

Autonomy Economics

The Agentic Profit Paradox and the Reorganisation of Value Capture

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April 2026

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Abstract

Firms operating in environments shaped by autonomous capability face a structural problem that efficiency narratives do not capture. As autonomous capability makes it possible to carry activity forward, mediate interaction, and access capability with less dependence on the conditions that once made established commercial structures scarce and defensible, those structures become less durable, even when demand remains strong or increases and capability improves. This paper establishes Autonomy Economics as the field that examines this reorganisation by analysing how autonomous capability affects value capture, revenue durability, and commercial defensibility.

Its central mechanism is the Agentic Profit Paradox, which arises when autonomous capability weakens the conditions that make a commercial unit scarce and defensible while value capture remains anchored to those earlier conditions. The paper develops a formal representation of this relationship and the Three Laws of Autonomy Economics, showing how value moves from production to orchestration, from access to outcomes, and toward the layers that absorb, govern, and direct autonomous throughput. It introduces the Three Axes of Exposure, distinguishing progression-based, interaction-based, and capability-scarcity-dependent models, and proposes the Revenue Durability and Capability Durability Frameworks for assessing the resilience of revenue models and the durability of firm-level advantage as capability and commercial structure move out of alignment. Drawing on historical precedents across two centuries, the paper shows that this migration of value is a recurring structural condition across technologies. Firms best positioned under these conditions are those that redesign around where value now accumulates, not those that simply layer new capability onto legacy commercial structures.

Keywords: Autonomy Economics, Agentic Profit Paradox, agentic AI, value capture, revenue durability, autonomy-driven business models, economic restructuring, business model redesign, capital-structured autonomy ecosystems.

JEL Classification: B41, B59, O33, L20, M21, D21

Executive Summary

Autonomous capability is already compressing the economic foundations of established business models. This pressure does not wait for full deployment. It begins as soon as autonomous capability makes it possible to carry activity forward, mediate interaction, and access capability with less dependence on the conditions that once sustained those activities, while clients, competitors, and markets begin adjusting their expectations accordingly.

The implication extends beyond efficiency. Autonomous capability changes how economic activity is carried forward and how value is captured. As autonomous capability weakens the conditions that make established commercial structures scarce and defensible, the structures built on those conditions become less durable, even where demand remains stable or increases and capability improves. Exposure appears early in models whose economics depend on human-bounded progression, human-bounded interaction, or the scarcity of underlying capability. These include billable hours, per-seat pricing, staged delivery, review-intensive workflows, engagement-driven monetisation, interface-dependent discovery, and models built on constrained access to capability. As those conditions weaken, the commercial logic built on them comes under pressure.

The Agentic Profit Paradox sits at the centre of this reorganisation. Firms must adopt autonomous capability to remain competitive. Adoption alone does not protect them. When autonomous capability weakens the conditions that make a commercial unit scarce and defensible, the revenue models and pricing structures built on those conditions weaken even if operating performance improves. Economic durability depends on whether value capture is redesigned to match those conditions. A firm can become more capable while becoming less economically secure. The pressure does not depend on where capability originates. It may arise within the firm or from external actors that alter those conditions. What matters is whether value capture still fits those conditions.

This pressure is already visible across sectors whose economics depend on human-bounded progression, human-bounded interaction, or the scarcity of underlying capability, including software, consulting, legal services, accounting, wealth management, financial institutions, and private equity, though it does not appear evenly across them. Exposure appears earliest

where revenue is tied directly to time, review, access, interface, attention, or scarce capability. In such cases, as those constraints weaken, the structural basis of the commercial unit begins to erode. This is why pricing can come under pressure even when usage rises, why capability improvements do not translate into durable margin protection, and why firms can experience apparent operational gains alongside growing commercial fragility.

This paper introduces Autonomy Economics as a field for examining how autonomous capability affects value capture, revenue durability, and commercial defensibility change under these conditions. Its central claim is that economic advantage from autonomous capability depends on whether the structure of value capture remains aligned with the conditions on which the commercial unit depends. To explain this, the paper develops the Agentic Profit Paradox as the core mechanism of structural pressure, introduces the Three Laws of Autonomy Economics, and presents the Three Axes of Exposure and the Revenue Durability and Capability Durability Frameworks as tools for analysing how firms respond when capability and commercial structure move out of alignment.

Value moves from production to orchestration, from access to outcomes, and toward the layers that absorb, govern, and direct autonomous throughput. Firms that redesign to align value capture with these conditions can restore durability and capture new sources of value. Firms that continue to layer autonomous capability onto legacy commercial structures may improve efficiency while failing to preserve economic position.

The pattern has clear historical precedent. Across more than two centuries of economic transformation, value has repeatedly moved away from activities shaped by inherited constraints and toward the coordinating structures that enabled new forms of production and exchange. That historical record gives the mechanism its force. The Agentic Profit Paradox is not a conjecture about the future but a structural condition that has recurred across technologies, sectors, and periods. What distinguishes the present moment is that pressure can arise before new capabilities are fully realised, as markets, clients, and competitors respond not only to demonstrated performance but also to the credible trajectory of technological development. For this reason, the reorganisation examined in this paper is not a distant possibility. It is already taking place..

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1. Why a New Field Is Needed

Existing strategy and technology frameworks do not fully explain what happens as autonomous capability increases while the commercial structures built around earlier conditions become less stable. Industry frameworks such as the Business Model Canvas (Osterwalder and Pigneur, 2010) account for adoption, tooling change, productivity gains, and software substitution. They are less useful in explaining why margin pressure can appear before broad deployment, why demand can remain intact while the basis on which value is justified weakens, or why value accumulates in orchestration, verification, governance, and absorption. Autonomy Economics addresses that gap.

A growing body of work examines how agentic AI affects execution, workflow, and organisational design. This literature remains concentrated at the operational layer. It explains how systems perform tasks, support decisions, and reorganise activity, but gives less attention to revenue models, commercial logic, and durability once the conditions on which those models depend begin to weaken. Prior work, including Brynjolfsson and McAfee (2014) and Brynjolfsson et al. (2023), emphasises productivity and workflow redesign, but does not provide a general account of value capture under these conditions.

Autonomy Economics begins from a general observation. Once autonomous capability makes it possible to carry activity forward, mediate interaction, and access capability with less dependence on the conditions that previously structured how value was created and captured, the relationship between effort, structure, value, and profit changes. Some revenue lines weaken quickly. Others remain durable. Some firms convert new capability into advantage, while others do not. Adoption alone does not explain that difference. The issue lies in the structure of value capture.

Commercial units are defensible only under specific structural conditions. As autonomous capability weakens those conditions, units weaken when value capture remains anchored to them. Firms that redesign to align value capture with the new conditions can restore durability and capture new sources of value.

This pattern is already visible across sectors that appear very different on the surface. Software firms, consultants, financial institutions, legal businesses, accountants, and

private capital firms operate under different conditions, but they exhibit different forms of exposure depending on how value is structured within each commercial model. In some cases, value depends on activity being carried forward through human-bounded progression. In others, it depends on human-bounded interaction through which value is captured. Some models also depend on the scarcity of underlying capability as a condition of value capture and defensibility, either independently or alongside other conditions tied to progression or interaction. As autonomous capability weakens these conditions, the business models built on them come under pressure. Multiple forms of exposure can exist within the same business.

A new field is needed because the existing language does not fully explain this commercial movement. The issue extends beyond automation, software change, or cost reduction. It concerns the organisation of value once autonomous capability changes the conditions that anchored the commercial model. Business models built around those conditions then have to adjust. Autonomy Economics examines that reorganisation.

Early responses to structural technological change often attempt to preserve existing models instead of redesigning them. A historical example is the 1899 “Horseless” automobile proposal, which suggested adding a wooden horse head to early motor vehicles. Although never produced, it illustrates an effort to make a new system resemble the old while leaving the underlying change unresolved. Many current responses to autonomous capability do the same, layering new systems onto existing delivery structures without fully reconfiguring how activity is carried forward, justified, or organised.

Autonomy Economics is not confined to models in which value depends on activity being carried forward through human-bounded progression. The same structural logic applies to models in which value depends on human-bounded interaction, attention, discovery, interface position, or the scarcity of underlying capability. This paper develops progression-based models most fully, but Autonomy Economics extends beyond them.

1A. What Autonomy Economics Adds Beyond Existing Frameworks

Autonomy Economics begins from a different question. It examines how value capture, commercial logic, and defensibility change wherever autonomous capability weakens the

structural conditions on which a commercial unit was built, whether those conditions arise from human-bounded progression, human-bounded interaction, or the scarcity of the underlying capability.

Much of the automation literature focuses on which tasks are replaced, augmented, or reassigned as capability improves. The concern here is broader. It is about how weakening human-bounded progression, human-bounded interaction, and the scarcity of underlying capability, and more generally the conditions on which commercial units depend, changes the structure through which value is defined, justified, defended, and retained. The issue is not only who performs activity, but how activity is carried forward, how interaction takes place, and how capability is accessed. These conditions shape the commercial basis on which value is captured and defended.

The task-based literature addresses a distinct set of questions. Acemoglu and Restrepo model production as a continuum of tasks subject to automation and new task creation, examining the consequences for labour demand and task composition (Acemoglu and Restrepo, 2019, 2020). Autor examines how automation substitutes for labour in routine, codifiable tasks while complementing human advantage in problem-solving and adaptability, with consequences for the composition and distribution of employment (Autor, 2015). The focus here is different. It is directed not at task allocation or employment outcomes, but at how changes in the conditions under which activity is carried forward, interaction takes place, and capability is accessed affect where value resides and how it can be captured.

Productivity frameworks explain how firms generate more output with the same or fewer inputs. That remains useful, but it does not explain cases in which greater capability and throughput fail to preserve the commercial logic and profit structure that previously supported the business. A firm can become more efficient while its economic position becomes less secure.

Platform theory explains how value builds through coordination, interfaces, and network effects. The issue here is different. It concerns what happens when the conditions under which activity is carried forward, interaction takes place, and capability is accessed change in ways that weaken the basis on which commercial units are structured and defended. The

emphasis is not only on the site of interaction, but on how activity is carried forward, how interaction is captured, and how value remains anchored to those structures.

The distinction between Autonomy Economics and these existing frameworks is not one of emphasis but of mechanism. Automation theory, platform theory, and productivity frameworks each assume that human involvement in progression or interaction remains the baseline unit around which commercial structures are organised. They ask what happens when that involvement becomes more or less efficient, more or less mediated, or more or less substituted. Autonomy Economics begins from a different premise. Autonomous capability weakens the conditions that made established commercial units scarce and defensible, including those tied to how activity is carried forward, how interaction takes place, and how access to capability is structured. A billable hour, a per-seat licence, a commission, and a per-claim fee held because activity or interaction depended on conditions that made those units viable and defensible. When those conditions weaken, the unit loses its structural basis even when demand remains intact and capability improves. No existing framework takes that condition as its central object of study. This is the central mechanism examined in this paper.

1B. Relationship to Existing Theoretical Frameworks

Teece's dynamic capabilities framework addresses how firms sense, seize, and reconfigure resources to sustain competitive advantage under technological change (Teece, Pisano and Shuen, 1997; Teece, 2007). It is concerned with the organisational capacity to adapt. Autonomy Economics begins where that framework leaves off. The question here is whether the commercial structure a firm is adapting toward represents where value now accumulates. A firm can possess strong dynamic capabilities and still redesign around the wrong unit of value capture if it does not account for how autonomous capability has changed the conditions that make existing units scarce and defensible.

Structure-based traditions in industrial organisation explain commercial outcomes through market-level conditions such as concentration, entry barriers, and buyer power (Bain, 1956, 1959). Autonomy Economics examines a different level of economic organisation. It focuses on the conditions on which a commercial unit was built, whether those arise from human-bounded progression, human-bounded interaction, or the scarcity of underlying

capability. When autonomous capability weakens those conditions, the commercial basis of the unit changes even if market structure, competitive dynamics, and customer demand remain unchanged. Structure-based traditions in industrial organisation do not capture that mechanism.

Christensen's disruption theory explains how entrants with simpler, cheaper offerings displace incumbents by serving overlooked segments before moving upmarket (Christensen, 1997; Christensen and Raynor, 2003). The mechanism in Autonomy Economics is different. The pressure described here does not require a new entrant. It arises when autonomous capability weakens the conditions that make established commercial units scarce and defensible within the existing market, whether those conditions are tied to progression, interaction, or the scarcity of underlying capability. A firm can face the Agentic Profit Paradox while maintaining its market position, its client relationships, and its operational performance. Disruption theory does not account for that condition.

The business model innovation literature, including Zott, Amit and Massa (2011) and Demil and Lecocq (2010), examines how firms create and capture value through the design of activity systems. This work is concerned with how business models are constructed and how they generate value. Autonomy Economics adds a structural condition that this literature does not address directly. When autonomous capability weakens the conditions on which commercial units depend, the link between those conditions and the units of value capture built around them breaks down, creating pressure on the model regardless of how well it was designed. The issue is whether the model remains aligned with changing conditions. Hagiu and Wright (2015) describe how value moves across platform layers as network effects develop. In Autonomy Economics, value migration is driven by the weakening of the conditions that previously sustained established units of value capture, not by network dynamics alone.

Slywotzky's value migration framework describes how economic value moves between firms and business designs as customer priorities change and incumbents fail to adapt (Slywotzky, 1995). Both frameworks observe that value moves when commercial models fall out of alignment with changed conditions, and both hold that firms need to redesign before the old model becomes visibly obsolete. The mechanism in Autonomy Economics

is different. In Slywotzky's account, migration is driven by changing customer priorities and competitive business design obsolescence, where a better-designed firm captures value from a weaker one. The pressure described here does not require a competitor with a superior business design or a change in customer priorities. It arises when autonomous capability weakens the conditions that make a commercial unit scarce and defensible, whether that unit is a billable hour, a per-seat licence, or a commission, regardless of competitive dynamics. A firm can face the Agentic Profit Paradox while retaining its customers, its market position, and its brand. The unit of analysis is the misalignment between commercial units and the conditions that sustain them.

2. What Is Autonomy Economics

Autonomy Economics studies how value capture, commercial logic, and defensibility change as autonomous capability makes it possible to carry activity forward, mediate interaction, and access capability with less dependence on the conditions that previously structured how value was created and captured. Here, value capture includes revenue, profit, and the commercial structures that sustain them.

The field examines how value capture and commercial defensibility change wherever autonomous capability weakens the structural conditions on which a commercial unit was built, whether those conditions arise from human-bounded progression, human-bounded interaction, or the scarcity of underlying capability.

In this paper, activity refers to any economically relevant function, operation, or form of execution through which value is produced, advanced, or made usable. To say that activity is carried forward means that it is coordinated, progressed, or brought toward completion within a commercial context, whether by humans, systems, or a combination of both.

The paper examines the commercial consequences of autonomous capability, including where pressure appears first, where value accumulates, and why some firms are better placed than others to turn greater autonomous throughput into durable advantage. This includes business models in which value depends on human-bounded progression, human-bounded interaction, or the scarcity of underlying capability.

The field is organised around three questions. How value moves once the conditions that previously anchored activity, interaction, or access to capability begin to weaken. Which commercial structures remain durable once those conditions no longer hold in the same way. Which firms convert greater autonomous throughput into stronger capability, economic position, and durable advantage.

These conditions can be represented analytically as three axes of exposure. The first is human-bounded progression, where value depends on activity being carried forward through human effort or sequencing. The second is human-bounded interaction, where value depends on interaction, interface, or attention through which value is captured. The third is capability scarcity dependence, where value depends on the limited availability of, or controlled access to, underlying capability. Autonomous capability weakens each of these conditions in different ways and creates distinct forms of commercial exposure.

The core claim is simple. When the conditions that structure activity, interaction, and capability access change, the economic structures built around them change as well. Revenue durability, profit structure, and organisational design change with them. So does the location of scarcity, including what remains limited, where activity or interaction still depends on judgement, coordination, or responsibility, and where commercial defensibility continues to hold. This relationship is expressed formally in Appendix B, with supporting empirical patterns across sectors and historical cases set out in Appendix A.

In formal terms, let A denote autonomous capability, S_a denote the structure of activity, interaction, and capability access, and S_c denote the structure of value capture. Autonomous capability reshapes the structure of activity, interaction, and capability access ($S_a = g(A)$), while value capture depends on how that structure relates to the commercial model through which value is retained ($VC = h(S_a, S_c)$).

The central economic variable is effective alignment ($\tilde{\alpha} = \alpha + \epsilon$), defined as the degree to which the structure of value capture reflects the structure of activity, interaction, and capability access, where ϵ is a small positive residual ensuring that misalignment acts as a drag on growth, not as an existential switch. Profit is therefore increasing in capability and in the alignment between the two structures, such that $\Pi = \Pi_0 + f(A \cdot \tilde{\alpha})$.

The multiplicative form implies that capability and alignment are complements, so that neither produces economic gain in the absence of the other. This captures the core mechanism of Autonomy Economics. Capability expands what can be done. Value depends on whether the commercial model remains aligned with the conditions under which activity is carried forward, interaction takes place, and capability is accessed.

A recurring pattern follows. A firm can become more technically capable while becoming less economically secure. It can improve delivery while weakening the structure that supports its position. It can adopt the capability it needs and still lose ground if it does not redesign the model around it. This pattern sits at the centre of the field.

Autonomy Economics focuses on the commercial consequences of this reorganisation. It examines where existing models become exposed, where new forms of defensibility emerge, and why increased capability does not automatically produce a stronger economic position. Autonomous capability changes how activity is carried forward and coordinated, how interaction takes place, and how capability is accessed. Efficiency gains and cost reduction may follow, but they sit downstream of these effects.

2A. Human-Bounded Progression

Human-bounded progression is a core form of exposure in Autonomy Economics. It refers to activity whose movement or completion depends materially on human effort, review, judgement, coordination, or intervention in ways that shape how value is created, justified, or retained. Where a commercial model depends on this structure, autonomous capability makes it possible to carry activity forward with less dependence on continuous human-bounded progression. As that condition weakens, the layer through which value was defined, justified, and defended weakens with it.

This exposure does not appear uniformly. It is most visible where value capture is anchored directly to human-bounded progression.

This paper develops this part of the field in depth. It examines models whose economics depend on human-bounded progression and how those models change when autonomous progression becomes commercially meaningful.

This condition is referred to throughout the paper as human-bounded progression, abbreviated HBP.

2B. Human-Bounded Interaction

Human-bounded interaction is another form of exposure in Autonomy Economics. It refers to interaction whose commercial value depends materially on direct human attention, engagement, discovery, navigation, or interface use in ways that shape how demand is formed, routed, or captured. Where a commercial model depends on this structure, autonomous capability can reduce or displace the need for direct human interaction by acting on the user's behalf. As that condition weakens, the layer through which value was previously captured becomes less secure.

This exposure is most visible in consumer, media, platform, marketplace, and interface-based settings where value capture depends on sustained human-bounded interaction. In these models, autonomy can act in more than one way. Firms may use it to improve interaction efficiency, engagement, discovery, and conversion, while external agents may reduce or displace the need for interaction by acting on the user's behalf. The resulting pressure depends on where and how interaction is captured.

This paper introduces this part of the field to mark its broader scope, while concentrating mainly on human-bounded progression, where the commercial logic of redesign is developed most directly. This condition is referred to throughout the paper as human-bounded interaction, abbreviated HBI.

2C. Capability Scarcity Dependence

Capability scarcity dependence is also a form of exposure in Autonomy Economics. It refers to conditions in which value capture depends materially on the scarcity of underlying capability in ways that shape how value is created, justified, or retained. Where a commercial model depends on this structure, autonomous capability can expand access, replicate capability, or weaken the scarcity on which that model depends. As that condition weakens, the layer through which value was defined, justified, and defended weakens with it.

This exposure is most visible in models where value depends on control over technical, cognitive, or operational capability, including systems in which access to that capability is priced, bundled, or embedded within a product or service. As autonomous capability improves and diffuses, the scarcity on which those models depend may erode even while underlying capability continues to advance.

This paper introduces capability scarcity dependence to complete the structural framework of the field. This condition is referred to throughout the paper as capability scarcity dependence, abbreviated CSD.

2D. The Three Axes of Exposure

The Agentic Profit Paradox operates across more than one kind of commercial structure. Exposure can be understood across three axes.

One axis covers commercial models in which pricing, value capture, and delivery logic depend on human-bounded progression. Another covers commercial models in which value capture, demand formation, and interface position depend on human-bounded interaction. A further axis covers commercial models in which value capture depends on the scarcity of, or controlled access to, underlying capability. Each can come under pressure as autonomous capability advances, but the mechanisms differ. Together, these axes capture three distinct ways in which value is structured and exposed as dependence on human-bounded progression, human-bounded interaction, or the scarcity of underlying capability weakens.

Some sectors sit mainly on one axis. Others sit across multiple axes. Some contain multiple exposure points within the same business, with different revenue lines affected in different ways.

Autonomy Economics is therefore not confined to one part of the economy. The field applies wherever autonomous capability changes the structure of value capture. This paper concentrates mainly on the first axis, because that is where the commercial logic of progression, value capture, and redesign is developed most directly.

Axis 1

Human-Bounded Progression

This axis covers commercial models exposed because pricing, value capture, and delivery logic depend on activity remaining anchored in human-bounded progression.

