Persistence Is Not a Property of Revenue

At equal recurrence, what a customer can do without its supplier tells you how the revenue behaves under shock.

A company can show the same annual recurring revenue as its competitor, the same net retention, the same growth curve, and lose most of that revenue within two quarters if one team walks out. Not its own team. The supplier's. Two revenues can carry identical recurrence and rest on different mechanisms of persistence, and the dashboard shows only the recurrence. Here is the thesis, stated once and directly: at equal observed recurrence, supplier-support dependence predicts a revenue's response to shock, because it reveals whether persistence rests on transferred customer capability, on continuing external operation, or on other mechanisms of retention.

This is a change of unit of analysis. The literature observes *revenue*; this note observes the *capability that generates it*, and treats the recurring line as an imperfect commercial projection of that capability, since revenue also answers to price, bargaining power, and competition. The move applies a known lineage, Penrose (1959), Sen (1985), Nelson and Winter (1982), Teece (1997), to the one line accounting treats as primary. The claim reduces to five propositions.

- *Proposition 1*. Observed recurrence is insufficient to identify the mechanism that produces persistence.
- *Proposition 2*. Persistence measured under withdrawal of supplier support carries information about revenue quality that recurrence does not.
- *Proposition 3*. Operational support and transfer support act on the customer differently: one sustains output, the other raises future capability.
- *Proposition 4*. Customer capability, reproduced value, product usage, and supplier revenue are distinct variables and must be modeled apart.
- *Proposition 5*. Dependence degrades revenue quality only when it is opaque, avoidable, or misdescribed as capability transfer.

The mechanism, and the model

Persistence runs through several mechanisms: reproduced value, supplied operation, exit friction, coordination effects, institutional constraint, passive continuation. Only the first is the customer producing value on its own. Call it *autonomy*, and note at once that it is not what a dashboard reads.

Recurrence is agnostic to which mechanism holds it up.

- A strategy firm whose recommendation is internalized holds an autonomous revenue; the same firm on a permanent retainer holds a support revenue, and only the second falls when the retainer is cut.
- A surgeon who trains the unit reproduces the capability; the theater that stops the day the surgeon leaves never did.

Model the deployment as a chain, not a single link.

A capability stock A evolves as $dA/dt = \alpha T + I - \delta A + \Omega$: it rises :

- With transfer support T,
- At an absorption efficiency α,
- And with the client's own internal investment I,
- Falls with internal depreciation δ, turnover and forgetting,
- And an external term Ω set by the supplier's pace of innovation, which can deprecate the stock, raise it by abstraction, or substitute for it.
- Capability produces reproduced value V(A, O, X) with operational support O and context X.
- Value produces billable usage U(V, H, N, G), filtered by inertia, network, and institutional terms.
- Usage produces supplier revenue R(U, C, B) through contract structure C and bargaining power B.

Revenue does not depend on capability directly.

It sits three transformations downstream, which is exactly why a rise in A can lower R: a capable client consumes more efficiently, negotiates harder, or substitutes.

An open-source tool that keeps running without its maintainer is the pure case, high autonomy with almost no revenue. Autonomy that is good for the customer can be negatively correlated with the supplier's revenue.

That chain forces two distinct measures, never one:

- A *Capability Autonomy Index*, the customer's ability to sustain value without the supplier, is about the client's stock.
- *Support-Adjusted Revenue Persistence*, the revenue's behavior once support is removed, concerns the supplier's flow, once it is estimated.

Collapsing them into a single recurring number is the original error, and naming them apart is half the contribution.

Operational support and transfer support

Support is not a scalar. It is a vector, expertise, configuration, training, operations, maintenance, governance, and it splits by function. *Operational support* sustains current output. *Transfer support* raises the customer's future production function. The first rents output; the second sells capability; the invoice distinguishes neither. Withdraw operational support and revenue drops to what the stock A carries alone. Withdraw it from a customer whose stock was genuinely built, and revenue dips, then climbs back as the client keeps investing on its own. That rebound is the observable signature of a capability that was transferred rather than rented.

