingestion	12.3
Post-trade processing	11.1
Trade capture	8.8
AI copilots for creation of rules (e.g., compliance checks, data quality rules)	8.2
AI copilots for data exploration	7.3

Efficiency-first AI works today

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

06 AI in Practice: What Works Today—and What Comes Next

Where AI is live in production, firms most commonly report time savings (65.3%) and error reduction (64.5%), validating an efficiency-first adoption path.

By contrast, AI initiatives aimed at broad decision-making or predictive insight often stall. Without integrated operating foundations, these efforts introduce risk without sufficient operational upside. This explains why firms constrain scope not due to lack of vision, but due to lack of readiness.



What comes next: from assistance to execution

Looking ahead, interviews consistently point to agentic AI as the long-term direction. In this model, AI systems execute multi-step operational workflows—such as trade capture, reconciliation, or exception management—while humans shift from operators to reviewers.

This evolution is not a technology leap; it is an operating-model one. Agentic AI requires clean data foundations, integrated workflows, and centralized control layers. Firms that invest in these prerequisites today will be positioned to adopt more autonomous capabilities as trust and maturity grow.

© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

08

How Firms Actually Move Forward

Firms that successfully move from experimentation to scale follow a consistent, disciplined path. Progress is driven less by sweeping transformation programs than by focused execution and sequencing.

Firms that successfully move from experimentation to scale follow a consistent, disciplined path. The firms that successfully scale AI share a common approach: they modernize in flow, not in pieces. Progress is driven less by sweeping transformation programs than by focused execution and disciplined sequencing.

1. Anchor initiatives in real workflow pain.
Leading firms target concrete operational bottlenecks—manual reconciliations, document backlogs, slow close cycles—rather than abstract innovation goals.

2. Prove value one use case at a time.
Contained wins with measurable impact (time saved, errors reduced, throughput increased) build confidence and momentum for broader adoption.

3. Keep humans in the loop.
Embedding review, approval, and escalation into AI-enabled workflows accelerates trust, adoption, and regulatory comfort.

4. Reuse patterns, not point solutions.
Standardizing data models, workflows, and controls reduces marginal cost and complexity as AI adoption expands.

5. Measure operational outcomes.
Mature firms track cycle times, exception volumes, cost-to-serve, and user adoption—metrics that distinguish scalable progress from perpetual experimentation.

Progress comes from sequencing integration deliberately, not chasing breadth.



© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

09

From Components to Cohesion

Consider a fund running mid-month NAV estimates ahead of an investor update.

In an integrated, AI-ready operating model, position, pricing, and corporate action data are already reconciled through system-mediated workflows. AI highlights material variances versus prior periods, flags breaks that require attention, and summarizes likely drivers. Operations and finance teams review the outputs, validate exceptions, and approve the estimate with full lineage and auditability. The result is a timely, explainable view delivered with confidence.

In a fragmented model, the same request triggers a scramble. Data is pulled from multiple systems, reconciled manually in spreadsheets, and reviewed under time pressure. AI tools may generate insights, but trust is limited, approvals are delayed, and the estimate arrives late—or not at all.

The difference is not the sophistication of AI, but the cohesion of the operating model. As reporting cycles compress and expectations rise, firms that modernize in flow will pull ahead, while those that modernize in pieces will fall further behind.



© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

09

How Arcesium Can Help

Arcesium is purpose-built to help institutional asset managers move from component-level modernization to integrated, AI-ready operating models. Rather than layering new tools onto fragmented environments, Arcesium provides a unified platform that connects data, workflows, and controls across the investment lifecycle.

Unifying data into a trusted foundation.
Arcesium centralizes and harmonizes data from across front, middle, and back office systems, establishing governed golden sources with full lineage and auditability. This foundation reduces reconciliation overhead and enables AI to operate on consistent, reliable data.