Sector	Exposed Revenue Model	Agentic Operating Opportunity
Software	Per-seat, usage, and workflow-tied revenue models, and software logic that becomes easier to reproduce or move outside the product	Machine-scale platforms, API-driven agents, embedded autonomy, and software that becomes the environment for autonomous execution
Financial institutions	Operations, compliance, and fee structures tied to monitoring, review, and progression of financial activity	Autonomous deal flow, monitoring, compliance, and continuous risk management
Wealth	AUM-based fees and advisory models tied to portfolio construction, monitoring, and client interaction	Agentic portfolio construction, continuous optimisation, and client-positioned orchestration
Consulting	Billable hours and project-based fees tied to analysis, problem structuring, and delivery progression	Outcome-based models, continuous advisory, and embedded decision support

Legal	Fees tied to drafting, review, and structured progression of legal work	Autonomous drafting, structured review, and continuous legal support systems
Accounting and audit	Revenue tied to checking, reconciliation, and compliance progression	Autonomous reconciliation, continuous audit, and real-time compliance systems
Insurance operations	Claims processing and underwriting models tied to assessment and workflow progression	Autonomous assessment, routing, pricing, and claims execution
BPO and shared services	Process-based charging tied to execution of operational workflows	Autonomous workflow execution, orchestration, and service delivery at scale
Healthcare administration	Revenue tied to coding, billing, documentation, and administrative progression	Autonomous documentation, claims processing, and administrative coordination
Real estate underwriting	Fees tied to manual assessment, due diligence, and risk evaluation	Autonomous valuation, underwriting, and risk analysis
Construction planning	Revenue tied to estimation, compliance, and planning progression	Autonomous planning, sequencing, and coordination systems

Axis 2

Human-Bounded Interaction

This axis covers commercial models exposed because value capture, demand formation, and interface position depend on sustained human-bounded interaction, including engagement, attention, search, discovery, and transactional navigation. Agentic systems can compress that interaction surface by acting on the user's behalf and changing how demand is routed and where value is captured.

Sector	Exposed Revenue Model	Agentic Interface Impact
Consumer apps	Engagement-driven models tied to in-app activity, retention, and interaction frequency	Agents limit interaction, perform tasks for users, and push activity beyond the app
Social platforms	Advertising and monetisation tied to attention, time spent, and content interaction within the platform	Internal autonomy increases engagement and targeting, while external agents compress attention and reduce platform-level interaction
Media and publishing	Pageview- and impression-based models tied to content discovery and consumption	Agents summarise or repackage content, reducing direct consumption and redirecting attention
Streaming	Watch-time and recommendation-driven monetisation tied to content consumption within the platform	Agents filter and compress use, reducing time spent and moving decisions elsewhere.
Marketplaces	Revenue tied to search, discovery, and transaction	Agents aggregate demand, compare options, and route

	routing within the platform interface	transactions directly, bypassing platform-level discovery
Travel and hospitality platforms	Monetisation tied to comparison, selection, and booking flows within the interface	Agents collapse search, optimise selection, and execute bookings, reducing interaction with platform interfaces
Retail and ecommerce	Conversion funnels tied to browsing, discovery, and user-driven purchasing behaviour	Agents execute purchases directly, bypass browsing and reducing the value of interface-driven conversion
Real estate portals	Lead generation and monetisation tied to search, filtering, and user-driven discovery	Agents handle search, matching, and selection, taking discovery beyond platform interfaces.
Recruitment platforms	Revenue tied to screening, matching, and candidate-employer interaction within the platform	Agents perform filtering, matching, and outreach, reducing reliance on platform-mediated interaction
Healthcare navigation	Engagement-driven models tied to patient interaction, triage, and navigation	Agents manage triage, coordination, and routing, reducing direct interaction with navigation interfaces
Construction consumer discovery	Lead generation tied to user search, comparison, and contractor selection	Agents mediate selection and routing, taking demand aggregation beyond platform interfaces.

Axis 3

Capability Scarcity Dependence

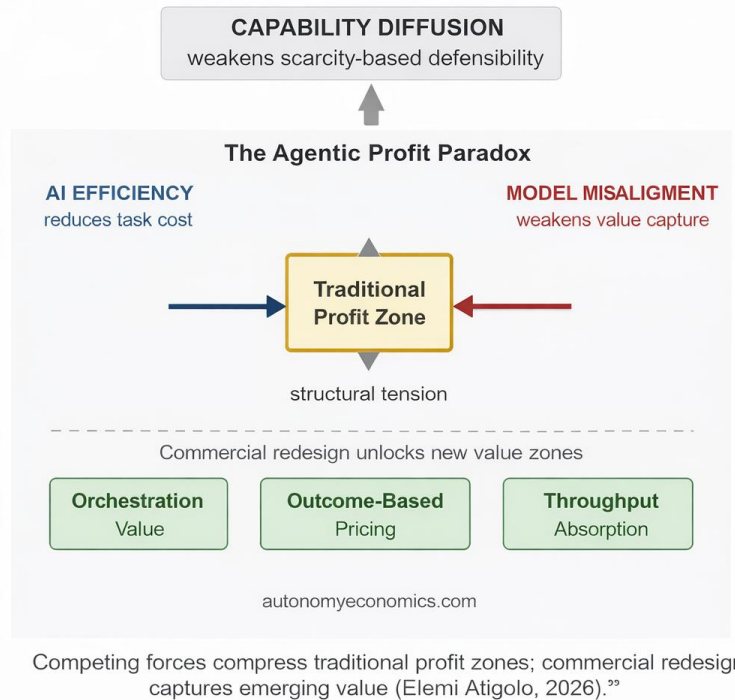
This axis covers commercial models in which value capture depends on the scarcity of underlying capability. As autonomous capability expands access, replicates capability, or weakens the scarcity on which those models depend, the layers through which value was previously captured become less secure.

Unlike HBP and HBI, capability scarcity dependence does not map cleanly onto a defined set of sectors. The condition is transversal. It can appear wherever access to underlying capability, whether technical, cognitive, analytical, or operational, has formed the basis of value capture and commercial defensibility. A specialised software product, a financial modelling team, a legal practice, a diagnostic service, and a data provider may each carry CSD exposure through entirely different capability types and commercial structures. What they share is that value depended on that capability remaining difficult to access, replicate, or substitute. As autonomous capability changes those conditions, the scarcity that supported the commercial model weakens, regardless of sector. For this reason, CSD exposure is better understood as a condition that can exist within any business model than as a characteristic of particular industries.

This paper develops the human-bounded progression axis in full. The other two axes are introduced to show the broader scope of the field and to make clear that Autonomy Economics extends beyond progression-based models.

3. The Agentic Profit Paradox

Figure 1: The Agentic Profit Paradox



Having defined Autonomy Economics in Section 2 as the relationship between autonomous capability, the structure of activity, and the structure of value capture, this section introduces its central mechanism, the Agentic Profit Paradox. The Agentic Profit Paradox is the core concept of the field. I first introduced it in *The Banker* in February 2026 and develop it here in formal terms (Atigolo, 2026).

It describes a condition in which increasing autonomous capability can weaken the commercial structures that previously sustained profit by creating a misalignment between the conditions under which activity is carried forward, interaction takes place, and capability remains scarce. As that misalignment grows, the basis on which value is justified, retained, and monetised can begin to weaken.

More specifically, it describes a structural tension in which firms may need to adopt autonomous capability to remain competitive and access new sources of value, even when that same capability can weaken the revenue structures, operating assumptions, and value-

capture logic that previously supported their profits. In such cases, commercial redesign may become necessary.

The paradox can be expressed formally as the dependence of profit on both autonomous capability and the alignment of the structure of activity, interaction, and capability access with the structure of value capture. As set out in Section 2 and formalised in Appendix B, profit depends on the interaction between capability and effective alignment, such that $\Pi = \Pi_0 + f(A \cdot \tilde{\alpha})$. The paradox emerges when increases in A are accompanied by declines in α . In those cases, capability expands even as alignment weakens. Returns to additional capability may then fall toward a lower residual level rather than rise with capability alone.

Firms tend to respond to this condition in different ways.

Some firms adopt autonomous capability primarily to improve efficiency. Costs may fall, throughput may rise, and the inherited commercial structure may remain largely intact. This can generate short-term performance gains. But where value capture remains tied to earlier forms of activity, interaction, or capability access, the underlying exposure may persist. Over time, the basis on which value is justified and retained can weaken.

Other firms redesign around where value now accumulates. Pricing, delivery, and the organisation of activity are adjusted to reflect changes in how activity is carried forward, how interaction takes place, and how access to capability changes as previously scarce capability becomes easier to reach, replicate, or use under autonomous capability. These changes may take longer to appear in performance metrics, but they can preserve closer alignment between activity, interaction, capability access, and value capture. As a result, they may support more durable economic positions.

The distinction is not between firms that adopt autonomous capability and those that do not. It is between firms that adopt within inherited commercial structures and firms that redesign those structures around the new distribution of value.

The mechanism may begin to take hold before full substitution. It can emerge once autonomous capability becomes commercially credible in ways that change how activity is carried forward, how interaction takes place, or how access to previously scarce capability changes. The more a business model depends on HBP, HBI, or CSD as part of

the value it delivers, whether separately or in combination, the more exposed it may become once those conditions begin to weaken.

This pressure can already be seen across a range of sectors and commercial models. Software may be exposed where pricing still depends on seats, workflow layers, bounded user interaction, or access to capabilities that become easier to reach or replicate under autonomous systems. Consulting continues to derive much of its revenue from hours spent on analysis and structured problem solving, but it may also be exposed where clients become less dependent on scarce analytical capability that firms once intermediated. In financial institutions, fee structures often remain tied to review, monitoring, reconciliation, onboarding, and compliance progression, while some parts of the model may also depend on access to technical, cognitive, or operational capability that autonomous systems increasingly expand or make easier to use. Legal and accounting activity continues to rely on review cycles and checking layers that support delivery economics, but may also come under pressure where the capability underlying those services becomes less scarce in practice. In interaction-based models, similar pressure may appear where value depends on sustained engagement, discovery, or interface position that agentic systems can compress or displace. In each case, the source of pressure may differ, but the underlying pattern is similar because autonomous capability can begin to weaken the conditions on which inherited value capture depended.

Firms cannot necessarily avoid this problem by ignoring the capability, particularly where competitive pressure is strong. But deployment alone may not be enough. When new capability is added to an otherwise unchanged commercial model, the economics may narrow over time.

The strategic question is whether firms redesign quickly enough to defend value in the parts of the system where it now resides. A model built around human-bounded progression, human-bounded interaction, or the scarcity of underlying capability may appear stable for years, then weaken rapidly once another form becomes commercially viable.

This condition is not limited to one sector, technology stack, or business model. It can appear wherever commercial structures depend on assumptions about how activity is

carried forward, how interaction takes place, or how capability remains scarce. Those assumptions are becoming less reliable.

3A. Dispersion, Value Reaccumulation and the Commercial Logic of Early Pressure

The repricing that began in early 2026 raised broader questions about how markets interpret early signs of structural change. Macro conditions, interest rates, geopolitical risk, and sentiment all played a role. The focus here is narrower. It is on how autonomous capability affects the perceived durability of established revenue structures, and what that implies for timing, exposure, and value reaccumulation.

Market Timing and Early Repricing

Markets can adjust once structural change becomes plausible in the layers of activity that support established revenue lines, even before aggregate revenues move. The repricing observed in early 2026 is consistent with a change in how investors assess the durability of those lines.

Autonomy does not need to be fully deployed for its economic implications to matter. It only needs to become credible in commercially meaningful activities, interactions, or forms of capability access that shape how value is defined and justified. Commercial terms often adjust slowly, but the basis of value can weaken earlier. In that setting, markets may respond to direction rather than completeness. This helps explain why repricing can occur early without being disconnected from underlying economics.

Dispersion and Uneven Exposure

Autonomy does not affect revenue uniformly. Exposure varies with the extent to which a revenue line depends on human-bounded progression, human-bounded interaction, or the scarcity of underlying capability. Structured and decomposable activity may be exposed earlier because the marginal value of human progression can weaken as soon as autonomy becomes commercially credible, even before full substitution. A parallel dynamic may appear in interaction-based models, where exposure depends on how far value capture relies on sustained human attention, engagement, or interface use that can be compressed or displaced. A related dynamic may also appear where revenue depends on capabilities that remain scarce enough to support pricing, intermediation, or commercial control, and where access to those capabilities begins to broaden in commercially meaningful ways.

This produces dispersion. Some firms may experience pressure early, particularly where revenue depends on progression-heavy, interaction-dependent, or capability-scarcity-dependent layers. Others may appear more resilient where value rests on judgement, relationships, fiduciary responsibility, or ecosystem position. That insulation is often partial and may not last.

Revenue Durability and Value Reaccumulation

Section 9 develops a Revenue Durability Framework that formalises these dynamics and examines their early commercial expression. As autonomy scales, value may move away from individual production activity towards the layers that coordinate, verify, govern, absorb, and direct autonomous systems of activity. Section 6 develops this at the firm level, and Section 13 extends it to coordinated networks of firms.

Complementarity and Margin Compression

Autonomy does not need to replace human involvement outright to compress margins. It is enough that it weakens the link between HBP, HBI, or CSD and revenue. In many contexts, autonomy may operate as a complement rather than a direct substitute. Even so, complementarity can still produce erosion when the commercial model remains tied to the wrong unit of value. Demand does not need to fall, and may increase. The mechanism operates at the level of value capture rather than at the level of activity or demand. Higher usage alone does not preserve the commercial structures through which profit was previously sustained.

Boundary Conditions

Autonomy does not compress revenue in the same way everywhere. Some activities may prove more resilient because their value does not depend directly on human-bounded progression, human-bounded interaction, or the scarcity of underlying capability. Others may be more exposed where revenue depends on assumptions about how activity is carried forward, how interaction takes place, or how capability remains scarce.

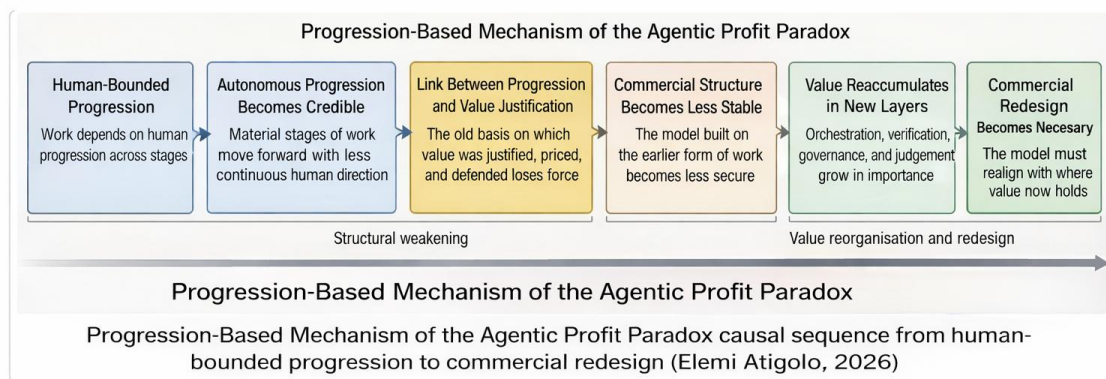
This framework applies where autonomous capability changes how activity is carried forward, how interaction takes place, or how access to capability changes in commercially

meaningful ways. It does not assume uniform exposure across all forms of activity or value creation.

3B. The Mechanism in Practice (Illustrative Case)

The mechanism described above can be seen in early form in audit and assurance. A meaningful share of audit activity has long depended on structured progression through data collection, reconciliation, testing, and layered human review. That progression formed part of both the delivery process and the commercial structure built around it.

Figure 2: Progression-Based Mechanism of the Agentic Profit Paradox



Autonomous capability now allows parts of that progression, particularly in reconciliation, anomaly detection, and verification, to be carried forward with less dependence on human-bounded progression. Full substitution is not required. It is enough that commercially meaningful stages of the activity can be carried out differently. Once that begins to occur, the commercial structure built on that form of progression can become less durable.

An early example appears in reports of KPMG pressing its auditor, Grant Thornton UK, for a reduction in audit fees by pointing to AI-enabled efficiency gains. The client did not need to assume that the entire audit process could be replaced. It was enough that part of the underlying activity no longer depended on human-bounded progression in the same way.

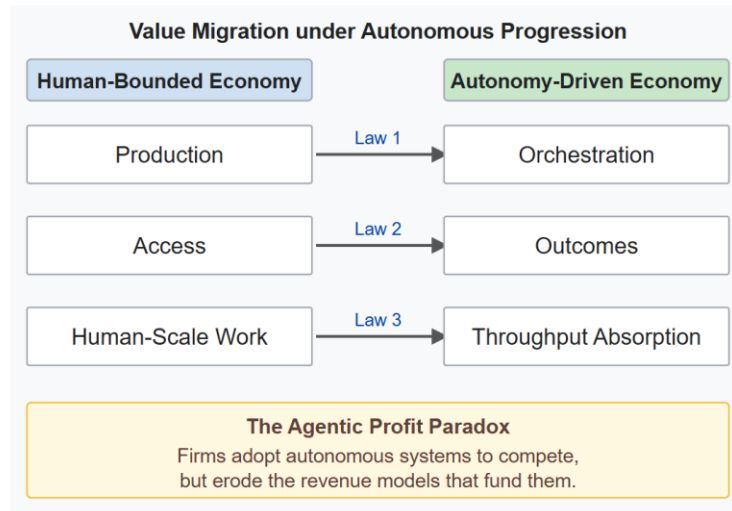
This is the alignment condition in practice. S_c remains anchored to human-bounded progression while S_a has changed. The gap between them is where commercial pressure begins to build. Demand remains. Regulatory requirements remain. The need for judgement, accountability, and verification remains. What changes is the layer through which value is produced, captured, and sustained as activity is carried forward differently.

The same pattern can appear across other progression-based models and, in different form, across interaction-based and capability-scarcity-dependent models, as developed in Sections 5 and 6. This contemporary pattern is also consistent with the historical cases documented in Appendix A, which traces the same mechanism across multiple instances spanning more than two centuries and multiple industries.

In interaction-based settings, a similar alignment problem can appear when autonomous systems reduce the need for direct user engagement, discovery, or interface navigation while value capture remains tied to those interaction surfaces. In capability-scarcity-dependent settings, similar pressure can appear when access to previously scarce technical, cognitive, or operational capability broadens while commercial structures remain tied to assumptions built around that scarcity.

4. The Three Laws Of Autonomy Economics

Figure 3: The Three Laws of Autonomy Economics



The Three Laws of Autonomy Economics: value migration as autonomous capability expands (Elemi Atigolo, 2026)

The Agentic Profit Paradox explains the mechanism through which increasing autonomous capability can destabilise established profit structures. This section sets out the three laws of Autonomy Economics, which describe the direction of value reorganisation once autonomous capability becomes commercially meaningful in how activity is carried forward, how interaction takes place, or how access to capability changes as scarcity weakens. The term laws is used here to describe directional regularities observed under those conditions, not universally binding relationships. They do not assume that every activity reaches the same level of technical maturity at the same time. They identify the common economic direction of change as activity is carried forward, interaction takes place, and capability is accessed with less dependence on human-bounded progression, human-bounded interaction, and the scarcity of underlying capability.

Law 1

Value moves from production to orchestration

Production tends to lose economic weight once outputs can be generated at much lower marginal cost. Scarcity no longer lies primarily in producing the output itself, but in how outputs are sequenced, checked, combined, governed, and applied. In interaction-based

models, a similar pattern appears as value moves away from interface-bound participation toward the orchestration and routing of demand. In capability-scarcity-dependent settings, a similar pattern appears as value moves away from access to the underlying capability itself and toward how that capability is applied, combined, and directed within a broader commercial structure.

Autonomous systems increase the volume of activity that can be generated, but volume alone does not create durable advantage. Value lies more in how that activity is organised, directed, verified, and applied within a broader commercial structure.

This pattern is already visible. Thin workflow software can come under pressure when the production step can be reproduced outside the product. Software development may face a similar pattern as code generation becomes easier, placing more weight on architecture, orchestration, and governance. Professional services tied to structured analysis and staged delivery may become harder to defend on an hourly basis as the production of that analysis carries less weight. In interaction-based settings, platforms that depended on controlling the interface through which demand was routed may face similar pressure as autonomous systems act directly on behalf of users.

Production does not disappear. It continues to matter. What changes is where economic defensibility is most likely to hold. As production becomes easier, value can accumulate more strongly in orchestration across all three dimensions.

Law 2

Value moves from access to outcomes

Many established commercial models were built around access. They charged for seats, hours, cycles, review stages, passage, and other units tied to human-bounded progression, as well as for interaction-based units such as attention, discovery, and interface position. These units held because access to activity, and to those carrying it forward, formed part of the commercial logic. In other cases, value also depended on access to underlying capability that remained sufficiently scarce to support pricing and intermediation. That logic can weaken once autonomous capability changes how activity is carried forward, how interaction takes place, or how access to capability is structured. Access becomes a less

reliable basis for explaining value. The focus moves from participation in the process to the result produced. In interaction-based models, this can also involve movement away from capturing value through sustained engagement toward capturing value through outcomes delivered without continuous interaction.

Accuracy, speed, coverage, compliance, decision quality, and financial performance tend to carry more weight once the underlying activity can be progressed differently.

This does not refer to usage-based models, which continue to measure activity. It refers to outcomes, where value is tied to the result produced rather than the volume of activity performed.

Access-based models do not disappear at once. Some persist because of regulation, switching costs, embedded distribution, or trust. The point is narrower. Once autonomous capability becomes viable, access becomes a less reliable basis for economic defence. Outcomes tend to carry more weight in how value is assessed and retained.

This helps explain why pressure can appear before demand falls. The client may still want the service. What weakens is the earlier unit of justification.

Law 3

Value concentrates where scarce judgement governs autonomous throughput

Judgement, governance, and control remain central to the extent that they determine what is done, whether it is acceptable, and how it is applied. What changes is the economic base beneath them.