What survives, and how one would test it

What survives a withdrawal is not autonomy. It is autonomy plus lock-in, inertia, network, and institutional persistence. The quantity of interest is therefore a counterfactual: the revenue that would have persisted with no supplier support, no captivity, no inertia, all else equal, a world never directly observed. "Withdrawal" is also three experiments, not one. Removing this supplier tests dependence on it. Removing every equivalent external resource tests autonomy. Replacing the supplier with a peer tests substitutability. Only the second measures autonomy proper.

The strongest objection is that net retention already captures this: a revenue held up by support will eventually churn, and retention will record it. It will, eventually. Proposition 2 is narrower and earlier: the support mechanism is legible before the cancellation, in the elasticity, not after it, in the lost logo. So the first and modest test is predictive: does an ex-ante measure of support improve the prediction of churn or consumption decline beyond ARR and net retention, ΔAUC greater than zero. If it does, recurrence was hiding information. Causal identification comes second and harder, through natural experiments, service-contract endings, supplier reorganizations, geographic team withdrawals, read in difference-in-differences, because a deliberate withdrawal is endogenous: support is pulled precisely when an account matures, or slides, or gets cost-cut.

What a lucid buyer should demand

If part of the asset is the customer's capability stock, the useful contract term is capability built, not volume consumed, and capability is observable enough to write down: the share of operations run without assistance, the mean time to internal resolution, the share of changes the client makes itself, the pass rate of a recovery test performed with the supplier absent. Index the engagement on those, not on usage.

This does not require the aligned supplier to disappear. It may keep mutualizing scale, security, regulatory and innovation load, and that dependence is productive. The criterion is not maximal withdrawal but the removal of *unnecessary* dependence: a presence justified by continuing marginal value rather than by a maintained incapacity. And the accounts will not adjudicate this, because support cost and revenue quality are recorded in different rooms, with no ledger connecting the spend to the capability it did or did not transfer.

A capability that disappears when the supplier leaves was never transferred. The revenue may keep recurring, but its persistence is operationally rented, at a price no line in the accounts is built to show. At more than 700 billion dollars of hyperscaler capacity built for 2026, on the four companies' own earnings guidance, and built ahead of the revenue meant to fill it, the question that decides which revenue survives is not who consumes, but who could carry on without the vendor in the room.

Discussion and limits

The framework is a conditional, comparative claim, and it inherits real difficulties that belong here rather than in every paragraph above.

Identification. Autonomy as defined is a structural counterfactual, not an observable. The terms one must subtract, lock-in, network, inertia, institutional constraint, are themselves hard to identify and probably interact, so the Capability Autonomy Index is closer to a causal estimand than to an operational metric. This is a limit, not a defect, provided the predictive test comes before the causal one.

The shock is not neutral. Support withdrawal is an intervention that provokes learning, migration, or renegotiation, so it partly measures an adaptive response, not only a pre-existing property. The three-shock distinction is the minimum needed to keep the readings apart.

Support is an ideal type. "Operational" and "transfer" are poles. Any real intervention mixes both, and should be classified by its measured effect on future capability, not by contractual label. Operational support can transfer tacitly; nominal training can transfer nothing if absorptive capacity or staff retention is missing.

Dependence is a set of dimensions, not four classes. Productive, transitional, artificial, and captive dependence overlap within a single relationship. They are better read along dimensions, marginal value, temporality, necessity, substitutability, transparency, ease of exit, from which the regimes are derived. Only the opaque, avoidable, and mislabeled end degrades revenue quality.

Prior work. The nearest neighbors are transaction cost economics (Williamson), which frames persistence as exit cost, and the resource-based view (Barney), which frames it as resource advantage; servitization, absorptive capacity, customer enablement, and value realization each treat a component. The claim is their integration into a support-adjusted account of persistence, not absolute novelty.

The macro framing is illustrative. The capex context gives the argument its timeliness and nothing more; the chain from capacity to deployment spend is an institutional hypothesis, and the framework stands without it. Revenue itself remains an imperfect projection of capability, since it also answers to pricing and power. None of these caveats touches the core, which is narrow on purpose: at equal recurrence, knowing the support mechanism improves the prediction of what the revenue does next.