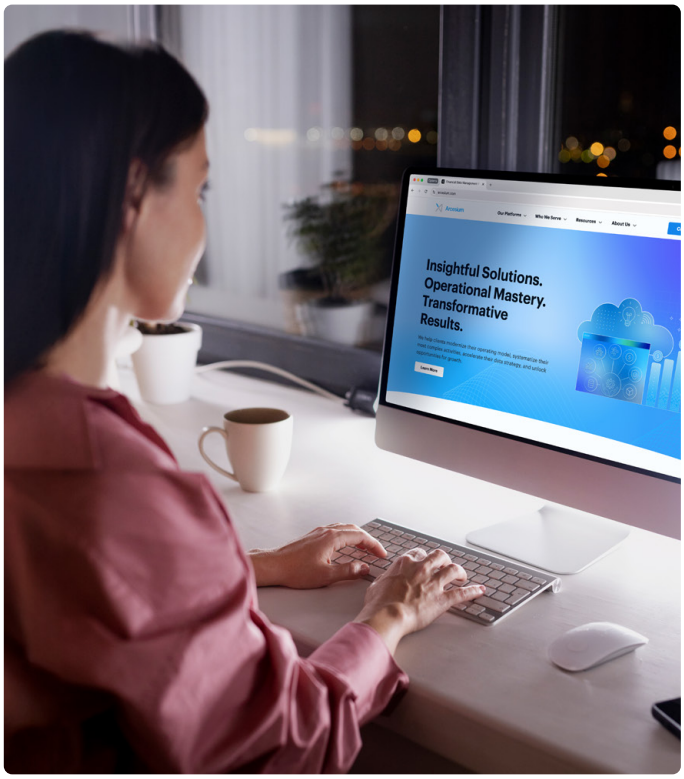
Embedding workflows and controls into execution.
Through configurable, system-mediated workflows, Arcesium replaces spreadsheet-driven handoffs with automated processes that embed approvals, thresholds, and exception management directly into daily operations. Controls become part of flow rather than layers applied after the fact.

Enabling production-grade AI, not just pilots.
Arcesium supports AI deployment where it delivers immediate value—document ingestion, data quality validation, reconciliations, and reporting—while ensuring explainability, monitoring, and human-in-the-loop oversight. This allows firms to scale AI safely within regulated environments.

Providing an extensible, interoperable platform.
Designed to work alongside existing systems, Arcesium enables firms to modernize incrementally without wholesale replacement. Open integration patterns allow clients to build and deploy their own analytics and AI capabilities on top of a clean, governed operating foundation.

Partnering for long-term modernization.
Beyond technology, Arcesium works with clients to sequence modernization pragmatically—prioritizing high-impact use cases, proving value early, and codifying reusable patterns that support sustained progress over time.

Together, these capabilities help institutional asset managers transition from fragmented execution to cohesive operations—creating the conditions required to operationalize AI at scale.



© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

10

About the Research

Findings are based on a structured market survey supplemented by scenario-based modeling conducted by Evidenza for a total sample size over 500. This research combines direct practitioner input with modeled responses designed to reflect common operating environments observed across financial services organizations. Results are intended to be directional and illustrative rather than statistically representative. All data underwent internal validation and analyst review by Evidenza and Arcesium.



© Arcesium LLC 2026. All rights reserved. CONFIDENTIAL - FOR INFORMATIONAL PURPOSES ONLY

Arcesium®

Want to learn more?

Visit arcesium.com/submit-an-inquiry
or scan the QR code.

THIS PAPER IS PROVIDED SOLELY FOR THE INTERNAL USE OF ITS INTENDED RECIPIENT (FOR INFORMATIONAL PURPOSES ONLY) IN CONNECTION WITH THE EVALUATION OF A POTENTIAL BUSINESS TRANSACTION AND IS NOT, AND WILL NOT BE CONSTRUED AS, AN OFFER BY ARCESIUM LLC ("ARCESIUM"). NOTHING HEREIN SHALL BE CONSTRUED AS THE RENDERING OF ANY TYPE OF FINANCIAL, INVESTMENT, LEGAL, TAX, REGULATORY, OR OTHER ADVICE. NOTHING HEREIN CREATES, NOR WILL IT BE CONSTRUED TO CREATE, ANY CONTRACTUAL RELATIONSHIP BETWEEN ARCESIUM AND ANY THIRD PARTY. ARCESIUM MAKES NO COMMITMENT TO PROVIDE ANY PRODUCT OR SERVICE. RECEIPT OF AN INDICATION OF INTEREST DOES NOT PLACE ARCESIUM UNDER ANY OBLIGATION TO ENTER INTO A DEFINITIVE WRITTEN AGREEMENT. THE CONTENTS OF THIS PAPER AND ANY PRODUCT NAMES, CORPORATE NAMES, LOGOS, OR OTHER IDENTIFIERS OR SOURCE, BRAND, OR IDENTITY ON OR CONTAINED IN THIS DOCUMENT OR ITS ATTACHMENTS ARE THE CONFIDENTIAL TRADE SECRETS AND PROPRIETARY INFORMATION AND PROPERTY OF ARCESIUM OR ITS BUSINESS PARTNERS. ALL SUCH INFORMATION IS PROTECTED BY THE INTELLECTUAL PROPERTY LAWS AND TRADE SECRETS LAWS OF THE UNITED STATES AND ALL APPLICABLE INTERNATIONAL TREATIES AND CONVENTIONS. PRODUCT AND SERVICES DESCRIPTIONS, AND SIMILAR TERMS HEREIN, ARE INTENDED TO BE INDICATIVE ONLY AND UNTIL CONFIRMED IN A DEFINITIVE AGREEMENT SIGNED BY BOTH PARTIES, DO NOT CONSTITUTE A BINDING OFFER.