As autonomous systems carry forward larger volumes of activity, mediate more interaction, and broaden access to capability, scarcity moves toward the layer that directs, constrains, authorises, and accepts that activity. This may sit in human decision-making, governed systems, or a combination of both. The economic role of judgement is defined by control and responsibility, not by whether a person is involved at every stage.

The strongest positions are less likely to sit where effort remains distributed across each stage of progression. They are more likely to sit where scarce judgement governs greater throughput without recreating earlier layers of manual progression. Value lies in directing, constraining, and approving autonomous activity at scale.

This applies wherever autonomous output is used to inform decisions, justify actions, or deliver value to others. In financial institutions and other regulated settings, accountability, fiduciary duty, risk ownership, and supervisory responsibility do not disappear as autonomous capability expands. Their role may become clearer because they sit above a larger base of activity that no longer requires continuous human-bounded progression. A similar dynamic can apply wherever decisions carry consequence and responsibility cannot be delegated to the system itself.

The premium may become more concentrated where judgement, governance, and control direct, authorise, and govern autonomous capacity.

What follows from the three laws

Taken together, these laws help explain why the economic effects of autonomy do not first appear as a simple story of labour replacement.

The earlier effect is commercial pressure.

Production becomes less secure as the primary locus of value. Access, interaction, and capability scarcity become less reliable as the basis on which value is justified and retained. Judgement, governance, and control become more valuable as they govern larger volumes of autonomous activity.

Deployment alone does not resolve the problem. A firm can adopt autonomous capability and still lose economic ground if value continues to be defined, justified, and organised around earlier assumptions.

The question is whether firms redesign quickly enough to hold value where it is beginning to accumulate.

4A. Technical Maturity, System Reliability and the Architecture of Autonomy

Autonomy depends on whether systems can carry activity forward, support interaction, and make underlying capability reliably usable enough to be deployed in production. Capability is improving quickly, but reliability still varies by task, setting, and sector. That variation shapes where autonomous capability becomes commercially credible first, and how firms build around it.

Autonomy Economics does not depend on whether capability comes from better models, orchestration frameworks, tool use, or model-native planning. It focuses on what follows once autonomous capability becomes credible in production. Pressure falls on business models built around activity, interaction, or capability access that depends on continuous HBP, HBI, or CSD. Value moves towards the layers that apply, organise, verify, and govern that capability.

System Reliability and Architectural Dependencies

Agentic systems combine predictable elements such as tools, APIs, rules, and verification layers with probabilistic elements such as foundation models. Reliability depends on how these components are structured, constrained, tested, and corrected, not on the model alone.

Prompting a model is not equivalent to building systems that can be monitored, tested, and improved. Multi-step activity remains exposed to model changes, API behaviour, context limits, and error carry-through across stages.

Orchestration can make systems more governable and repeatable at the system level, even when the underlying models remain probabilistic. This does not remove brittleness, but it can allow bounded activity to become reliable enough to be carried forward with less dependence on HBP. In structured analysis, reconciliation, and documentation routing, current systems are generally more dependable than they are in cross-functional synthesis, negotiation, or open-ended strategic activity. In less structured settings, variable context and broader exception sets tend to produce higher error rates. This difference helps determine where autonomous capability becomes commercially credible first. A similar pattern may appear in interaction-based systems, where reliability in intent interpretation, routing, and execution helps determine whether interaction can be reduced or displaced. A

related pattern may also appear in capability-scarcity-dependent settings, where reliability, reproducibility, and deployment architecture help determine when previously scarce capability can be accessed more widely and relied upon in production.

Integration Depth and Sector Constraints

Technical capability alone does not guarantee deployment. Autonomy also depends on data access, integration depth, redesign of progression, interaction, and capability access, and governance structures that differ across industries.

In controlled settings, financial reconciliation can reach high accuracy. Legal contract analysis can perform well on bounded review activity, but still often requires human confirmation where interpretation and liability-sensitive judgement matter. Medical settings remain more constrained because safety and evidencing thresholds are higher.

The economic question is whether capability becomes credible enough in a given setting to weaken the link between HBP, HBI, or CSD, pricing, and value capture.

Domain Maturity and Exposure Timing

Autonomy does not mature evenly across types of activity, interaction, and capability access. Structured and bounded processes tend to stabilise first, followed by more variable multi-step workflows. Negotiation, unstructured judgement, and politically sensitive coordination tend to develop more slowly.

This sequence shapes exposure. Revenue tied to earlier-stabilising forms of progression, interaction, or capability access may come under pressure first because the case for continuous human involvement weakens sooner. Thin SaaS verification layers, structured review activity, analysis-heavy consulting, and process-based administrative functions may therefore face earlier pressure. Regulated or judgement-heavy activity often moves more slowly because reliability and governance thresholds are higher.

Oversight, Verification and Coordination Layers

As autonomy expands, repetitive progression activity loses relative economic weight. Coordination, verification, exception handling, and governance become more important.

Historical cases show the same pattern. SABRE reduced manual reservation activity while increasing coordination and pricing infrastructure. Containerisation reduced manual cargo handling while increasing scheduling and logistics coordination. ICE reduced floor trading while increasing the importance of data infrastructure and clearing.

As routine progression becomes easier to generate, higher-value activity tends to concentrate in organising, verifying, constraining, and governing that progression at scale. In interaction-based systems, a parallel dynamic emerges, with value concentrating in routing, filtering, and governing demand rather than in sustaining interface-level engagement. In capability-scarcity-dependent settings, value likewise moves away from access to the underlying capability itself and towards the layers that organise, govern, and apply that capability.

Why Technical Constraints Influence Timing, Not Direction

Current reliability limits shape where autonomous capability becomes viable and how quickly. They do not change the underlying economic direction.

High-reliability domains can support more direct substitution. Mid-reliability domains more often support staged deployment. Lower-reliability domains remain in augmentation phases where exception handling is still the constraint. Regulated sectors often require higher assurance levels than less regulated settings.

A system does not need to be universally reliable to affect the economics of a revenue line. It only needs to become credible in commercially meaningful ways in how activity is carried forward, how interaction takes place, or how access to capability is broadened or reorganised. Historical cases show that economic reorganisation often begins before technical maturity is complete.

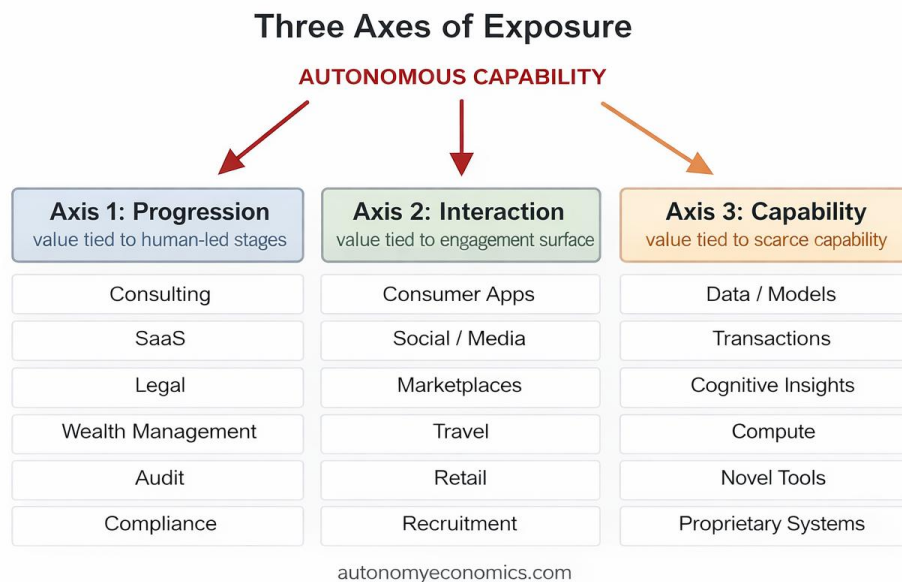
Continuity with Historical Precedents

Historical precedent points in the same direction. Value moves from human-bounded progression, human-bounded interaction, and constrained access to capability towards orchestration, outcomes, and scalable judgement. Current constraints shape where this movement appears first. They influence pace and sequence, but not direction.

5. Why Redesign Becomes Necessary

The laws of Autonomy Economics describe how value changes once autonomous capability becomes viable in how activity is carried forward, how interaction takes place, or how access to underlying capability is structured. This section examines the commercial consequence of that development and explains why deployment alone is not sufficient, and why redesign becomes necessary when the structure of value capture no longer aligns with the activity structure beneath it.

Figure 4: Three Axes of Exposure



Three axes of structural exposure: progression-based, interaction-based, and capability-scarcity-based models face distinct structural pressure (Elemi Atigolo, 2026)

A firm can adopt autonomous capability and still weaken its position. It can improve speed, lower cost, and increase throughput while leaving the commercial structure largely intact. Capability improves, but the model above it does not adjust. Over time, this creates pressure on how value is defined, justified, and retained, and on the profit structure that depends on it.

The central question is not whether a firm adopts autonomous systems, but whether it changes how value is provided, defended, and captured once those systems change the underlying structure of activity. In many established businesses, revenue still depends on assumptions tied to earlier forms of progression, interaction, or access to scarce capability. Seats, hours, review cycles, process stages, and staged delivery structures carried economic weight because activity depended on HBP across stages. In other models, attention, discovery, interface position, and navigation flows carried economic weight because value depended on sustained HBI. In other cases, access to technical, cognitive, or operational capability carried economic weight because value depended on that capability remaining sufficiently scarce. As those conditions weaken, the commercial structure built on top of them becomes less secure.

Some firms respond by adding new capability to the old model. They automate parts of delivery, reduce headcount, and preserve the same commercial logic. This can improve short-term performance, but it does not resolve the underlying misalignment between the structure of activity and the structure of value capture. It resembles putting tyres on horseshoes. It may protect margins for a period, but it does not address the structural pressure. This is why autonomy creates a redesign problem before it creates a replacement problem.

Firms under pressure are often not failing operationally. They may deliver faster, at lower cost, and with broader coverage. The weakness appears in the commercial layer. Where misalignment persists, clients may begin to question the units through which value was previously defined and justified, and investors may question the durability of the revenue base. Throughput rises faster than the organisation can convert it into stronger commercial advantage.

The need for redesign appears at the point of misalignment. Firms may continue to organise value through units tied to human-bounded progression, human-bounded interaction, or constrained access to capability even as the underlying activity changes. Autonomous capability may be directed toward cost reduction without building structures that convert greater throughput into better outcomes, stronger coordination, or broader economic reach.

Organisational and delivery models can remain in place after value has started to accumulate elsewhere.

What matters is alignment between the structure of activity and the structure of value capture. Adaptation is how firms respond to that condition, not a way around it.

This does not reduce the importance of human contribution. It changes where that contribution sits and how much activity and interaction it governs. Firms that respond well can use autonomous capability to expand orchestration, governance, verification, and judgement across a larger volume of activity.

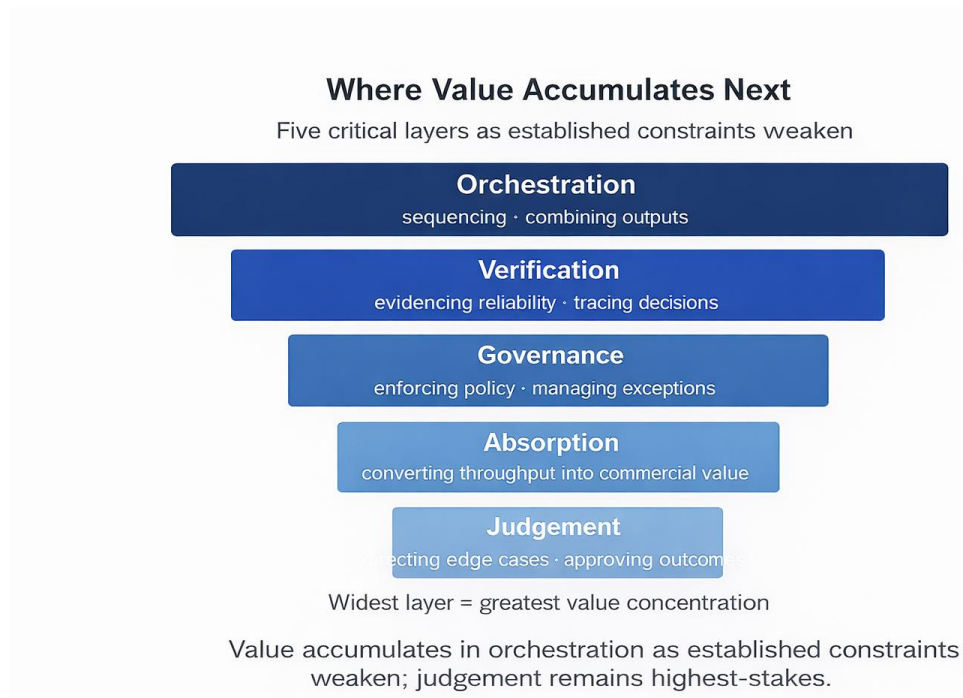
A firm can look active while remaining structurally unchanged. It can launch tools, announce programmes, and improve productivity without adapting the business model. Exposure can persist even while the organisation appears innovative. In some cases, this creates a form of signalling in which incremental capability is presented as structural transformation even when the underlying model remains unchanged.

The real question is whether the firm has moved its economic logic to the layers where value is beginning to accumulate. Some firms will move early. Others will delay because the old structure still appears to function. That delay can be costly. Commercial models often appear stable until a threshold is crossed, then weaken rapidly once clients, markets, and competitors adjust to a different basis of delivery.

That is why redesign sits at the centre of the field. Autonomy Economics is concerned not only with where pressure appears, but with whether firms reorganise in time to capture the value autonomous capability makes possible.

6. Where Value Accumulates Next

Figure 5: Where Value Accumulates Next



If redesign becomes necessary once established models no longer align with the activity structure beneath them, the next question is where value holds under the new conditions. As autonomous capability becomes commercially meaningful, value does not vanish from the system. It accumulates in different layers. As in platform-economy models (Parker et al., 2016; Evans and Gawer, 2016), value moves from one layer to another. Autonomy Economics describes how autonomous capability accelerates that movement from production to orchestration.

The basis of economic defence changes. As activity is carried forward, interaction takes place, and access to underlying capability becomes less dependent on earlier constraints, value tends to accumulate where autonomous capacity is organised, constrained, verified, and put to use. More broadly, it holds in the layers that remain scarce once production, progression, interaction, and access are no longer the main constraints.

Several layers come into focus.

Orchestration

Orchestration gains weight when production is no longer the constraint.

In this context, orchestration does not refer to the technical coordination of software systems or APIs, which is a separate and narrower meaning common in technology architecture. It refers to the commercial and operational layer through which a firm decides what its autonomous capability does, in what order, to what standard, and toward what purpose. It is the function of directing, governing, and applying autonomous activity within a commercial structure.

Autonomous systems can generate activity, progress stages, increase throughput, and broaden access to capability. But volume alone does not create advantage. Without something directing what gets done, in what sequence, to what standard, and how it connects to the wider process, additional capacity can create noise, duplication, and inconsistency. Orchestration is what converts autonomous throughput into something a firm can deploy, manage, and use commercially. With it, the same capacity can support broader coverage, faster execution, and stronger commercial reach. In interaction-based systems, orchestration also determines how demand is routed, filtered, and executed without requiring continuous human engagement. In capability-scarcity-dependent systems, it determines how newly accessible capability is applied, combined, and directed within a broader commercial structure.

Verification

As autonomous progression expands, attention moves from production to trust.

Activity, interaction, and capability-driven outcomes can be generated, but whether they can be relied upon becomes a central issue. Trust depends on checking, evidencing, validating, and tracing what has been done. In regulated or high-consequence settings this requirement is most visible, but it also applies wherever autonomous output is used to inform decisions, justify actions, or deliver value to others.

This requirement tends to strengthen as throughput rises. The volume of activity increases, and so does the cost of error. Value holds in the ability to test outputs, confirm reliability, and establish whether they meet the standard required for use. As autonomous capability

scales, provenance becomes as important as quality. In an environment where the line between human-originated and autonomously generated output becomes harder to draw, warranted trust becomes one of the scarcest things in the system.

Governance

Governance moves from overhead into a core economic layer.

It defines what actions are allowed, how interaction is mediated, where escalation is required, who carries responsibility, and how policy is enforced. As autonomous capability increases the speed and scale of activity, broadens access to capability, and changes how decisions are carried out, these constraints carry more weight in many settings.

Without sufficient governance, organisations can become more productive and more exposed at the same time. Value lies in making autonomous capability usable within systems that still require control, accountability, and alignment with internal and external obligations. As autonomous systems operate at scale, regulators, clients, and counterparties in many sectors increasingly require demonstrable governance as a condition of doing business. Firms that treat it as a back-office function rather than a front-line commercial layer risk underestimating both its value and the exposure that follows from neglecting it.

Absorption

Absorption gains weight when capacity is no longer the constraint.

As throughput rises, the limiting factor in many organisations becomes the ability to make use of what autonomous capability produces. Additional capacity does not automatically translate into advantage. It can stall, reduce cost without expanding reach, broaden access without improving economic position, or increase output without changing how decisions are made.

Firms with strong absorption convert throughput into broader coverage, faster decision-making, and improved outcomes. Firms without it often become cheaper without becoming stronger. Absorbing autonomous capability requires more than technology deployment. It means changing how decisions are made, how accountability is structured, and how humans and systems work together. That is organisational redesign, and it does not occur

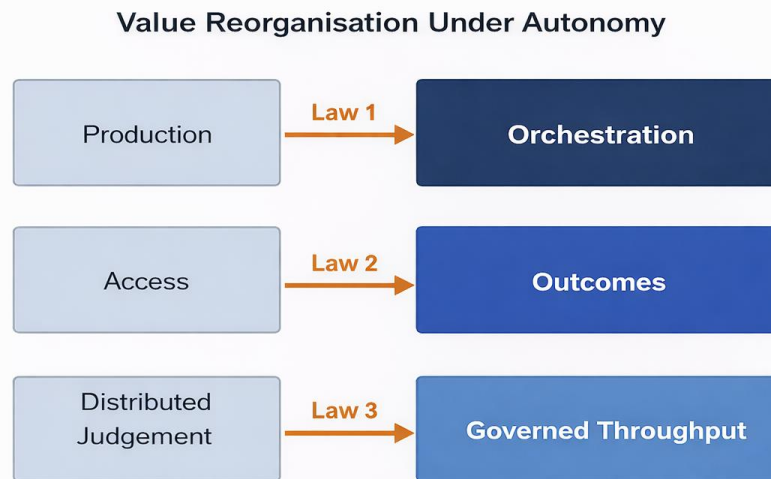
at the same speed across firms, which is why absorption can become a durable source of advantage rather than a temporary one.

Judgement

As more activity and interaction move into autonomous execution, and as access to capability becomes less scarce in some settings, judgement becomes more concentrated in many settings. Its role lies in evaluation, direction, approval, interpretation, and responsibility. It determines what should be done, whether the result is acceptable, and how to act when conditions fall outside standard rules.

Its economic importance becomes clearer because it governs a larger base of activity. The premium lies less in carrying each stage manually and more in directing and constraining a larger volume of activity and interaction, and in authorising the use of capability once it becomes easier to access.

Figure 6: Value Reorganisation Under Autonomy



The Three Laws of Autonomy Economics:
value reorganisation as autonomous capability expands

Where this leaves established firms

These layers do not sit outside the existing business. They become more important within it. A firm under pressure may still have strong demand, recognised clients, specialised capability, and a trusted brand. The question is whether its economic structure reflects where value now holds. If it remains tied to production, access, and human-bounded progression, human-bounded interaction, or constrained capability access, pressure is likely to build. If it can organise autonomous capability through orchestration, verification, governance, absorption, and judgement, it has a stronger basis for durability. This reflects the same underlying condition described earlier. Value accumulates where the activity structure and the structure of value capture remain aligned.

Value does not remain where firms are used to finding it. It accumulates where autonomous capability can be made usable, reliable, governable, and economically effective within the activity structure. Production still matters. On its own, it no longer carries the same commercial weight in sectors where autonomous capability is becoming viable. Value accumulates in the layers that organise, verify, govern, absorb, and direct autonomous activity, interaction, and capability use at scale.

7. Autonomy Driven Business Models

Once firms reorganise around these conditions, a different business model form begins to take shape. This section introduces Autonomy Driven Business Models and explains how autonomous capability becomes embedded in the commercial logic of the firm.

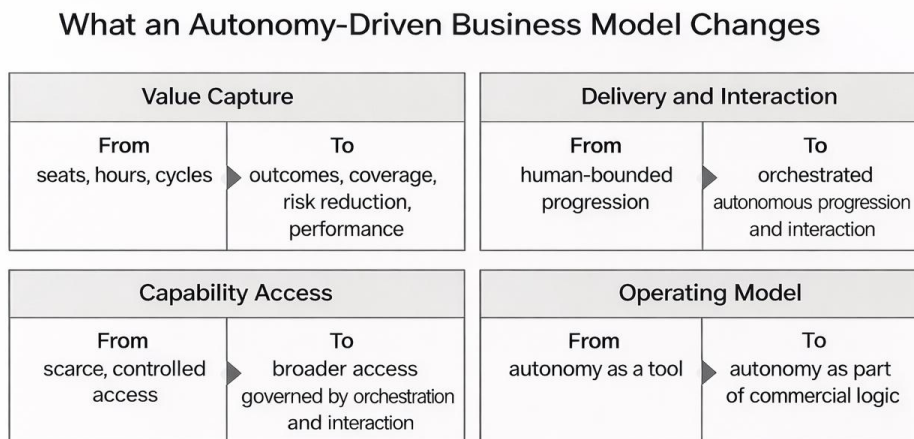
An Autonomy Driven Business Model is one in which autonomous capability is embedded in the commercial logic through which the firm defines, delivers, and captures value. It shapes how activity is carried forward, how interaction takes place, how access to capability is structured, how value is delivered, how revenue is generated, and how advantage is defended.

These models can be understood as a specialisation of AI-driven business model innovation (Jorzik et al., 2024), in which value capture is tied to agentic, continuously progressing activity, interaction, and the application of capability that no longer depends on earlier forms of scarcity in the same way.

The distinction matters because many firms are adding autonomous capability to legacy models without changing the basis on which those models create and defend value. They may improve productivity, lower cost, and increase throughput while still relying on structures built for HBP, HBI, or CSD. The immediate effect is greater efficiency, while the underlying exposure remains.

A contemporary illustration of this redesign logic appears in the recent launch by a major professional-services incumbent of an AI-enabled delivery environment designed to embed autonomous capability more directly into workflow and methodology. The significance is not that such a model is already proven or economically secure, but that incumbents are visibly moving beyond treating AI as a standalone productivity tool. A firm can build such a model and still face pressure if clients use it mainly to demand lower fees, if analytical capability becomes less scarce, or if value capture remains partly tied to older commercial units.

Figure 7: Autonomy-Driven Business Model Changes



An autonomy-driven business model aligns value capture, delivery and interaction, capability access, and operating structure with the new form of work.

Source: Atigolo, Autonomy Economics, The Agentic Profit Paradox and the Reorganisation of Value, 2026

This change runs through the model when redesign occurs. Commercial structures move away from units tied to human-bounded progression, human-bounded interaction, and

constrained capability access, and towards the outcomes, results, and capabilities that autonomous systems make possible. What changes is the basis on which value is defined, justified, and defended. Delivery relies less on HBP, HBI, and CSD and more on autonomous progression, autonomous routing, and capability applied through verification and oversight. Human contribution moves from carrying activity across stages to directing, evaluating, and governing larger volumes of activity and interaction, and to determining how capability is used once access broadens. The operating model no longer treats autonomy as a tool, but as part of the structure through which value is created and captured.

There is no single standard form for these models. They vary by sector, regulatory setting, client expectation, and the nature of the activity involved. What they share is that autonomous capability is not layered onto the existing structure but sits within the logic through which the firm defines value, competes, and organises activity. In sectors where autonomous capability is becoming commercially viable, models that remain tied to earlier assumptions tend to come under pressure over time.

Some models will remain partial, reflecting the uneven pace at which autonomous capability matures across different activities, interactions, and forms of capability access. Others will prove more durable where value definition, delivery, governance, and judgement align with how activity is carried forward, how interaction takes place, and how capability is accessed.

8. Where Profits Get Eaten

Autonomy changes the economics of activity, interaction, and capability access. In many settings, activity has long depended on HBP across stages of interpretation, decision, and execution, interaction on sustained HBI in how demand is formed and captured, and capability access on CSD where value depends on scarce underlying capability. Revenue structures are the focus here because profit pressure builds through their weakening. When the commercial basis on which revenue is justified erodes, the profit structure that depends on it comes under pressure as well. This does not unfold in a linear sequence. It can appear wherever systems start to carry forward parts of that activity, mediate parts of that interaction, or make underlying capability more accessible in commercially meaningful ways.

The examples here draw on software, services, financial institutions, wealth management, consulting, private equity, and private credit. They illustrate a broader pattern without claiming to define its full boundaries.

Human contribution remains central, but its role changes as autonomous systems carry forward parts of activity and interaction, and as access to capability broadens. The balance between contribution and progression adjusts, and the place of interaction and capability access within the commercial model changes with it. Pressure often appears early, before adoption is complete, because expectations can change as soon as credible alternatives come into view. Firms also face rising costs of deploying, integrating, and governing these systems.

As activity is carried forward differently, interaction takes place differently, and access to capability is reorganised, revenue models tied to earlier forms of progression, interaction, or scarcity can come under pressure. This reflects a change in alignment between the structure of activity and the structure of value capture.

Software revenue models and autonomy exposure

Software spans several revenue structures, and exposure varies within the category. Some products earn revenue from seats, others from usage, tokens, compute, or API calls. Some earn revenue from cycles such as runs, scans, or jobs. Many combine software with services. Exposure depends on the structure of the revenue line and the role the product plays in how activity is carried forward, how interaction takes place, or how access to capability is organised.

Seat-based software

Seat-based models may weaken when activity can be carried forward without occupying a seat in the same way. Products that package fixed activity behind a user interface may be among the most exposed. As systems start to carry that activity forward more directly, the marginal value of an additional seat can decline. The continued role of human developers does not, on its own, preserve the earlier commercial structure. Developers using agentic coding tools still produce and deliver software, but the activity may no longer depend on

HBP in the same way. The economic question moves from time spent to systems delivered, integration quality, and outcome performance.

Usage-based software

Usage-based models can strengthen or weaken. Autonomous activity can increase usage when the product remains central to how activity is carried forward or interaction is mediated. It can reduce usage when systems bypass part of that path. Durability depends on whether the product remains embedded in the activity structure and whether it continues to sit inside the interaction path through which demand is routed or executed.

Cycle-based software

Cycle-based models earn revenue from runs, scans, builds, or jobs. Autonomy can generate or direct more of these cycles. If the product remains the environment in which they run, usage can rise. When those cycles can be executed elsewhere, usage can fall.

Hybrid software-services models

Hybrid models face pressure from more than one direction. The software side reflects how autonomy interacts with seats, usage, or cycles. The services side reflects how autonomy interacts with progression. In some cases, pressure can also appear in the capability layer when the technical or analytical capability on which the offer depended becomes easier to access elsewhere. Pressure can therefore appear across several layers at once, although some firms may strengthen their position when they redesign around autonomous capability.

Software that embeds autonomy

Some products gain value by embedding autonomy directly. They move from packaging activity to enabling capability and may strengthen when they become part of the environment in which autonomous execution occurs. Pressure can still appear when firms built on top of third-party autonomous capability lose the scarcity that supported their position. This can happen when the underlying capability becomes more widely accessible, more easily substituted, or is absorbed by the upstream provider within its own product environment. In such cases, downstream firms may retain users and continue improving

their products, and yet still face pressure on the commercial basis of value capture because the capability layer on which they depended is no longer scarce on the same terms.

Software that is displaced

Other products may weaken when autonomous systems can generate or execute the underlying activity without them. In these cases, progression moves outside the product and the revenue line becomes less durable. Where the product also depended on repeated interface use or navigation, interaction-based pressure may appear alongside progression pressure.

Software as infrastructure

Some products become infrastructure for autonomy. They provide data, coordination, integration, or execution environments that autonomous systems depend on. Their value is tied less to bounded interaction and more to enabling progression and interaction at scale. In some cases, they also benefit because they become one of the environments through which previously scarce capability is operationalised.

Software and capability scarcity

Some software businesses derive part of their value from access to technical capability that remains difficult, costly, or complex for others to reproduce. As autonomous capability improves and becomes easier to access through models, agents, tooling layers, or open systems, that scarcity can weaken. In these cases, profit pressure does not arise only because activity moves outside the product or because interaction is displaced. It also arises because the underlying capability on which the product's value depended becomes less scarce and less defensible.

Across software, the pattern is broadly consistent. Revenue tends to hold when the product remains central to how activity is carried forward, how interaction is mediated, or how access to capability is structured. It tends to weaken when those functions can move outside it.

Services businesses with progression, interaction, or scarcity exposure

Some services businesses earn revenue from activity that progresses through human involvement, including analysis, interpretation, planning, drafting, and coordination. These

activities have long relied on human judgement to carry progression forward. As autonomy carries more of this activity, the basis on which value is justified can become less stable. The link between progression and human effort weakens.

Other services also depend on interaction. Value may be tied not only to the work itself, but to discovery, access, client engagement, and the relationship surface through which work is formed and sold. Where autonomous systems reduce the need for continuous interaction of that kind, pressure may appear even if the underlying service still matters.

In other cases, the service depends in part on scarce analytical, technical, or operational capability that clients previously could not easily access on their own. As that capability broadens, scarcity weakens and the commercial basis of the service may come under pressure even before demand falls.

Other services operate on a different footing. Their value rests more firmly on judgement, accountability, trust, relationship depth, or physical presence. In these settings, autonomy supports delivery while authority and responsibility continue to anchor the commercial logic.

This distinction separates services exposed through progression, interaction, or scarcity from those grounded more firmly in authority and responsibility.

Financial institutions

Banks and asset managers may show the same pattern in operational, compliance, research-heavy, and interface-dependent layers. Fee pools tied to progression can begin to soften when parts of that progression move with less continuous dependence on HBP. Research, onboarding, monitoring, and reconciliation have long depended on HBP to interpret information and determine what happens next. As autonomy advances these activities, both the cost base and the logic supporting those fee pools can come under pressure.

Interaction also matters. In some parts of financial services, value depends on controlling the client interface, information flow, or discovery process through which products are selected or actions are initiated. Where autonomous systems begin to mediate that interaction more directly, pressure may build on the surface through which value was previously captured.

Capability scarcity matters as well. Some parts of the model depend on access to technical, cognitive, or operational capability that once remained difficult to reproduce outside specialised teams. As that capability becomes more accessible in commercially meaningful ways, parts of the revenue base may become less secure.

In regulated settings, verification, supervision, and accountability carry more weight as volume and speed increase. The more stable parts of the model tend to sit closer to judgement, control, responsibility, and governed use.

Wealth management

Wealth management may show a slower version of the same pattern. Adviser judgement, trust, behavioural guidance, and responsibility remain central in complex client settings.

Pressure can appear in adjacent activities such as portfolio monitoring, research preparation, reporting, and elements of portfolio construction. As autonomous capability advances in these areas, some clients may question the relationship between effort and value. Demand for advice can remain strong while parts of the process no longer appear as scarce, and some of the analytical capability on which they depended becomes easier to access.

Interaction matters here too. Wealth management has often depended on sustained client contact, relationship maintenance, and the advisory surface through which confidence is built and decisions are framed. Where some of that interaction becomes easier to mediate through autonomous systems, pressure may appear on parts of the model that were supported by that relationship layer rather than by final judgement alone.

Regulatory pressure reinforces this across multiple jurisdictions. Firms are increasingly required to demonstrate that the value clients receive is justified by outcomes they understand and benefit from, not by the activity involved in producing those outcomes. The result is pressure from more than one direction. Autonomous capability affects the commercial basis for certain revenue structures, while regulation raises the standard for how that value is demonstrated.

Consulting

Consulting firms face direct exposure. A large share of billable activity is tied to analysis, synthesis, and structured problem solving. Autonomous systems can carry these activities forward quickly. They do not need to replace entire engagements to affect the model. A change in how clients assess the cost of producing the underlying activity can be enough.

Interaction matters here as well. Some consulting value has long depended on workshops, discovery processes, iterative client engagement, and the interface through which problems are shaped and reframed. Where parts of that interaction can be compressed, routed differently, or handled with less continuous human involvement, pressure may appear there too.

Scarcity also matters. In some cases, the pressure sits in the weakening scarcity of analytical and synthetic capability that clients can increasingly access more directly. Judgement, political navigation, implementation support, and senior trust remain valuable, but they may carry more of the defensible premium as underlying analytical capability broadens.

Firms that redesign early can use lower-cost analysis and preparation to widen coverage, improve responsiveness, and deepen senior attention. The advantage depends on how additional capacity is converted into stronger commercial position.

Legal and accounting activity

Legal and accounting activity contains several progression-heavy layers. Drafting, review, checking, and reconciliation have long depended on HBP across defined stages. As autonomous capability becomes more useful in these areas, pressure often appears first in the parts of the model tied to progression, not in final responsibility.

Exposure is uneven. Structured progression may come under pressure earlier. Judgement, accountability, sign-off, and governed interpretation retain more economic weight. In legal and accounting work, capability scarcity can also matter. Some of the technical and analytical capability that once sat behind specialised teams may become easier to access for clients and adjacent providers, even where final responsibility remains with licensed or accountable professionals.

Interaction also remains relevant in some parts of the model, particularly where discovery, client contact, and the management of process have historically formed part of value capture. That pressure is likely to be less immediate than progression pressure in many cases, but it may still appear in adjacent layers.

An early signal of this pressure appears in audit and advisory pricing, where clients are already seeking a share of AI-enabled efficiency gains and regulators are simultaneously pressing firms to strengthen governance and verification around AI use.

Private equity and private credit

Private equity and private credit face the issue from more than one direction.

Within portfolio companies, autonomous capability can improve operations and strengthen earnings. At the same time, many of those companies generate revenue from software or services tied to progression, interaction, or capability access. As their customers adopt autonomy, willingness to pay for those structures can weaken.

Private credit shows a related pattern. Monitoring, servicing, underwriting support, and reporting can increasingly be carried forward with less human involvement. This can improve internal efficiency while also affecting how parts of the model are commercially justified. In some parts of the market, interface control and information access may also matter, especially where the lender or platform sits in the path through which decisions, monitoring, or distribution take place.

The effect can appear across operating performance, revenue durability, and valuation at the same time.

A common pattern across categories

Across these categories, a consistent pattern appears. Demand can remain intact while pressure builds. Capability improves and operations strengthen, yet the commercial structure can begin to weaken.

In each of the cases examined, revenue lines built on HBP, HBI, or CSD may become less secure once those conditions can be carried forward, mediated, or accessed in different ways.

The changes above are calibrated to the current 2026 picture rather than assuming full substitution. Adoption is broadening, but it remains uneven, and the areas seeing the clearest pressure are still the ones where capability is reliable enough to matter commercially, governance can support deployment, and clients can already see a different basis for pricing or value.

9. Early Signals And The Repricing Of Durability

Autonomy Economics does not depend on one market event, one company, or one technology release. The reorganisation it describes unfolds over time. Early signs often appear as scattered signals that are easy to dismiss individually and harder to ignore in combination. That is the position now.

The opening months of 2026 brought a sharp repricing across parts of software and related services. No single explanation accounts for that move. Macro volatility, sentiment, and positioning all played a role. Even so, the speed and scale of the repricing raised a more specific question about durability. Autonomous capability has not remade these sectors in full, but it has advanced far enough for the durability of certain revenue structures to come under closer scrutiny.

Repricing before revenue erosion

Markets can reassess durability before full redesign takes place. They respond when structural change becomes plausible in the layers of activity, interaction, or capability access that support established revenue lines. Autonomous capability does not need to be fully deployed for its economic effects to register. Credibility in commercially meaningful ways in how activity is carried forward, how interaction takes place, or how access to capability broadens can be enough.

This helps explain why repricing can arrive before aggregate revenues move. The issue is not immediate replacement at scale. It is changing confidence in whether existing commercial structures will hold once another form of progression, interaction, or capability access becomes viable. What enters the discussion is not only current performance, but future structure.

OpenClaw and the change in expectation

Volatility in early 2026 developed alongside visible changes in capability. OpenClaw, an open-source autonomous agent designed to carry out computer-based activity across connected tools with much less human intervention than earlier systems, drew widespread attention. Coverage in business and financial media described rapid adoption in China, growing interest from individual users and small teams, and official concern about security and deployment risk.

The significance lies in expectation. Investors, executives, and clients began asking a more direct question. What happens to business models built around activity that depends on human-bounded progression, interaction that depends on sustained human involvement, or capability that remained commercially valuable because it was difficult to access at scale.

Reading the repricing

Some observers described the sell-off as an overreaction. Short-term movements often are. Markets, however, assess future cash flows, profit structures, and competitive dynamics. A sharp repricing can therefore signal a change in how durability is judged.

What the coverage of that period suggests is that durability can enter the discussion before operating models have fully adjusted. The question moves from current performance to future structure. At the edge of the market, including open-source tools, individual developers, and small teams, the unit economics of agentic capability have already changed in some categories. Enterprise adoption follows a slower path shaped by governance, integration, reliability, and switching costs. The edge still influences expectations about what becomes possible next. Reports on enterprise AI adoption continue to show broad interest, but also uneven deployment shaped by governance, trust, and implementation constraints.

Howard Marks and the economic test

Howard Marks, co-founder of Oaktree Capital Management and a widely read investor known for his market memos, frames the issue in practical terms. In his February 2026 memo *AI Hurtles Ahead*, written as a follow-up to his December 2025 memo *Is It a Bubble?*, he argues that the central economic question is not whether AI truly understands,

but whether it does the work. He also stresses that the commercial outcome depends on whether organisations know how to organise and direct it effectively (Marks, 2026).

The relevance here lies in execution, not cognition. A system does not need to replicate human understanding in full to affect the economics of a revenue line. It only needs to carry forward commercially meaningful stages of activity, mediate commercially meaningful parts of interaction, or broaden access to capability with enough reliability for the commercial basis of value to come under pressure. At the same time, firms that structure activity effectively can use the same capability to expand what they deliver.

Professional services and direct pressure

The same mechanism can already be seen in professional services. The *Financial Times* reported that KPMG pressed its auditor, Grant Thornton UK, for a reduction in audit fees, arguing that AI-enabled efficiency gains should be reflected in lower prices. The fee fell from \$416,000 to \$357,000 for the 2025 audit (Foley, 2026). Bloomberg reported a related pattern at PwC, where Dan Priest, the firm's Chief AI Officer, said AI had improved the efficiency of some systems integration work by roughly 30 per cent and that part of that gain had appeared as price reductions to clients (Davalos and Ford, 2025).

These are illustrative examples, not representative datasets. Their significance lies elsewhere. Neither case required the entire service to be replaced. A change in how part of the underlying activity could be carried forward was enough to affect the commercial basis of the engagement. Fees justified by the volume and cost of human-bounded progression can become harder to defend once that progression can be carried forward differently.

These cases also sit alongside increasing regulatory attention to how firms use AI in audit and assurance. The UK Financial Reporting Council has said firms are adopting AI more widely, but also that they need stronger oversight, clearer measurement, and better governance around its use. That makes the pressure two-sided. Efficiency gains may narrow the basis for pricing in some layers, while governance and assurance requirements may increase in others.

Consulting and the weakening of time-based models

Consulting shows a similar pattern. A large share of revenue remains tied to analysis, synthesis, structured preparation, and layered delivery. As autonomous capability advances in these areas, the cost of producing parts of the underlying activity can fall. Clients may then reassess the relationship between labour input and delivered value. Pressure can appear even while demand remains stable or grows.

The pressure is not only about progression. Some consulting value has also depended on discovery processes, iterative client engagement, and the interaction surface through which problems are shaped and reframed. In some cases it may also reflect the weakening scarcity of analytical and synthetic capability that clients can increasingly access more directly. Many firms have introduced internal AI platforms and automation initiatives, but in many cases these remain additive to existing delivery structures. The underlying model often remains largely unchanged.

Capacity created through autonomy can be used in different ways. Some firms use it to reduce cost. Others use it to widen coverage, improve responsiveness, and deepen senior attention. The commercial outcome depends on how that capacity is directed.

Financial institutions and progression-heavy layers

In financial institutions, signals may appear first in progression-heavy layers. Research, onboarding, monitoring, reconciliation, and compliance handling still carry substantial cost and support parts of the model built on that structure. As autonomous capability becomes more effective in carrying forward these activities, pressure can appear in how those layers are commercially justified.

That pressure is not only about progression. In some parts of financial services, value also depends on the client interface, the information flow through which demand is formed, or access to analytical and operational capability that was once more difficult to reproduce outside specialised teams. Demand may remain stable while the underlying structure becomes less secure. This helps explain why restructuring can occur during periods of strong headline performance. The institution remains profitable, while parts of its internal structure come under review.

What cost action does and does not show

Reductions in headcount reflect different forces. Some follow weaker demand. Others correct earlier hiring decisions. A smaller share reflects structural change in how activity is organised.

Distinguishing between these cases matters. Not every reduction signals redesign, and not every autonomy programme reflects a change in how value is created and captured. Many firms are lowering costs to fund deployment, infrastructure, and integration. That improves efficiency but does not by itself change the commercial model. Hiring freezes and workforce reductions across technology and financial services may point in a consistent direction when they are concentrated in progression-heavy areas while capability-building roles continue to be funded, but even then the interpretation should remain cautious.

A different reading of added capacity

Jensen Huang, founder and chief executive of NVIDIA, has criticised the use of AI primarily for cost reduction and workforce cuts, arguing instead that firms should use it to expand what they can produce rather than do the same activity with fewer people. The point matters here because additional capacity can be used in more than one way. It can be used to reduce cost within an existing model, or to expand coverage, improve service, and build new forms of value. The commercial outcome depends on how that capacity is applied and what the firm is willing to redesign around it.

Revenue durability and early structural pressure

The Revenue Durability Framework examines how autonomous capability affects the resilience of a firm's commercial model. It identifies the forces that determine whether a revenue line can withstand, absorb, or reorganise under autonomy.

The Capability Durability Framework addresses a related question. It concerns the organisation's ability to absorb autonomous capacity and convert it into stronger capability as the activity structure changes.

These are distinct. A firm may recognise exposure without building the structure needed to capture value. Exposure and capture move separately.

What the signals suggest

Taken together, these signals point in a consistent direction. Durability can be questioned before full deployment. Pressure may appear first in progression-heavy, interaction-dependent, and capability-scarcity-dependent layers. Value can begin to accumulate more clearly in orchestration, verification, governance, absorption, and judgement. Firms that adapt early are better placed to convert capability into commercial advantage.

These signals do not mark a completed reorganisation. They make it visible. Once durability enters market expectations, it begins to influence valuation, operating decisions, and strategy in the present.

9A Competitive Pressure and Adaptive Dynamics

As autonomous capability becomes commercially credible in how activity is carried forward, how interaction takes place, or how access to underlying capability is structured, competitive pressure increasingly reorganises around cost, capability, and control. As execution becomes more measurable and access to capability easier to assess, firms face greater scrutiny over how they position and justify value.

The changing cost of execution

The cost of execution and decision capability is changing, but not uniformly. In many categories, inference becomes cheaper, token prices decline, context windows widen, and open-weight models can reduce dependence on proprietary APIs in some deployments. At the same time, higher performance and reliability can raise cost through infrastructure and capital expenditure.

Usage continues to rise. Firms automate more routines, run agents more continuously, and embed decision logic across products and operations. As with cloud computing, unit costs can fall while overall spend grows. The key change is that execution cost, interaction efficiency, and access to capability become more measurable and, in some settings, easier to compare across firms and across models.

Efficiency becomes more visible and more negotiable

Clients observe faster turnaround, reduced staffing, automated progression across stages of activity, reduced reliance on direct human interaction, and in some cases broader access to capabilities that were previously harder to obtain. Commercial structures built on HBP, HBI, or CSD can therefore come under greater scrutiny, especially in more standardised contexts. Early signals across professional services, software pricing, workflow automation, and other progression- or interaction-dependent models are consistent with this pattern.

As firms and clients gain more visibility into what autonomous capability can now do, efficiency enters commercial negotiation more directly, even where the underlying service or product remains in demand.

Competitors respond to visible efficiency

Once efficiency becomes measurable and sufficiently comparable across firms, it enters competition more directly. Commercial structures adjust, positioning changes, and automation becomes more expected. In many settings, especially as capabilities diffuse, operational advantage becomes harder to sustain on process alone, even though integration quality, workflow design, and human-system coordination can remain important differentiators.

The effect is cumulative. As more firms reach similar levels of execution capability, differentiation moves away from how activity is carried forward, how interaction takes place, or how access to capability is controlled, and towards how that capability is organised and applied. A contemporary illustration appears in Salesforce's launch of Headless 360 (Salesforce, 2026), which exposes the full platform as APIs, MCP tools, and CLI commands so agents can operate it without the browser. The significance is commercial as well as technical. It suggests that the graphical interface may no longer hold the same place as the primary locus of value in enterprise software. The platform is being repositioned as agent-accessible infrastructure as well as a user-facing application. This is consistent with the broader pattern described here. As execution becomes more measurable and interface dependence weakens, defensibility moves towards data, workflow logic, governance, trust layers, and the orchestration of capability across surfaces. The

accompanying move towards consumption-based pricing for Agentforce also reflects the weakening of seat-based assumptions once agents, and not only users, increasingly mediate execution.

Where defensibility holds

When efficiency becomes widely understood, operational execution no longer carries the same weight on its own. Defensibility tends to sit in the layers that shape how capability is applied, constrained, governed, and integrated into activity, interaction, and capability access, and that are harder to observe and replicate than execution alone.

Data

Proprietary data can support better outcomes and continued improvement. Systems operating on richer or more relevant data may produce results that are harder to match.

Optimisation quality

The way a firm structures and governs autonomous systems influences performance in practice. Routines, constraints, evaluation layers, and feedback loops shape how capability translates into outcomes.

Ecosystem control

Control over distribution, operating surfaces, integration layers, and trusted workflow environments influences where autonomous systems run, how interaction is mediated, and how value is captured.

Regulatory and structural position

Licences, switching costs, trust, and institutional relationships can continue to support position. These advantages remain tied to accountability and established presence.

Judgement and accountability

Judgement and accountability remain central in high-consequence settings, where responsibility for decisions cannot be delegated. Their role becomes more concentrated as they govern a larger base of autonomous activity, interaction, and capability use.

Compounding advantage

These sources of advantage reinforce one another. Firms that combine regulatory position, proprietary data, ecosystem control, and governed access to capability are likely to hold more resilient positions than those relying on a single layer.

10. What The Market And Analysts Got Right

The repricing of early 2026 drew significant commentary from analysts and investors. Markets appear to have recognised that the movement extended beyond software and could affect revenue structures across multiple sectors. Several signals were interpreted correctly.

Thin SaaS and interface-wrapped logic are exposed

Some software products do little more than wrap a defined and repeatable set of tasks inside a user interface, charging for access to that interface. The logic running underneath is often predictable and bounded. It follows fixed rules, handles a defined scope of activity, and does not require genuine judgement or adaptation to context. The interface makes the process convenient and structured, but the underlying activity remains rule-based and repeatable. In that sense, it may be closer to a process that software happens to be running than to a defensible software layer in its own right.

When autonomous systems can carry those tasks forward with less dependence on human-bounded progression, completing similar outputs without a user navigating the interface at all, the interface may begin to lose some of its commercial centrality. The revenue structure built around it may weaken because the activity it was packaging can move outside it or because the interface captures less of the value than before.

Seat-based and cycle-based models are vulnerable

Seat-based models charge per user on the assumption that activity depends on human-bounded progression to move forward. Cycle-based models charge per run, scan, build, or job on the assumption that each cycle requires human-bounded progression to initiate and oversee. Both structures often rest in meaningful part on activity depending on HBP as the unit through which value is measured and justified, even if risk transfer, accountability, or budgeting simplicity also contribute to how those models hold. When autonomous systems can carry that activity forward with less dependence on HBP, the commercial logic holding those units in place may weaken.

Agentic systems change throughput

Agentic systems can take a goal, carry activity forward across multiple stages, and return a completed output with less dependence on human-bounded progression at each step. This

can change how much activity a firm can process, how quickly, and with how much HBP still required. When that changes, commercial structures built around how much human-bounded progression was previously needed to produce the same output may come under pressure.

Exposure extends across industries

The pressure from autonomous capability is not confined to software. Any business whose revenue depends on human-bounded progression moving activity through defined stages, on human-bounded interaction sustaining attention and engagement through an interface, or on capability remaining scarce, may face varying degrees of the same structural question. Software, financial services, wealth management, consulting, private equity, and private credit each contain revenue lines of this kind. Markets appear to have been directionally right to recognise that the exposure was sectoral, not just technological.

Defensibility varies under autonomy

Not all commercial positions are equally exposed. Structures built on packaging predictable processes or on capturing value through interaction-dependent commercial structures may face more direct pressure because those are the layers autonomous systems can sometimes bypass or replicate. Structures built on regulatory position, established distribution, proprietary data, scarce capability, or high switching costs are often harder to displace because they rest on advantages that autonomous capability does not directly erode in the same way.

The repricing reflected stress in the business model

The sell-off was not simply a reaction to uncertainty about technology. It also appeared to reflect a reassessment of whether the commercial structures supporting certain revenue lines would remain durable once autonomous capability changed how the underlying activity could be carried forward, how interaction could take place, or how access to capability could be structured. Seat licences, workflow modules, cycle-based models, and some capability-access structures each rest on assumptions about how activity is organised and how value is defended. Once those assumptions became less secure, the durability of

the revenue depending on them came into question. Short-term rallies driven by earnings strength do not necessarily change that underlying position.

What the Market and Analysts Got Wrong

Some interpretations focused on volatility while missing the underlying mechanics.

Framing the change as software versus AI

Much of the commentary framed the repricing as a competitive battle between established software platforms and AI model providers, asking which side would capture more value. That framing missed a more fundamental question, which is whether the business models on both sides remain durable when activity can be carried forward, interaction can take place, or capability can be accessed with less dependence on the structures those models were built around. The issue is not simply who wins the technology race. It is whether the commercial logic of established models holds under the new activity structure.

Focusing on who delivers the technology instead of how value is justified

Debates concentrated on which vendors and model companies would dominate deployment. Less attention was paid to whether the commercial structures of the firms adopting that technology, built on seat licences, modules, cycle-based structures, interaction-dependent value capture, or scarce capability access, would remain defensible once alternative paths for carrying activity forward, mediating interaction, or accessing capability became available. Deployment strength and commercial durability are different questions.

Misreading the role of foundation models

Foundation models were often characterised in two ways, either as too unreliable to matter commercially or as so disruptive that they would immediately displace everything built before them. Neither characterisation appears fully accurate. In practice, foundation models can already generate consistent and usable outputs across a wide range of domains, and they often operate within larger systems that add reliability through verification, governance, and oversight. The capability is already present and functioning in some enterprise settings, even if it is not yet uniform across all activity types. At the same time, its commercial effect does not depend on immediate and universal displacement. In many

settings, it is enough that foundation models can carry forward meaningful stages of activity, mediate parts of interaction, or broaden access to capability with sufficient reliability for existing commercial structures to come under pressure. That pressure can build well before full replacement becomes viable.

Assuming model companies cannot build enterprise systems

A common assumption was that model providers lacked the integration depth, regulatory understanding, and enterprise relationships needed to operate inside large organisations. This may underestimate how enterprise capability can be built over time. It often develops incrementally through partnerships, embedded components, and gradual expansion of trust. Model providers are already supplying components that sit inside enterprise and government environments, and that presence may grow over time.

Focusing on deployment strength instead of business model strength

Incumbent platforms were assessed primarily on their distribution advantages, customer relationships, and deployment scale. These are real strengths. They do not, however, necessarily protect the commercial structures through which those platforms generate revenue if those structures depend on activity, interaction, or capability-scarcity conditions that are changing. A firm can maintain its market position while the revenue logic supporting it weakens. Platform resilience does not guarantee business model resilience.

Misreading the risk of embedding capability into unchanged models

When firms began adopting autonomous capability, the dominant interpretation was that this represented a straightforward efficiency gain, with lower costs, faster delivery, and improved margins. Less attention was paid to what happens when capability improves faster than the commercial structure adjusts to capture it. A firm that becomes more capable while leaving its value capture logic unchanged may improve its operations while weakening the basis on which its revenue is justified. That risk appeared to be largely absent from early commentary.

Treating capability as uniform

Analysis frequently assumed that autonomous capability would affect all activities, interaction models, and capability-dependent structures on a similar timeline. In practice,

capability matures unevenly. Structured, bounded, and repetitive activities may become viable for autonomous execution earlier than open-ended, judgement-heavy, or relationship-dependent ones. Capability scarcity may also weaken unevenly across domains depending on integration depth, cost, reliability, and access. Grouping these together produced a distorted picture of where pressure was already building and where it remained more distant.

Mistaking early margin improvement for durability

When firms reduced progression-heavy roles while maintaining revenue, this was widely read as evidence of resilience. The timing effect was often missed. A firm that reduces costs using autonomous capability before its competitors may gain a temporary margin advantage. Once similar capability is widely adopted across a sector, that advantage may narrow and the underlying question of how value is justified to clients remains unresolved. Cost reduction across a sector can be self-cancelling. It does not resolve the structural question.

Underestimating regulation as a parallel force

Some commentary treated the move toward outcome-based value justification as a future development. In practice, regulation is already moving in the same direction independently. Across financial advice, healthcare, legal services, and audit, firms in multiple jurisdictions are increasingly required to demonstrate that the value delivered to clients is justified by outcomes, not by the volume of activity or interaction involved in producing those outcomes. This regulatory pressure operates alongside autonomous capability as a second and independent source of structural change, and the two may reinforce each other.

Grouping structurally different companies together

The repricing was often treated as a uniform reaction across a category. In practice, the firms most affected were those whose revenue depended on commercial structures built around activity, interaction, or access to capability that autonomous capability was beginning to change. Firms anchored in regulation, proprietary data, established distribution, scarce capability, or high switching costs were not insulated from pressure, but often faced it through different mechanisms, on different timelines, and with different

degrees of exposure. Treating these firms as equivalent obscured where pressure was building, how it was building, and where it was likely to appear first.

11. Technical Maturity And The Timing Of Pressure

Technical maturity affects timing in how activity is carried forward, how interaction takes place, and how access to underlying capability is structured. It does not remove the broader economic pressure developed in this paper.

Autonomous capability does not become commercially meaningful everywhere at once. Reliability varies across tasks, environments, and sectors. Some forms of activity, interaction, and capability access stabilise earlier than others. Structured analysis, reconciliation, documentation routing, verification, and some forms of bounded capability access may move sooner. Negotiation, unstructured judgement, strategic exception handling, and more complex forms of capability use tend to move more slowly.

Reliability depends on more than the model. Tools, APIs, orchestration layers, verification steps, escalation rules, and exception handling all shape whether autonomous capability can be used reliably in production for activity, interaction, or capability access. The economic effect therefore depends on system design as well as model capability.

These differences shape where pressure appears first. Revenue lines tied to earlier-stabilising forms of progression, interaction, or capability access may come under pressure sooner. Revenue lines tied to open-ended judgement, heavier regulatory exposure, stronger scarcity conditions, or complex exception handling may move more gradually.

Markets and enterprises do not move in perfect alignment. Markets may respond to visible capability before firms can deploy it safely at scale. This gap helps explain why commercial and valuation pressure can appear before redesign is visible in operations.

The claim is not that every activity, interaction model, or form of capability access reaches the same level of readiness on the same timeline. It is that once a meaningful share of activity can be carried forward differently, interaction can take place differently, or access to capability can be broadened or reorganised, the commercial structures built around the earlier form may come under pressure. Technical maturity shapes where that pressure

appears first and how quickly it spreads. It does not alter the direction of value reorganisation.

Technical unevenness does not imply economic irrelevance. Capability can remain incomplete while still changing how firms, clients, and investors assess durability across activity, interaction, and capability-access structures.

11A. Scenarios, Timing And The Boundary Conditions Of Autonomy Economics

Autonomy Economics does not depend on a single timeline. The direction of value migration appears clear. The pace is not fixed, and the conditions shaping that pace need to be stated directly.

Three scenarios frame the range of outcomes.

The base case

Autonomous capability continues to advance in how activity is carried forward, how interaction takes place, and how access to underlying capability is structured across a widening range of domains at a pace broadly similar to early 2026. Enterprise adoption follows the edge by two to three years, shaped by governance requirements, integration depth, and switching costs. Redesign pressure builds steadily across software, consulting, financial services, legal, accounting, wealth management, BPO, and private capital.

Revenue lines tied to HBP, HBI, or CSD may weaken gradually, then more sharply as clients, markets, and competitors adjust expectations about how activity is carried forward, how interaction takes place, how access to capability is changing, and what supports its value. Firms that redesign early may capture more of the value that follows. Those that delay may see the gap between operating efficiency and commercial durability widen over time.

The slow adoption case

Autonomous capability plateaus below the level required for organisations to reduce human direction and oversight across a broad range of activity, interaction, and capability-dependent processes. Failure rates in production environments remain high enough that exception handling dominates deployment economics. In consulting, legal review,

financial analysis, software progression, BPO activity, and more capability-scarcity-dependent settings, the cost of error or the difficulty of reliable deployment outweighs efficiency gains.

Enterprise adoption slows across sectors. The edge continues to advance, but the point at which autonomous capability becomes commercially decisive in how activity is carried forward, how interaction takes place, or how access to capability is reorganised for incumbent revenue models moves back by several years.

The direction of value migration does not necessarily change. The timeline extends, and commercial structures that might otherwise come under earlier pressure retain their footing for longer.

The regulatory constraint case

Coordinated policy action across major economies introduces constraints on autonomous capability in how activity is carried forward, how interaction takes place, or how access to capability is expanded across professional services, software deployment, financial advice, legal activity, and administrative functions. These constraints may reflect labour market pressure, sovereignty concerns, and public debate over how the gains from autonomous capability are distributed.

They may take the form of mandatory human direction requirements, liability rules that require human sign-off, procurement policies that favour human-delivered activity in public and regulated markets, or constraints on how certain capabilities can be deployed or accessed.

Under these conditions, access-based models, billable-hour structures, seat-based software licences, interaction-based monetisation models, and some scarcity-based commercial structures may retain durability for longer. The underlying economics may remain under pressure, but policy can slow adoption. Value reorganisation may continue at a pace shaped more by regulation and political economy than by technical capability alone.

Timing and boundary conditions

These scenarios do not alter the laws described in this paper. They affect the pace at which those laws become commercially decisive. The direction of value migration is likely to hold across all three. What varies is pace, sequence, and the degree of protection that technical constraints, regulation, and political economy may provide to existing models.

There is one condition under which the timing assumptions would need revision. If autonomous capability across a broad range of activity, interaction, and capability access remains below the threshold described in Section 4A for an extended period, the pressure described here would emerge more slowly than in the base case. The laws may still hold. The timeline extends.

This defines the boundary of the field. The reorganisation of value appears to be underway. The open question is how quickly each sector reaches the point at which it becomes commercially decisive for value capture.

11B. Falsifiability and Empirical Tests

A conceptual field requires clear conditions under which its claims could fail. The claims set out in *Autonomy Economics* are directional and open to empirical evaluation. The framework should be revised where evidence develops in ways that contradict its core expectations. Because adoption of autonomous capability remains uneven across sectors, the tests below are framed conditionally. Each time window runs from the point at which autonomous capability becomes credibly deployed in commercially meaningful ways within a given sector, not from the point of broad adoption. Credible deployment does not require full substitution. It requires that autonomous capability has demonstrably changed how activity is carried forward, how interaction takes place, or how access to capability is structured in ways that are visible to clients, competitors, and markets within that sector.

Revenue models built on HBP, HBI, or CSD provide a first test. This is a test of commercial-unit durability. If autonomous capability is credibly deployed in the ways described above, revenue models calibrated to HBP, HBI, or CSD should come under pressure. If firms in affected sectors continue to sustain those revenue models without redesign within one to two years of that threshold, and do so while margins hold or expand,

the mechanism described in this paper would be weakened. The purpose of this window is to keep the test empirically usable while staying close enough to credible deployment for structural pressure to be assessed in a meaningful way. Continued durability without redesign beyond that window, under conditions where the underlying basis of the revenue model has demonstrably changed, would require the framework to be revised.

Firms that adopt autonomous capability without redesign provide a second test. This is a test of firm-level alignment and value reaccumulation. The claim is that firms adopting autonomous capability while keeping revenue models calibrated to HBP, HBI, or CSD should, over time, face growing difficulty in capturing value through those same structures. If firms across multiple sectors adopt autonomous capability, preserve those revenue models, and still expand margins without value reaccumulating in orchestration, verification, governance, absorption, or judgement, the Agentic Profit Paradox would be called into question. Short-term margin expansion driven mainly by labour reduction, without corresponding evidence of durable value reaccumulation in those layers, would not count as disconfirming evidence for the framework. This test can be observed at both firm and sector level through revenue composition, revenue model structure, and margin data within two to three years of credible deployment, since margin effects often take longer to appear in reported financials even when structural pressure is already building.

Patterns of value movement provide a third test. As autonomous throughput increases, value would be expected to concentrate in the layers that remain economically constraining once HBP, HBI, and CSD no longer organise the commercial model in the same way. If, in sectors where autonomous capability is credibly deployed, value does not accumulate toward orchestration, verification, governance, absorption, and judgement within three to five years of that threshold, the three laws set out in this paper would need to be reconsidered. This time window is longer than the first two because value reaccumulation in these layers involves organisational redesign, which tends to move more slowly than market repricing or client fee pressure. The absence of that pattern in a major sector where HBP-, HBI-, or CSD-dependent activity has demonstrably changed form would be a meaningful signal requiring assessment.

The field also has a scope condition. If HBP, HBI, or CSD remain fully durable in sectors where autonomous capability has been credibly deployed in commercially meaningful ways, without redesign and beyond the time windows set out above, the scope of *Autonomy Economics* may need to be narrowed to exclude those sectors.

These tests provide several ways to assess the claims of *Autonomy Economics* over time. The field does not require uniform movement across sectors or a single timeline. It does require that where activity is carried forward differently, interaction takes place differently, or access to capability is restructured in commercially meaningful ways, the economic structures built around the earlier form do not remain durable without redesign. Where that condition is not met within the time windows described above, the framework should be revised accordingly.

12. The Contrary View

Autonomous capability remains early and uneven. Technical possibility does not automatically produce commercial impact in how activity is carried forward, how interaction takes place, or how access to capability is structured. Several counterarguments therefore deserve to be taken seriously.

The cut and hold objection

The most direct challenge is visible in current data. Firms across professional services, financial institutions, and technology are reducing progression-heavy roles or interaction-dependent costs, holding revenue, and in some cases improving margins. If cost reduction alone preserves the model, the paradox may appear less structural.

The distinction lies in timing. Cost reduction across a sector can become self-cancelling. When firms reduce similar costs using comparable capability, any margin advantage may narrow and the question of value justification may return. Current stability may therefore reflect an early phase, not a durable resolution. The more decisive test is whether clients continue to accept commercial structures built on HBP, HBI, or CSD once the underlying activity, interaction, or capability access no longer depends on them in the same way. Early evidence across professional services, consulting, software pricing, and other progression- or interaction-dependent models suggests how this pressure can begin. A firm that reduces progression-heavy headcount while leaving its billable or access structure unchanged has lowered its cost base, but has not necessarily resolved the structural question. Once clients can see that activity is being carried forward differently, or that capability is becoming easier to access elsewhere, the basis on which the fee was justified may become harder to defend even if the firm remains more profitable in the short term.

Value may consolidate at the infrastructure layer

Value may concentrate in the platforms and model providers that supply underlying autonomous capability. If that consolidation becomes substantial, firms positioned between the customer and that infrastructure may face narrower margins regardless of how well they redesign their commercial structures. This is a serious objection and deserves a direct answer.

The response is that Autonomy Economics addresses a different level of analysis from the question of where AI surplus concentrates in aggregate. Even if model providers and infrastructure platforms capture significant value from the wider change, an incumbent firm facing client fee pressure, commercial model exposure, or erosion in access-based value capture cannot resolve that pressure by pointing to where surplus accumulates elsewhere in the system. A firm facing weaker pricing power or erosion in the commercial basis of value capture is not protected by the fact that the capability enabling that pressure is profitable for its supplier. The two questions are distinct. One concerns aggregate value distribution at the infrastructure layer. The other concerns firm-level and sector-level durability once autonomous capability changes how activity is carried forward, how interaction takes place, or how access to capability is structured. A firm can therefore face serious structural exposure to the mechanism described in this paper even in an environment where infrastructure providers capture substantial surplus. The two dynamics can coexist, and often will.

Business models can evolve as agentic systems develop

Agentic systems can reduce the cost of routine activity, interaction, or capability access while enabling new forms of personalisation and outcome-linked models. Business models may reorganise around new anchors for value as earlier structures lose relevance. The pattern is likely to vary by sector and use case.

This objection is consistent with the framework and does not sit in tension with it. Autonomy Economics does not predict that value disappears. It predicts that value reorganises. Business-model evolution of the kind described here is the redesign response the paper advocates. The objection becomes a challenge to the framework only if it is taken to mean that this evolution happens automatically and without the structural pressure described in this paper. The historical record in Appendix A suggests that it often does not.

Software demand can expand alongside autonomy

Agentic systems can increase demand for software. They require coordination, monitoring, and integration layers that did not previously exist. The stack can widen as autonomy develops. Expansion in these layers can occur alongside compression in units tied to HBP, HBI, or CSD. The key question is where a firm sits within that structure.

This is correct, and the paper does not dispute it. The pressure described in Autonomy Economics falls on specific revenue lines calibrated to HBP, HBI, or CSD, not on software demand in aggregate. A firm whose revenue is anchored in the coordination, monitoring, and integration layers that agentic systems require may face more limited exposure through this mechanism. A firm whose revenue depends on seat-based or cycle-based structures calibrated to human-bounded progression, on interaction-dependent monetisation, or on access to scarce capability faces a different position. Expansion of the stack does not neutralise the exposure of the units within it that depend on HBP, HBI, or CSD remaining the basis for value justification.

Economic resilience can absorb part of the pressure

Reductions in certain human-dependent inputs can appear as higher margins or increased purchasing power. These effects can support demand and fund reinvestment. Previous technology cycles show that input reduction is often absorbed through reallocation and expansion.

This is historically accurate, and the paper does not claim that autonomous capability produces broad economic contraction. The mechanism described here operates at the level of specific commercial structures, not aggregate demand. Absorption and reallocation at the macroeconomic level are therefore consistent with significant structural pressure on individual revenue lines and business models during the adjustment period.

The market may still be underestimating the economic change

Current capability remains narrow in many settings. Even so, once activity can be carried forward, interaction can take place, or capability can be accessed with less dependence on HBP, HBI, or CSD, the economics around it may begin to change. Scale and timing remain uncertain. The possibility that the effect proves larger than current expectations remains material.

This is not strictly a counterargument, but a boundary condition on the timing assumptions in the paper. It is included here because it reflects a genuine uncertainty. The framework describes a direction of change with more confidence than it describes a pace. Where that

pace proves faster than current adoption patterns suggest, the pressure described in this paper may arrive sooner and with less time for firms that have not yet begun to redesign.

13. Capital-Structured Autonomy Ecosystems

The reorganisation of value inside firms is only part of the story. Autonomous capability can also change how value is coordinated across networks of firms, especially where one actor can shape adoption across multiple entities.

Autonomous capability does not spread evenly. It often advances faster in environments where a central actor can coordinate adoption, set standards, and align incentives across a group of firms. These environments can be described as Capital-Structured Autonomy Ecosystems.

A Capital-Structured Autonomy Ecosystem is an environment in which the deployment, scaling, governance, and integration of autonomous capability are organised through ownership or control structures. Capital functions as the coordinating layer because it influences where capability is introduced, how gains are applied, how incentives are aligned, and how value capture is managed across the network.

These ecosystems take shape when a central actor has both the authority and the economic incentive to shape adoption across multiple entities.

Why capital becomes the organiser

Capital owners often have structural advantages. They control multiple entities with similar operating patterns, which can create a basis for shared infrastructure. They can set adoption priorities, operating standards, governance rules, and implementation timelines across the network. They also benefit directly from shorter cycle times, greater throughput, lower error rates, and stronger EBITDA across the system.

Under these conditions, autonomous capability can be introduced across a coordinated structure, with adoption shaped across multiple firms at once. It can be supported by shared playbooks, shared systems, and shared governance.

Value migration across the ecosystem

In these environments, the value stack extends beyond the individual firm. At the base sits production, above it firm-level orchestration, and above that ecosystem-level orchestration. As autonomous capability becomes more central to execution, value can accumulate upward through these layers.

The most defensible position may no longer sit inside a single operating company. It can sit with the actor that coordinates standards, learning loops, operating models, and value capture across a wider group. Advantage comes from coordinating how autonomous capability is absorbed and aligned with value capture across the system, not only from deploying it within individual firms.

Where these ecosystems appear

Private equity provides a clear early example, but the same structure can appear in corporate groups and conglomerates with central governance, franchise networks with standardised operating models, large enterprises with global business units and shared services, sovereign wealth funds and state-owned enterprises, and holding companies or family offices with long-term ownership and cross-company playbooks.

In each case, the coordinating force lies in the ownership or control structure linking the entities.

Why this matters

These dynamics sit alongside the pressure inside individual firms. Revenue structures built on HBP, HBI, or CSD can weaken at the operating level while value accumulates at a higher coordinating layer.

Value migration does not stop at the edge of the firm. In some settings, the more defensible position may sit with the actor that coordinates autonomous capability across multiple entities, standardises its use, governs access to it, and captures the resulting gains across the system.

This extends the field from the single firm to the coordinated network. The same economic logic still applies, but the locus of advantage can move upward when adoption, governance,

learning, and capability access are organised across multiple entities. Once autonomous capability becomes commercially meaningful, value moves away from bounded production and towards the structures that organise, govern, and scale it. Inside firms, this concentrates in orchestration, verification, governance, absorption, and judgement. Across networks, it can also concentrate in capital as the coordinating layer.

14. Historical Continuity

Autonomy sits within a longer history of economic change, but the capability now entering the system is without historical precedent in its scale, speed, and range of application. The continuity lies in the economic problem it creates. Once the conditions supporting an established commercial unit begin to change, the structure built around that unit becomes harder to defend.

The appendix traces this pattern across cases spanning more than two centuries. The settings differ, but the commercial movement is consistent. Handloom weaving, containerisation, electronic trading, e-discovery, healthcare billing, airline yield management, SaaS repricing, and the cloud transitions of Microsoft and Adobe each show the same dynamic. In each case, activity is organised differently, interaction is mediated differently, or access to capability is reorganised, and the unit that once justified and defended value begins to weaken.

That unit varies by case. It may be piece-rate labour, a bid-ask spread, a billable hour, a commission, a per-seat licence, an execution fee, or a form of controlled access to scarce capability. The label changes. The underlying condition does not. These units held because the prevailing structure of activity, interaction, or capability access made them defensible. When that structure changed, the economic position attached to them became harder to sustain.

Value does not disappear in these periods of change. It is reallocated. In some cases it moves towards infrastructure. In others it moves towards coordination, aggregation, clearing, data, dynamic pricing, governance, or more concentrated forms of judgement. The destination depends on where the new constraints sit once the earlier ones begin to weaken.

This historical record matters because it places the current argument in context. The claim is not that autonomy repeats earlier transitions in identical form. It is that the pressures now visible follow a recurring pattern that appears when value capture remains tied to an earlier arrangement while the underlying basis of execution, interaction, or access changes.

The record also clarifies timing. Earlier transitions did not wait for technical completeness. New systems were often incomplete, costly, or unreliable in their early stages. Even so, commercial pressure began once the direction of change became credible. Firms faced questions about durability before the new system had fully matured.

That point applies here. Autonomous capability remains uneven across tasks and sectors. Reliability, governance, integration, and risk constraints remain binding. These factors shape where change appears first. They do not alter the broader direction. Once progression, interaction, or capability access can be organised differently in commercially meaningful ways, the older structures built around them become less secure.

The historical record does more than provide context. It places the Agentic Profit Paradox within a recurring economic problem. Commercial structures often lag behind changes in how value is produced, routed, or accessed. That lag is where pressure builds.

The present transition will follow its own path and constraints. It does not arrive without precedent. As the basis of execution, interaction, and capability access changes, the economics built around the earlier structure begin to move with it.

15. Conclusion

The central claim of this paper is that autonomous capability can put pressure on commercial structures before it fully replaces the activities, interactions, or access conditions on which those structures were built. The consequences begin once the older basis of value capture no longer fits the way value is produced, routed, or accessed.

Autonomy Economics studies what follows when firms face that condition. The Agentic Profit Paradox sits at the centre. Firms move toward autonomous capability because competitive pressure leaves little room to stand still. At the same time, parts of the commercial model that once sustained economic value can come under pressure. That pressure does not appear uniformly. It tends to appear first where commercial structures remain closely tied to activity being carried forward through HBP, to interaction being captured through HBI, or to value being defended through scarce capability. In those settings, even partial autonomy can weaken the basis on which value is justified and retained, even where demand remains and operating performance appears strong. This paper has developed the progression side of the field in full, while also establishing the broader relevance of interaction-dependent and capability-scarcity-dependent exposure within Autonomy Economics.

The response differs across firms. Some focus on efficiency. They lower cost, increase throughput, and leave the surrounding structure largely intact. This can hold for a period, but the underlying exposure remains. Others rebuild around where value now holds. Commercial structures change. Delivery changes. Access changes. Human contribution is repositioned within the model. These changes take longer to appear in results, but they align more closely with the conditions under which value is now created and captured. Over time, that difference shapes economic position and where value is held.

The level of human-bounded progression, human-bounded interaction, or capability scarcity is not, in itself, determinative of economic outcome. Models with significantly reduced HBP, HBI, or CSD can still come under pressure if the structure of value capture reflects an earlier organisation of activity, interaction, or access. Conversely, models with greater HBP, HBI, or CSD can continue to capture value where they remain aligned with the conditions under which value is retained.

What determines the outcome is alignment, and the ability to redesign around where value now accumulates. This includes the orchestration of outputs, the verification of decisions, the governance of exceptions, the absorption of throughput into economic return, and the exercise of judgement where involvement is not incidental to value but constitutive of it.

The historical record shows a similar pattern across very different settings and more than two centuries. Units that once supported value capture become harder to sustain when the conditions that made them defensible begin to change. Value does not disappear. It is reallocated to the parts of the system that remain economically important under the new conditions. Technical limits, reliability, integration, and regulation affect where change appears first and how quickly it spreads. They shape sequence, but not direction.

The changes described in this paper have a direct human dimension that deserves to be stated plainly. As activity is carried forward with less dependence on human-bounded progression and interaction, and as capability becomes easier to access in some settings, the structure through which, for some, contribution was defined, expertise was accumulated, and meaning was found changes with it. That leaves many finding their contribution and sense of value in a different place within the model. For others, it removes part of the basis on which identity and economic security were built. These are not neutral adjustments. They carry consequences for how contribution is experienced, how expertise forms across a lifetime, and how economic security is sustained. Firms have choices in how they reorganise around these conditions, and those choices will shape how these consequences are distributed and lived. The absorption of autonomous capability, examined in this paper as a firm-level condition, is equally a human one, with psychological and social dimensions not developed here in depth. This paper focuses on the commercial structures through which firms capture value. The human consequences of that reorganisation are real, unevenly distributed, and merit fuller treatment than this paper provides.

The pace will differ across sectors and models. Some structures will hold longer than expected. Others will come under pressure earlier. The direction, however, appears clear. Firms may adopt autonomous capability and improve speed, cost, and throughput, but those gains do not secure the model on their own. Redesign is what allows capability to be

converted into new sources of economic value. Where the conditions supporting earlier units of value capture no longer hold, the structure built around them becomes less secure unless it is realigned in time with where value now accumulates.

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Appendix A: Historical Precedents For The Agentic Profit Paradox

Executive Summary

The history of enterprise contains repeated moments when the organisation of work changes in a material way. These transitions span centuries, sectors, and technologies. They arise from mechanical invention, new coordination structures, standardisation, and algorithmic capability. In each case, a change in how activity is carried forward, how interaction takes place, or how access to underlying capability is structured alters the economic arrangements built on the friction, opacity, scarcity, or physical limits of the prior system.

This appendix presents a structured empirical record of those transitions. It covers cases ranging from the British Industrial Revolution to containerisation, electronic trading, healthcare administration, software repricing, and the emergence of artificial intelligence in professional services. Across these cases, a consistent pattern appears. When the underlying unit of work, interaction, or capability access changes, revenue structures built on prior activity structures, information asymmetry, constrained access, or input-volume pricing become less durable. Profit does not disappear. It is reallocated.

The cases are organised into three groups, each representing a different response to the same underlying pressure. The first group contains cases where legacy units weakened and no structural redesign occurred. Value eroded and did not recover. The second group contains cases where new capability was adopted but the commercial structure was not changed. Firms layered new tools onto models built around earlier assumptions about how activity was carried forward, how interaction took place, or how access was controlled, and the underlying economic pressure continued. The third group contains cases where firms rebuilt around the new unit of activity, interaction, or capability access and restored economic durability. Several of those firms now face renewed pressure as autonomous capability changes the underlying structure beneath them again.

The appendix is designed for different kinds of readers. Readers looking for the broad argument can begin with the cross-case synthesis in Section 5. Readers looking for evidence within a particular sector can go directly to the relevant case. The scope is intentionally broad. Digital transitions sit alongside non-digital historical examples

spanning more than two centuries. The purpose is to show that the mechanism under examination is structural, not technology-specific.

Core Analytical Framework

Each case is examined around the same set of questions, though the answers differ substantially between cases and the weight given to each question varies with the circumstances. The first question concerns what changed in the underlying structure: what specific technological, infrastructural, or coordination development altered how value was produced, delivered, mediated, or accessed? The second concerns which legacy unit of value capture weakened and through what mechanism. The third concerns what happened to margins or pricing during and after the transition. The fourth concerns how long the transition took from the initial inflection point to a new steady state. The fifth concerns who captured the surplus created by the new organisation of activity, interaction, or capability access. The sixth, for cases in the third group, concerns what the redesign involved and whether durability was restored permanently or only for a period.

This structure allows comparison across sectors and periods while keeping the underlying mechanism visible. When the conditions supporting an established commercial unit change, the commercial structure built on that unit comes under pressure

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Section 2: Cases Where Legacy Units Weakened Without Redesign

The cases in this section share a common structure. A change in how activity was organised removed the conditions that had made a particular unit of value capture defensible. The firms involved did not rebuild around the new activity structure. In several cases they responded with effort, cost reduction, or partial adoption of new tools. None of that preserved the underlying unit. Value migrated and did not return.

2.A Handloom Weavers and the Power Loom

The piece-rate contract for manual cloth production was one of the earliest commercial units to collapse under mechanisation. The expansion of factory spinning in the late eighteenth century created a surge in demand for handloom weaving and piece-rate values rose. The commercialisation of the steam-powered loom ended that period. Activity moved

from decentralised manual weaving to mechanised factory production. What changed was not simply the speed of output but the organisational basis of cloth production: the loom transferred activity to capital equipment, removing the basis on which piece-rate payment for manual weaving had rested.

The piece-rate unit had no structural response available. Producing more cloth at a lower rate per piece was not redesign — it was an attempt to sustain the same commercial unit within an activity structure that had already moved. The power loom reduced the marginal cost of standard cloth to a level the piece-rate model could not sustain.

The collapse of the piece-rate unit is visible in the wage data, which serves here as evidence of the unit's loss of value, not as a labour story. According to parliamentary records, piece-rate values for handloom weaving had fallen from approximately twenty-one shillings per week in 1802 to less than nine shillings by 1817. By the early 1830s the rate had fallen to around five shillings. This is not a story about what happened to individual weavers. It is a record of a commercial unit, the piece-rate contract for manual cloth production, losing its basis entirely once the activity on which it was built changed form.

Metric Summary

Metric	Pre-Mechanisation (1817)	Post-Mechanisation (1834)
Average Weekly Wage	~21 shillings (1802)	5 shillings, 6 pence
Real Purchasing Power (Flour)	~9 shillings by 1817; ~5 shillings by early 1830s	~40 lbs per week
Wage Decline	Baseline	~79% nominal
Commercial Unit	Piece-rate manual production	Effectively eliminated for standard cloth

2.B Travel Agencies and Online Travel Aggregators

Before the internet, booking travel required coordination with an agent who queried a proprietary Global Distribution System on the client's behalf. The agent controlled access to fares, availability, and routing information. That control was the structural basis for the

commission model. Agents were paid because they held information and access that buyers could not replicate themselves.

The web changed that arrangement directly. Buyers could search, compare, and book across digital interfaces without an agent. The informational asymmetry that had made the commission model defensible was eliminated. US domestic airline base commissions were capped at ten percent in 1995, reduced further in 1999, and eliminated entirely by 2002. The American Society of Travel Agents reported a thirty-one percent decline in US agency locations between 1994 and 2002. The model had been built on controlled access. Once access became open, the model had no structural basis to survive.

Many agencies adopted digital tools during this period. They used the same online booking platforms now available to their clients directly, digitised their records, and added email communication. None of this changed the commercial position, because none of it restored the informational asymmetry on which the commission had rested. The activity structure had changed. The value capture structure had not. The result was the same as doing nothing. Value moved to platform aggregators: Booking Holdings, formed from Priceline's acquisitions, and Expedia Group built businesses worth tens of billions of dollars on the same structural change that eliminated the agency commission.

Metric Summary

Metric	Legacy Model	Post-Transition
Primary Unit of Value Capture	Airline commission (~10%)	Commission eliminated by 2002
Structural Basis	Controlled access to GDS information	Access became open; basis removed
US Agency Locations	Baseline (1994)	31% decline by 2002
Value Capturer	Manual agents	OTA platforms (Booking Holdings, Expedia)

2.C Real Estate Brokerage

Residential real estate transactions historically relied on brokers' exclusive access to the Multiple Listing Service. This informational advantage made brokers central to property

discovery and coordination between buyers and sellers. The commission was tied to the transaction, but its durability rested on the information control that made the broker structurally necessary.

Public listing portals and digital platforms began removing that information advantage in the early 2000s. Buyers could find, compare, and evaluate properties directly. Discovery no longer required broker intermediation. The activity structure that had made the broker central to the transaction changed materially.

What is distinctive about this case is the gap between structural change and commercial consequence. The commission model remained largely intact for more than two decades after the informational basis for it had weakened. Legal frameworks, cooperative listing practices, and institutional inertia preserved the pricing structure well beyond the point where the underlying activity structure had already changed. The 2024 National Association of Realtors settlement, which ended rules requiring sellers to pay the buyer's agent commission, accelerated a break that had been postponed, not prevented. The case shows that institutionally supported units of value capture can survive structural change in the underlying activity for an extended period. They do not survive it indefinitely.

Metric Summary

Metric	2000	2025
Average Commission Rate	~5%	~5.44% (under structural pressure post-2024 NAR settlement)
Average Commission (USD)	\$9,160	\$21,586
Structural Basis	MLS information control	Institutional convention; basis now weakening
Inflection	Informational change began	Commercial structure now following

2.D E-Discovery and Document Review in Legal Services

Legal discovery was long defined by large volumes of sequential document handling. The billable hour was the unit of value capture, and the volume of documents requiring review

determined how many hours could be billed. The revenue structure scaled directly with the volume of activity required to progress documents through the review pipeline.

Technology-assisted review, predictive coding, and generative systems changed the activity structure of discovery. Algorithmic culling, clustering, and automated relevance scoring absorbed activity that had previously passed through sequential manual stages. According to RAND Institute for Civil Justice research published in 2012, document review accounted for approximately seventy-three percent of total e-discovery expenditure at that time. Based on market modelling by ComplexDiscovery, that share had declined to approximately sixty-four percent by 2024, with projections pointing to approximately fifty-two percent by 2029.

Law firms adopted the technology. They licensed review platforms, used them to process documents more efficiently, and continued to bill by the hour for the reduced manual review that remained. The activity structure changed. The commercial structure did not. The Winter 2026 eDiscovery Pricing Survey, conducted by ComplexDiscovery in partnership with the Electronic Discovery Reference Model, found that generative AI-assisted review pricing was clustering in a range of \$0.11 to \$0.50 per document, directly challenging the economics of direct document review at hourly-rate equivalents. Firms that had built revenue around large-scale sequential review absorbed the efficiency gains, not restructured around them.

Metric Summary

Metric	Historical (2012)	Current (2024)	Projected (2029)
Review as Share of E-Discovery Spend	73% (RAND)	64% (ComplexDiscovery)	~52% (ComplexDiscovery)
GenAI-Assisted Review Cost	Not applicable	\$0.11–\$0.50 per document	Expanding
Commercial Response (law firms)	Billable hour	Billable hour (largely unchanged)	Under increasing pressure

2.E Programmatic Advertising and the Collapse of Publisher CPMs

Before programmatic advertising, display inventory was sold through manual negotiation and forward allocation. Publishers controlled access to their audience, and sales teams priced and placed advertisements directly with buyers. The CPM was tied to that controlled inventory. Publishers held the pricing power because they held the access.

Programmatic systems replaced negotiated placement with real-time auctions where impressions were priced and allocated in milliseconds. Supply expanded as exchanges aggregated inventory across thousands of publishers. Impressions became substitutable. The marginal value of each impression became continuously visible and repriced, removing the conditions under which publisher-controlled CPMs had been defensible.

US newspaper advertising revenue, which had been approximately \$49.4 billion in 2005 according to the News Media Alliance, fell to approximately \$10 billion by 2020 according to Pew Research Center analysis of industry financial filings. Publishers who responded by adding programmatic channels to existing direct sales structures found that the new channels cannibalised the old ones at lower prices. Value moved to platform aggregators. The New York Times offers a counterexample. It rebuilt around subscription revenue and first-party audience relationships, not advertising CPMs, with subscription revenue substantially exceeding advertising revenue by the early 2020s.

Metric Summary

Metric	Legacy Model	Post-Transition
Unit of Value Capture	CPM on controlled inventory	Auction-based pricing; publisher CPMs compressed
US Newspaper Advertising Revenue	\$49.4bn (2005)	~\$10bn (2020, Pew Research)
Value Capturer	Publishers and direct sales teams	Platform aggregators; redesigned subscription publishers

Section 3: Cases Where Capability Was Adopted Without Structural Redesign

The cases in this section describe a different kind of failure. Firms did not ignore new capability. They adopted it. They invested in automation, new platforms, and new tools.

What they did not change was the commercial structure through which value was captured. The legacy unit remained in place while the activity structure beneath it changed. The result in each case was sustained economic pressure, because the unit of value capture continued to depend on assumptions about activity that no longer held.

This is the bolt-on pattern. The defining characteristic is not technological conservatism. It is commercial conservatism applied to a changing activity structure. Capability is added. The basis for charging is not revised. The economic position of the model weakens over time because it is priced around an activity that is now being carried forward differently.

3.A Business Process Outsourcing and Shared Services

Business Process Outsourcing and shared services were historically priced around the activity of executing processes through defined sequential stages. Firms externalised back-office functions such as finance, payroll, customer support, reconciliation, and reporting to providers who carried that activity forward through teams of operators. Value was captured through full-time-equivalent-based contracts. The FTE was the commercial unit because process throughput depended on a given number of people moving activity through defined stages.

Automation technologies, including Robotic Process Automation, workflow systems, and later autonomous execution platforms, changed the activity structure of those processes. Activity that had previously required sequential progression through defined human-operated stages could be executed within systems. The structural tension this created was documented by EY's consulting practice in analysis of outsourcing contracts: the FTE-based model contained a perverse incentive in which a provider that improved its process efficiency, reducing the FTE count needed to deliver the same output, would earn less revenue from the same client. The commercial unit was priced around a form of activity that the new activity structure made less necessary.

According to the Hackett Group's BPO Performance Study, FTE-based pricing remained the primary pricing mechanism for outsourcing relationships and was expected to remain so for the foreseeable future, though with declining emphasis as outcome-oriented models gained traction. Research by WNS indicated that outcome-based pricing models represented approximately five percent of contracts at the time of their analysis, with

transaction-based models at ten to fifteen percent and FTE-based arrangements still dominant. The commercial structure had not followed the activity structure. McKinsey documented that the digital services share of total contract value in the BPO sector grew from thirty percent to seventy percent between 2016 and 2020, but the pricing basis for many of those contracts did not change at the same rate.

Metric Summary

Metric	FTE-Based Model	Outcome-Based Model
Revenue Structure	Headcount of operators	Process output or defined outcome
Incentive Alignment	More FTEs = more revenue for provider	Provider gains from efficiency improvement
Prevalence (WNS research)	Still dominant	~5% of contracts
Structural Tension	Automation reduces provider revenue	Resolved by restructuring the pricing basis

3.B Hospital Billing and the Persistence of Fee-for-Service Medicine

For most of the twentieth century, American healthcare operated through a fee-for-service structure in which hospitals and physicians billed separately for each intervention. Every test, procedure, and inpatient day was a discrete unit of value capture. Reimbursement was retrospective. Providers delivered care, submitted claims, and were paid per unit of activity delivered.

The 1983 introduction of Medicare's Diagnosis-Related Group system replaced retrospective billing with a fixed payment per admission based on diagnosis. The Affordable Care Act extended this through bundled payment pilots, readmission penalties, and the expansion of Accountable Care Organisations. The activity structure of care delivery was being reorganised around episodes and outcomes, not discrete interventions. According to AHRQ data from the National Inpatient Sample, the average inpatient length of stay declined through the 1980s and 1990s following DRG introduction, reaching 4.6 days by 2009 and levelling off from that point, as hospitals reorganised internal workflows around fixed reimbursement windows.

The response of most health systems was adoption without structural redesign. Hospitals implemented electronic health record systems, added coding infrastructure for new payment categories, and adjusted internal processes. The deeper commercial logic remained oriented around volume. Fee-for-service billing continued where payers permitted it. Bundled payment models were engaged selectively and the transition to outcome-based commercial structures remains, more than forty years after the introduction of DRGs, incomplete. The per-intervention unit of value capture persisted in large portions of the system even as the activity structure around it changed.

Metric Summary

Metric	Fee-for-Service (Pre-1983)	Current State
Primary Unit of Value Capture	Per-procedure and per-day billing	Mixed; FFS persists despite structural pressure
Average Inpatient Length of Stay	Declining trend post-1983 (AHRQ)	4.6 days by 2009 (AHRQ)
Incentive Structure	Volume maximisation	Cost and quality optimisation where redesigned
Structural Transition Status	Activity-based unit dominant	Transition incomplete after 40+ years

3.C Healthcare Claims Processing

Healthcare claims processing operated as a progression-based activity in which coders translated clinical documentation into billing codes, reviewers checked for error and fraud, and adjusters determined payable amounts. Activity advanced through sequential human handling across multiple stages. Per-claim and per-FTE pricing reflected that activity structure directly.

Automated coding systems, machine-learning fraud detection, and integrated health-record platforms altered the activity structure. Coding, validation, and anomaly detection moved increasingly into systems. The volume of activity requiring sequential progression through defined stages fell. Routine processing could scale without proportional increases in the process inputs on which earlier pricing had been based.

Third-party processors adopted the new systems and improved their throughput. The commercial model, structured around per-claim charges or staffing-based contracts, largely remained. The activity structure had changed, but the pricing basis had been designed around the earlier form of activity. Processors who rebuilt around integrated platform delivery and analytics-based pricing occupied a structurally different commercial position from those who retained per-claim or per-FTE structures while adding automation internally.

Metric Summary

Metric	Legacy Model	Post-Automation (Bolt-On)
Unit of Value Capture	Per-claim or per-FTE processing	Per-claim or per-FTE (largely unchanged)
Activity Structure	Sequential stage-by-stage processing	System-driven; prior process inputs reduced
Commercial Position	Priced around earlier activity form	Exposed where pricing basis was not updated
Redesigned Alternative	Not applicable	Integrated platforms; outcome and analytics-based pricing

3.D Freight Forwarding and Digital Freight Platforms

Traditional freight forwarding relied on manual coordination across fragmented networks of carriers, customs brokers, and intermediaries. Forwarders held information on rates, capacity, and routing that shippers did not hold directly. The gross margin on freight, typically in the range of fifteen to twenty-five percent, was supported in part by that informational asymmetry and by the coordination friction that made manual intermediation necessary.

Digital freight platforms changed the activity structure by digitising rate discovery, capacity matching, and shipment tracking. Platforms including Flexport, Freightos, and Beacon brought transparency to rate information that had previously been dispersed and partially opaque. The informational advantage held by established forwarders became less exclusive.

Most established forwarders adopted digital tools. They built or integrated tracking interfaces, used platform data to access market rate information, and digitised their documentation workflows. The gross margin model remained. Shippers with access to the same platforms now had greater visibility into market pricing, narrowing the informational basis for the earlier margin. The transition is ongoing and the earlier structure has not fully dissolved, but the conditions that supported it have weakened. Forwarders that have restructured around more specialised and complex coordination occupy a different position from those retaining a gross-margin model on standardised freight movement.

Metric Summary

Metric	Legacy Model	Current State
Unit of Value Capture	Gross margin on freight (15–25%)	Gross margin under transparency pressure
Structural Basis	Informational asymmetry and coordination friction	Partially eroded by digital platforms
Commercial Response	Digital tool adoption	Gross margin model retained (bolt-on)
Transition Status	Baseline	Ongoing compression; not settled

3.E Thin Workflow SaaS and Platform Valuation Divergence

From the late 2000s through the 2010s, the first generation of SaaS products digitised existing workflows and commonly charged per seat. These products improved convenience, visibility, and standardisation. In most cases they left the underlying activity structure largely intact. Activity continued to be advanced through users operating software, with the product recording, organising, and supporting that progression. The per-seat licence was the unit of value capture, and its defensibility depended on the activity progressing through individual user involvement.

From the late 2010s onwards, a different pattern became visible. Software platforms integrating data, automation, APIs, and embedded coordination more directly into execution began to carry activity forward within the product itself, with fewer stages

requiring manual advancement. The activity structure underlying software value began to change.

Thin workflow vendors responded by adding features: automation modules, AI-assisted suggestions, and workflow builders layered on top of the seat-based core. The per-seat licence remained the primary commercial unit. Enterprise customers observed that the same activity could be carried forward with fewer users or through system-led execution and began managing seat counts more tightly. The products had added capability. They had not changed the commercial basis. Products that rebuilt around usage, transactions, or system output, including Stripe on payments, Snowflake on data infrastructure, and Amazon Web Services on cloud compute, demonstrated a different commercial basis in which revenue scaled with activity volume, not user count. The divergence in valuation between these models and seat-based alternatives reflected the underlying structural difference.

Metric Summary

Metric	Thin Workflow (Bolt-On)	Orchestration Platforms
Primary Unit of Value Capture	Per user (seat)	Usage, transactions, system output
Calibration	Human participation in activity	Activity volume regardless of per-user involvement
Revenue Expansion Driver	Seat growth	Activity growth
Commercial Pressure	Seat basis exposed as activity no longer requires per-user progression	Scales with activity volume regardless of user count

Section 4: Cases Where Redesign Restored Durability, But Not Permanently

The cases in this section describe firms that identified a change in activity structure and rebuilt their commercial models around the new form of activity. In each case, redesign required accepting a period of lower revenue, margin pressure, or increased investment before a new model stabilised. These cases also illustrate a broader point. Redesign restores durability under a given activity structure but not permanently. When the organisation of activity changes again, even firms that adapted successfully may need to revisit where

value is created and how it is captured. The redesign cases are therefore not examples of problems solved once and for all. They are examples of commercial alignment achieved for a period and later tested again as the underlying activity structure changes.

4.A Containerisation

Break-bulk shipping relied on heterogeneous cargo handled through sequential manual stages at each port. The unit of activity was the loading, unloading, and stowage of individual items, often requiring repeated handling across stages. Port turnaround times were long because coordination and movement depended on manual progression through each stage.

Containerisation replaced that structure with a standardised intermodal unit. Goods moved across truck, ship, and rail without rehandling their contents. The unit of activity became the container and not the individual item. The redesign was not primarily technological. It was a restructuring of the entire activity system, including ships, ports, cranes, and inland connections, around the new unit.

Marc Levinson's 2006 account of containerisation in *The Box* documents the scale of the cost change. Loading costs fell from approximately \$5.86 per ton to approximately \$0.16 per ton. Port turnaround times fell from weeks to under twenty-four hours. Those structural gains were only available to participants who had rebuilt around the new activity unit. The transition took ten to fifteen years from the first commercial container operations in 1956 to the establishment of a functioning network.

Metric Summary

Metric	Legacy Model	Redesigned Model
Unit of Activity	Individual heterogeneous cargo	Standardised TEU
Cost to Load per Ton	\$5.86	\$0.16
Port Turnaround	Weeks	Under 24 hours
Time to Network Establishment	Baseline	10 to 15 years

4.B The Transition from Horse-Drawn to Motorised Transport

Transport in the early twentieth century relied on biological horsepower. The unit of activity was constrained by the capabilities and maintenance needs of the animal, and the surrounding infrastructure, including stabling networks, feed supply, farriers, and harness-makers, was organised around those biological limits. The internal combustion engine moved transport into mechanical systems with different constraints, different cost structures, and different scalability.

Most carriage manufacturers did not make the transition. Studebaker did. Founded in 1852 as a wagon manufacturer and one of the largest carriage producers in the United States by the early twentieth century, Studebaker moved into electric and petrol-powered vehicles in the 1900s and 1910s. The redesign required rebuilding around a different unit of activity, new supply chains, and new infrastructure. Value moved away from the biological transport system and toward vehicle manufacturing, fuel distribution, and mechanical maintenance. Firms that remained tied to carriage production lost their economic position when the activity structure of transport changed. Studebaker's transition was not simply a consequence of technological awareness. It was a consequence of rebuilding the commercial model around the new activity structure early enough to operate within it.

Metric Summary

Metric	Legacy Model	Redesigned Model
Unit of Activity	Biological horsepower	Mechanical transport systems
Limiting Factor	Biological fatigue and slow throughput	Fuel capacity and maintenance
Operating Cost Basis	Feed, stabling, manual maintenance	Fuel, oil, tyres, mechanical repair
Scalability	Low mileage and high friction	High mileage and scale economics

4.C Airline Yield Management

Before deregulation, airline pricing operated through fixed government-set fares. After deregulation in the United States under the Airline Deregulation Act of 1978, pricing had to respond to demand, booking lead time, and inventory availability. The activity of revenue management changed from administering fixed fares to continuously optimising

pricing across fare classes. Airlines that remained tied to static pricing could not capture the economic value available through active management of that new activity structure.

American Airlines rebuilt around the SABRE system, which integrated demand forecasting, inventory allocation, and fare-class management. The commercial unit changed from the fixed fare to dynamically priced seat capacity. The redesign generated substantial incremental revenue without adding aircraft or routes. American Airlines' then-CEO Robert Crandall described the yield management system as the most important technical development in airline revenue management. The transition to full capability took five to eight years from the early deployments in the late 1970s.

Metric Summary

Metric	Legacy Model	Redesigned Model
Pricing Unit	Fixed government fare	Dynamic inventory-based pricing
Revenue Basis	Static route and fare administration	Continuous optimisation across fare classes
Competitive Advantage	Route access	Pricing infrastructure and demand forecasting
Time to Full Capability	Baseline	5 to 8 years

4.D Electronic Trading And Intercontinental Exchange

In the early 1990s, average spreads on Dow Jones Industrial Average constituents were roughly sixty basis points. Floor brokers and exchange specialists extracted that spread as compensation for the manual matching function they performed. Electronic limit order books changed the activity structure of execution. Co-located servers and algorithmic systems replaced manual matching at negligible marginal cost. Spreads compressed to around twenty basis points by 2000, fell further following Regulation NMS in 2005, and reached a structural floor of approximately one to two basis points by the early 2020s. The activity on which spread-based revenue depended had been reorganised into a system that competed the spread toward its lower bound.

Intercontinental Exchange recognised that the act of matching orders had become commoditised and rebuilt its model around a different layer of the activity structure: data distribution, connectivity, clearing, and post-trade processing. These activities remained necessary regardless of how execution was performed and were harder to replicate than the matching process itself. For the full year of 2024, ICE reported consolidated revenues less transaction-based expenses of \$9.3 billion, with an adjusted operating margin of approximately fifty-nine percent. The redesign placed value in the infrastructure surrounding the trade, not in the trade itself.

Metric Summary

Metric	Legacy Model	Redesigned Model
Primary Revenue Source	Execution fees (spread-based)	Data, clearing, and market infrastructure
Average Equity Spread	~60 bps (early 1990s)	1–2 bps (2020s)
ICE Net Revenue (2024)	Not applicable	\$9.3bn
ICE Adjusted Operating Margin	Not applicable	~59%

4.E Wealth Management and the Transition to Advisory Models

Retail wealth management operated for decades through a commission-based structure in which advisers were paid to sell investment and insurance products. Activity was organised around transactions. Each transaction was a discrete unit of value capture. In the United Kingdom, the Retail Distribution Review, which came into effect in 2012, prohibited commission payments on investment products from advisers. Digital platforms made portfolio construction, rebalancing, and diversification more accessible directly to clients. The activity structure of wealth delivery changed: access to products was no longer the constraint it had been.

Firms that rebuilt around ongoing advice, planning, and discretionary portfolio management recovered commercial durability. The unit of value capture moved from individual transactions to recurring relationships structured around assets under management and long-term client outcomes. The redesign worked because it identified a

different form of activity, ongoing planning and portfolio stewardship, where the new activity structure created value that clients could not replicate directly through low-cost platforms. The transition took approximately ten to fifteen years to stabilise across the industry.

Metric Summary

Metric	Commission-Based Model	Advisory and AUM-Based Model
Primary Unit of Value Capture	Product transaction	Recurring AUM-linked fee
Revenue Durability	Weakening after RDR and digital access	Strengthened
Client Retention Pattern	Low and episodic	High and stable
Activity Basis	Product distribution	Ongoing planning and portfolio stewardship

4.F Microsoft's Transition to the Cloud, and the Next Pressure

Microsoft's earlier model relied on selling perpetual licences tied to on-premise computing and hardware refresh cycles. Software was installed, updated periodically, and operated within the customer's own infrastructure. Cloud computing reorganised this structure by delivering software as a continuous service. The unit of activity moved from discrete software installation to ongoing service delivery. Customers no longer needed to purchase and maintain software in the same way, and the perpetual licence had no durable basis within the new activity structure.

Microsoft rebuilt its model around Azure and Office 365, moving toward subscription and usage-based revenue tied to continuous service delivery. The redesign required substantial capital investment in data-centre infrastructure and involved a period of pressure as upfront revenue recognition declined before recurring revenue scaled. For fiscal year 2024, Microsoft reported total revenue of \$245.1 billion, with Microsoft Cloud gross margin of seventy-one percent.

That position now faces renewed pressure. Autonomous capability is beginning to change the activity structure of software use itself. Agent-based systems can carry forward activity

that previously required individual users to operate software interfaces directly. The seat-based component of Microsoft 365 pricing rests on an assumption about the activity structure of software use that is beginning to change. Microsoft has introduced consumption-based agent pricing through Copilot Studio, which suggests an awareness that the per-seat unit may not hold as the activity structure changes. Whether that constitutes early redesign or a bolt-on response to a deepening structural question remains to be determined by how the activity structure develops.

Metric Summary

Metric	Legacy Model	Cloud Redesign	Emerging Pressure
Unit of Value Capture	Perpetual licence	Subscription and usage-based revenue	Seat model under pressure from agent-carried activity
Total Revenue	~\$90bn (pre-transition)	\$245.1bn (FY2024)	Growth continues; agent pricing evolving
Microsoft Cloud Gross Margin	Not applicable	71% (FY2024)	Maintained
Activity Structure	On-premise installation and use	Continuous cloud-based delivery	Autonomous agents reducing per-seat activity

4.G Adobe and Creative Cloud, and the Next Pressure

Adobe's earlier model relied on perpetual software licences and periodic upgrade cycles. Creative tools were installed locally and updated at discrete intervals. Revenue tied to upgrade cycles became harder to sustain once customers expected ongoing access and regular updates without discrete purchase events. Adobe announced the Creative Cloud subscription model in 2012 and progressively moved away from perpetual licences. The transition involved a temporary revenue trough before subscription revenue scaled. For fiscal year 2024, Adobe reported total revenue of \$21.51 billion, with subscription revenue of \$20.52 billion, representing over ninety-five percent of total revenue.

Generative systems are now changing the activity structure of creative work itself. Text-to-image systems, generative video tools, and AI-assisted design platforms reduce the volume of activity that must pass through manual operation of professional creative

software. The subscription model was calibrated to an activity structure in which creative output required continuous active use of creative tools. That calibration is being tested as the activity structure changes. Adobe has launched Firefly as an embedded generative capability within Creative Cloud and has introduced credit-based pricing for generative outputs. Whether this constitutes genuine redesign around the new activity structure, or a bolt-on response that preserves the subscription model while adding generative features, will determine whether commercial durability is maintained through the next transition.

Metric Summary

Metric	Legacy Model	Subscription Redesign	Emerging Pressure
Unit of Value Capture	One-time licence	Recurring subscription	Subscription under pressure from generative activity
Annual Revenue	~\$4.4bn (pre-transition)	\$21.51bn (FY2024)	Growth continues; generative pricing evolving
Subscription Share of Revenue	Minority	Over 95% (FY2024)	Generative credits being added alongside subscriptions
Activity Basis	Periodic manual tool purchase	Continuous platform access	Generative systems reducing required manual tool use

4.H Prologis, and the Next Pressure

Industrial real estate was treated for most of its history as static warehouse space leased per square foot. E-commerce growth and increasingly automated supply chains turned the warehouse into an operating node inside logistics networks. Space access alone captured a smaller share of total value once tenants depended on infrastructure inside the facility for throughput, fulfilment, electrification, and network connectivity.

Prologis rebuilt around operational infrastructure through its Prologis Essentials platform, embedding logistics support, energy systems, automation equipment, and related services into its property offering. Pricing moved from per-square-foot rent to rent combined with service fees. The redesign positioned Prologis inside the logistics activity structure, not simply providing the space within which that activity occurred.

Autonomous warehouse and fulfilment systems are now changing the activity structure of logistics again. As robotic systems take on a greater proportion of the physical activity within fulfilment facilities, the infrastructure requirements of those facilities change. Floor load specifications, power density, ceiling heights, and connectivity requirements for autonomous systems differ from those designed around human-operated processes. The Prologis model was rebuilt around providing the infrastructure that human-intensive logistics operations required. If the activity structure of logistics moves toward autonomous systems with different infrastructure requirements, the redesign that succeeded in the e-commerce period will need to be updated for the autonomous one.

Metric Summary

Metric	Legacy Model	Redesigned Model	Emerging Pressure
Value Proposition	Physical space	Space plus operational infrastructure	Autonomous systems changing infrastructure requirements
Pricing Basis	Per square foot rent	Rent plus service fees	Fee basis may need to change as activity changes
Activity Relationship	Landlord beside logistics	Operator inside logistics	Autonomous activity may require further repositioning

Section 5: Cross-Case Synthesis

5.A The Mechanism

The cases in this appendix point to a recurring mechanism. When the conditions supporting an established commercial unit begin to change, the commercial structures built around that unit become harder to sustain. The technologies differ. The sectors differ. The period differs by more than two centuries in some comparisons. The mechanism is consistent.

What gives the pattern its force is that earlier units of value capture were built on conditions that once appeared stable: friction, opacity, physical limitation, restricted access, slow coordination, and activity structures that required multiple sequential stages to carry value forward. In some cases value depended on human-bounded progression. In others it depended on human-bounded interaction. In others it depended on scarcity or controlled

access to underlying capability. Once those conditions weakened, the commercial structures built on top of them weakened as well. This is not a story about any particular technology. It is a story about what happens when the structural conditions on which a unit of value rests are no longer present in the same way.

The three groups in this appendix represent three positions on that structural question. The first group did not redesign. The second group recognised the change and adopted new capability, but treated it as an addition to an existing model, not a reason to restructure the model. The third group restructured the commercial model around the new activity structure. In the third group, durability was restored, for a period.

This is the connection to the Agentic Profit Paradox. The appendix shows that the tension between new capability and existing value structures has appeared repeatedly. The present cycle is not identical to earlier cases, but it follows the same underlying mechanism.

5.B Cross-Case Comparative Summary

The table below organises all cases by response type, primary structural exposure, legacy unit, approximate transition timeline, and commercial outcome.

Metric Summary

Case	Response Type	Structural Exposure and Legacy Unit	Outcome
Handloom Weavers	No Redesign	Human-bounded progression; piece-rate manual production	Piece-rate unit value fell by approximately 79% over c.1802–1830s; commercial unit eliminated for standard cloth
Travel Agencies	No Redesign	Human-bounded interaction / capability	Commission eliminated by 2002 after c.7–10

		scarcity; airline commission (~10%)	years; OTAs captured value
Real Estate Brokerage	No Redesign (delayed)	Human-bounded interaction / capability scarcity; percentage commission	Commission model remained institutionally protected for 20+ years, then came under structural pressure following the 2024 NAR settlement
E-Discovery (law firms)	Bolt-On	Human-bounded progression; billable hour on document review	Review share declined from 73% (2012) to 64% (2024); billing model largely unchanged and remains under pressure
Programmatic Advertising	No Redesign	Human-bounded interaction; CPM on controlled inventory	US newspaper advertising revenue fell from \$49.4bn (2005) to approximately \$10bn (2020); publisher CPMs compressed
BPO and Shared Services	Bolt-On	Human-bounded progression; per-FTE contract	FTE model remains dominant; outcome- based pricing remains limited at approximately 5% of contracts
Hospital Billing	Bolt-On	Human-bounded progression; per-	Fee-for-service persists despite 40+ years of

		procedure and per-day billing	structural pressure since 1983
Healthcare Claims	Bolt-On	Human-bounded progression; per-claim or per-FTE processing	Automation adopted, but per-claim and per-FTE models remain under pressure
Freight Forwarding	Bolt-On	Human-bounded interaction / capability scarcity; gross margin on freight (15–25%)	Digital tools adopted, but gross margins remain under transparency pressure
Thin Workflow SaaS	Bolt-On	Human-bounded progression / capability scarcity; per-seat licence	Seat-based models face accelerating pressure as activity structure changes
Containerisation	Redesign	Human-bounded progression; break-bulk loading	Loading cost fell from \$5.86 to \$0.16 per ton over c.10–15 years
Horse-Drawn Transport (Studebaker)	Redesign	Human-bounded progression; biological transport cost base	Successful transition to motorised transport; carriage peers failed over c.15–20 years
Airline Yield Management	Redesign	Human-bounded progression / capability scarcity; fixed government fare	SABRE enabled dynamic pricing across fare classes over c.5–8 years
Electronic Trading and ICE	Redesign	Human-bounded progression / human-bounded interaction;	ICE rebuilt around data, clearing, and infrastructure; 2024 net

		execution fee (spread-based)	revenue \$9.3bn and adjusted operating margin approximately 59%
Wealth Management (advisory)	Redesign	Human-bounded interaction / capability scarcity; product commission	AUM model established over c.10–15 years; recurring revenue and higher retention restored durability
Microsoft	Redesign (facing next pressure)	Human-bounded progression / capability scarcity; perpetual licence	Cloud redesign succeeded over c.4–6 years; seat model now faces agent pressure
Adobe	Redesign (facing next pressure)	Human-bounded progression / capability scarcity; perpetual licence	Subscription redesign succeeded after a 2–3 year trough; generative systems now test the model
Prologis	Redesign (facing next pressure)	Human-bounded progression / capability scarcity; per square foot rent	Prologis Essentials repositioned the model, but autonomous warehouse systems create new pressure

Note: “Primary structural exposure” identifies the main condition on which the legacy unit of value capture depended: human-bounded progression, human-bounded interaction, or capability scarcity. Several cases span more than one condition, so combined labels are used where the mechanism is mixed

5.C Where Value Moves

The historical record points to two consistent movements in where value accumulates when underlying structures change.

The first movement is away from the activity, interaction surface, or access position itself once it can be carried forward, mediated, or accessed at lower marginal cost or through a different organisational form. This is visible in each case. Handloom weaving lost value when standard cloth could be produced mechanically. Travel agents lost value when access to fares and routing moved into open digital interfaces. Document review lost value when algorithmic tools could carry progression forward without sequential manual stages. In each case, the activity or access point did not disappear. Its economic weight declined because the structural conditions that had made it the locus of value capture changed.

The second movement is toward the infrastructure, coordination layer, or structural position that organises the new form of activity, interaction, or capability access. ICE moved toward market infrastructure. Microsoft moved toward cloud infrastructure. Containerisation moved toward the standardised intermodal network. Prologis moved toward operational logistics infrastructure. In each case, the redesign involved identifying what the new structure required to function and positioning within that requirement, not alongside it.

These movements connect directly to the central argument of the paper. The Agentic Profit Paradox describes the pressure that arises when autonomous capability changes the conditions on which existing commercial models rest. The historical record shows that this pressure is not new, that its direction is consistent, and that the response options are the same as they have often been: do nothing, bolt on, or redesign.

5.D The Bolt-On Failure Mode

The bolt-on pattern is the most important failure mode in this appendix because it is the most common and the most easily confused with an adequate response. Firms in the bolt-on group were not passive. They invested. They adopted new technology. They responded

to competitive pressure with visible action. What they did not change was the commercial logic.

The piece-rate cloth contract absorbed lower prices without changing its basis. Travel agencies added digital booking tools while the commission remained the commercial unit. Law firms licensed technology-assisted review platforms while the billable hour remained the commercial unit. BPO providers deployed Robotic Process Automation while the FTE contract remained the commercial unit. Hospital systems implemented electronic health records while fee-for-service billing remained the commercial unit. In each case, capability was adopted and the commercial structure was not changed. The pricing basis continued to rest on an activity form, interaction structure, or access condition that had already changed around it.

The lesson is not that technology adoption is insufficient on its own. It is that the question technology adoption raises is a commercial one, not only a capability one. When the underlying structure changes, the unit of value capture calibrated to the old structure becomes exposed. Adding new capability within the old commercial structure does not resolve that exposure. It can sometimes prolong it by providing the appearance of an adequate response while the structural problem continues to develop.

5.E Redesign Requirements and the Limits of Durability

Across the redesign cases, five characteristics distinguish firms that successfully adapted. First, they identified the new structure and rebuilt the commercial model around it, not defended the existing one. Studebaker moved before carriage manufacturing became uneconomic. Microsoft moved before perpetual licences weakened structurally. Adobe moved before the upgrade cycle became unsustainable.

Second, they accepted a transition period. Successful redesign involved a phase of lower revenue, margin pressure, or increased investment before a new steady state emerged. Adobe's transition lasted two to three years. Microsoft's lasted four to six years. Containerisation required longer. Firms that attempted to bypass this period by layering new models onto old structures prolonged the adjustment without resolving the underlying problem.

Third, they restructured the commercial basis, not the capability alone. The redesign was a change in what the model charged for, not only in how delivery was organised. Microsoft moved from licensing software to charging for continuous service delivery. ICE moved from charging for execution to charging for data and infrastructure. Prologis moved from charging for space to charging for operational participation in logistics.

Fourth, they moved early enough to shape the transition, not merely react to it. Firms that delayed faced both the cost of redesign and the erosion of the position needed to fund it.

Fifth, and this is the point the redesign cases ultimately make, they recognised that redesign secures durability for a period, not permanently. Microsoft rebuilt for the cloud period and is now facing the need to rebuild again for the agentic period. Adobe rebuilt for the subscription period and is now facing the need to rebuild for the generative period. Prologis rebuilt for the e-commerce period and is now facing the need to rebuild for the autonomous fulfilment period. The value of having redesigned successfully once is that the firm is better positioned to recognise the next structural change when it arrives. The risk is assuming that a successful redesign closes the problem. It does not. It reappears under different conditions.

Appendix B: Formal Representation Of Autonomy Economics

This appendix sets out a formal representation of the mechanisms described in Autonomy Economics. The aim is to clarify relationships between autonomous capability, the structure of activity, interaction, and capability access, and the structure of value capture, not to impose artificial precision. Where multiple functional relationships appear, distinct function labels are used throughout to avoid ambiguity.

B1. Core Variables

The following variables are used throughout.

- A = Autonomous capability, meaning the extent to which activity can be carried forward, interaction can be mediated, or capability can be accessed through autonomous systems
- S_a = Structure of activity, interaction, and capability access, meaning how activity is carried forward, how interaction takes place, how capability is accessed, and the extent to which each depends on human-bounded progression, human-bounded interaction, or scarce and controlled underlying capability
- S_c = Structure of value capture, meaning how value is defined, justified, priced, and retained within the commercial model
- VC = Value capture, meaning the firm's ability to convert activity into revenue, margin, and defensible economic position
- Π = Profit
- Π_0 = Baseline profit, meaning the level of profit that persists even under conditions of misalignment
- α = Alignment between the structure of activity, interaction, and capability access and the structure of value capture, where $0 \leq \alpha \leq 1$
- ϵ = Residual alignment, a small positive term capturing value retained even under weak alignment

- $\tilde{\alpha}$ = Effective alignment, defined as $\alpha + \epsilon$, and used in the profit function
- δ = Structural inertia, meaning durability that persists through moats, contracts, and switching costs independently of alignment
- $\mathbf{M}$ = Structural advantages, including data, regulation, distribution, switching costs, and ecosystem position
- $\mathbf{D}$ = Revenue durability
- Φ = Capability durability, meaning the organisation's capacity to absorb autonomous capability and convert it into stronger competitive position

B2. Autonomy and the Structure of Activity, Interaction, and Capability Access

$$S_a = g(A)$$

Autonomous capability changes the conditions under which activity is carried forward, interaction takes place, and capability is accessed. As capability increases, activity, interaction, and capability access can occur with less dependence on human-bounded progression, human-bounded interaction, and the scarcity or controlled availability of underlying capability, altering throughput, control, and the commercial basis on which value is captured.

The function $g(\cdot)$ captures these dimensions: the progression side, where activity is carried forward with less dependence on human-bounded progression; the interaction side, where demand is formed, routed, or captured with less dependence on human-bounded interaction; and the capability-access side, where reliance on specific providers or scarce underlying capability is reduced.

B3. Value Capture Function

$$VC = h(S_a, S_c)$$

Value capture depends on how activity is actually carried forward, how interaction takes place, how capability is accessed, and how the commercial model defines and retains value.

Pressure on value capture can arise through any of these dimensions: from changes to the progression structure, where autonomous systems carry forward activity that previously required human-bounded progression; from changes to the interaction structure, where autonomous systems act on behalf of users in ways that reduce or displace direct human engagement; or from changes to capability access, where autonomous capability reduces dependence on previously scarce or controlled sources of capability.

The function $h(\cdot)$ is distinct from the functional relationships used elsewhere in this appendix.

B4. Alignment Condition

Define alignment as a measure of how closely the structure of value capture reflects the structure of activity, interaction, and capability access.

$$\alpha = \text{Alignment}(S_a, S_c)$$

Alignment is not directly observable. It reflects the degree to which the commercial model is structured around the layers in which value reaccumulates as autonomous throughput expands.

- $\alpha = 1$ indicates full alignment between the structure of activity, interaction, and capability access and the structure of value capture
- $\alpha < 1$ indicates misalignment

Misalignment occurs when the commercial model continues to rely on assumptions tied to an earlier structure of activity, interaction, or capability access. As that structure changes, alignment must be actively maintained and does not adjust automatically.

Although α is not directly observable, the alignment condition it describes has observable commercial expressions at the firm and sector level. These expressions are sufficient to connect the formal model to the empirical tests described in Section 11B and to allow the framework to be assessed against real data. The diagnostic methodology for assessing alignment in practice is developed in applied work as part of the Revenue Durability Framework described in Section 9.

B5. Profit Function

$$\Pi = \Pi_0 + f(A \cdot \tilde{\alpha})$$

Profit has two components. The baseline term Π_0 captures profit that persists even when alignment weakens. The second term captures growth in profit driven by autonomous capability, scaled by effective alignment.

$$\tilde{\alpha} = \alpha + \varepsilon$$

This treats misalignment as a drag on growth, not an existential switch.

The multiplicative form $A \cdot \tilde{\alpha}$ implies that autonomous capability and alignment are complements, in that neither generates profit growth in the absence of the other. This is a substantive claim of the framework. The function $f(\cdot)$ is assumed to be increasing and differentiable in its argument.

B6. The Agentic Profit Paradox

From B5, differentiating the profit function with respect to A gives the marginal return to autonomous capability:

$$\frac{d\Pi}{dA} = \tilde{\alpha} \cdot f'(A \cdot \tilde{\alpha})$$

Since $f(\cdot)$ is increasing, so that $f' > 0$, and since $\tilde{\alpha} = \alpha + \varepsilon > 0$ by definition, the marginal return is positive. However, it falls as misalignment increases.

As $\alpha \rightarrow 0$, then $\tilde{\alpha} \rightarrow \varepsilon$, and therefore:

$$\frac{d\Pi}{dA} \rightarrow \varepsilon \cdot f'(A \cdot \varepsilon)$$

Because ε is small, this approaches a low positive level. Increasing capability strengthens profit when the commercial model reflects how activity is carried forward, how interaction

takes place, and how capability is accessed. As alignment diminishes, the marginal return to additional capability falls toward that residual level. Investment in autonomous capacity yields weaker returns even as capability expands.

Two distinct cases follow.

In the first, autonomous capability is deployed in ways that deepen alignment. The commercial model is already structured around the layers through which value is captured, and autonomous capability strengthens throughput, engagement, delivery, or capability access within that structure. In this case $\tilde{\alpha}$ remains high or increases, and the profit term grows as intended. Capability and alignment move together.

In the second, autonomous capability changes the structure of activity, interaction, or capability access while the commercial model remains anchored to an earlier structure. Pricing, delivery logic, interface position, or access assumptions continue to depend on conditions that autonomous capability is weakening. In this case $\tilde{\alpha}$ falls as $\tilde{\alpha}$ rises. The firm becomes more capable and less economically secure at the same time. This is the Agentic Profit Paradox.

B7. Structural Condition

$$S_a \neq S_c \Rightarrow VC \downarrow$$

When the structure of activity, interaction, and capability access diverges from the structure of value capture, revenue durability and economic position weaken. This is the commercial expression of the alignment condition. Divergence arises when value capture remains anchored to conditions that no longer reflect how activity is carried forward, how interaction takes place, or how capability is accessed.

B8. Revenue Durability

$$D = M \cdot (\alpha + \delta)$$

Revenue durability is the product of structural advantages and a composite of alignment and structural inertia. The δ term captures durability that persists through moats, contracts,

regulation, and switching costs independently of whether the commercial model is aligned with the current structure of activity, interaction, and capability access.

A firm with strong structural advantages, meaning high M , does not lose durability instantly when alignment weakens. The δ term provides a lag. If alignment continues to fall without recovery, structural inertia alone cannot sustain durability indefinitely.

B9. Durability Condition

$$D \rightarrow M \cdot \delta \text{ as } \alpha \rightarrow 0$$

As alignment collapses, durability converges toward its inertial floor, $M \cdot \delta$. Returns do not fall to zero immediately. Strong structural advantages slow the pressure but cannot indefinitely preserve durability once the commercial model is no longer aligned with how activity is carried forward, how interaction takes place, and how capability is accessed. Over time, if alignment is not restored, structural inertia alone becomes insufficient to sustain durability.

B10. Value Reaccumulation

$$S_c = \phi(O, V^e, G, A^b, J)$$

As autonomous throughput expands, value does not disappear but reaccumulates in layers that remain economically constraining. The structure of value capture is shaped by how well the commercial model is positioned around these layers. The function $\phi(\cdot)$ is distinct from the functions used in B3 and B5.

- **O** = Orchestration, meaning the coordination of autonomous systems and human involvement across complex workflows, and the routing and sequencing of interaction or capability use at scale
- **V^e** = Verification, meaning the processes that ensure outputs meet the standards required for value to be recognised and accepted, including provenance, traceability, and trust

- **G** = Governance, meaning the management of accountability, risk, compliance, and decision authority as autonomy expands
- **A^b** = Absorption, meaning the organisation's capacity to absorb autonomous capability and convert it into commercial advantage rather than merely deploy it across existing structures
- **J** = Judgement, meaning the application of contextual, ethical, and strategic reasoning that autonomous systems cannot fully replicate, whether in carrying forward activity, governing interaction, or determining how capability is used

These layers remain economically constraining as autonomous throughput expands. Firms that have built their value capture structure around them are better positioned to maintain alignment as the structure of activity, interaction, and capability access changes.

B11. Capability Durability Framework

The Capability Durability Framework addresses a related but distinct question from revenue durability. It concerns the organisation's ability to absorb autonomous capacity, convert it into stronger capability, and reinforce its position as the underlying structure changes.

Define capability durability as a function of three higher-order properties:

$$\Phi = \psi(\text{Absorption}, \text{Conversion}, \text{Structural Velocity})$$

- **Absorption** reflects the organisation's capacity to take on autonomous capability without loss of coherence or control
- **Conversion** reflects the efficiency with which absorbed capability is translated into stronger organisational performance
- **Structural Velocity** reflects the rate at which the structure of activity, interaction, and capability access is changing, thereby creating the pressure against which absorption and conversion must operate

Capability durability rises with absorption and conversion and is pressured by structural velocity. An organisation that absorbs and converts well under rapid structural change builds a compounding capability advantage. One that cannot keep pace sees its position erode regardless of the autonomous capacity it deploys.

The function $\psi(\cdot)$ is distinct from the functions used elsewhere in this appendix.

The capability accumulation condition follows:

$$\frac{dA_p}{dt} = \text{Conversion} \cdot \text{Absorption} \cdot A$$

This is a first-order linear ODE implying exponential growth in effective capability when absorption and conversion are both high. The model is stylised; in practice, capability growth may be subject to saturation as organisational or technological limits are approached. Effective capability compounds when absorption and conversion are both high. This is the mechanism through which autonomous capacity becomes durable competitive advantage rather than throughput that simply passes through the organisation.

Capability durability enters the full durability expression by extending the base condition from B8:

$$D_{total} = \Phi \cdot M \cdot (\alpha + \delta) = \Phi \cdot D$$

This shows Φ acting as a multiplier on the base durability condition D . Capability durability therefore scales the revenue durability position rather than replacing it. An organisation with strong structural advantages and good alignment but weak absorption and conversion may still see its position erode as the underlying structure changes faster than it can adapt.

The capability durability condition follows:

$$\Phi \rightarrow 0 \text{ as Absorption} \rightarrow 0 \text{ or Conversion} \rightarrow 0$$

Even with high autonomous capability, if the organisation cannot absorb and convert it, capability durability falls toward zero. The organisation fails to retain the value generated by that capability.

B12. Restated Core Proposition

$$\Pi \uparrow \Leftrightarrow S_c \rightarrow S_a$$

Profit strengthens when the structure of value capture converges toward the structure of activity, interaction, and capability access. This requires not only alignment, such that $\alpha \rightarrow 1$, but also the capability to absorb and reinforce that alignment as the structure continues to change, such that $\Phi > 0$.

Summary Statement

Autonomy Economics can be expressed as follows.

- Autonomous capability changes the conditions under which activity is carried forward, interaction takes place, and capability is accessed
- Value capture depends on whether commercial structures reflect that change, particularly in the layers where value reaccumulates as autonomous throughput expands
- Profit and revenue durability follow from the degree of alignment between the structure of activity, interaction, and capability access and the structure of value capture
- Capability durability determines whether the organisation can absorb and convert autonomous capacity into compounding competitive advantage, or whether it remains only a conduit

The Agentic Profit Paradox arises when capability increases faster than the structure that captures value adjusts to it. It can operate through the progression dimension, the interaction dimension, or the capability-access dimension. The Capability Durability Framework addresses what it takes to close that gap and sustain it.

Note on Function Labels

Distinct function labels are used throughout this appendix to avoid ambiguity.

- $g(\cdot)$ maps autonomous capability to the structure of activity, interaction, and capability access in B2
- $h(\cdot)$ maps activity and value capture structures to value capture outcomes in B3
- $f(\cdot)$ maps the capability-alignment product to profit growth in B5
- $\phi(\cdot)$ maps reaccumulation layers to the structure of value capture in B10
- $\psi(\cdot)$ maps absorption, conversion, and structural velocity to capability durability in B11