

The Data Asset Valuation Test: Rights, Scarcity, Utility and Replacement Cost

An Evidence-Led Framework for Converting Claimed Data Moats into Defensible Value

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September 2026

Abstract

Data is frequently described as a strategic asset, yet possession, volume and historical collection cost do not establish a transferable economic value. This paper develops an evidence-led data-asset valuation framework organised around rights, scarcity, utility and replacement economics. It inventories datasets and provenance, verifies ownership and permitted use, tests exclusivity and replicability, measures quality, coverage, freshness and interoperability, and connects incremental technical utility to attributable cash flow. It then applies income, market and cost approaches with explicit treatment of obsolescence, maintenance, concentration, licence termination, cyber loss, trade-secret controls, regulatory change and transaction transferability. Five figures, five tables, eight frequently asked questions and twenty-six primary or authoritative references support transaction-specific review. Quantified figures are illustrative evidence indices rather than forecasts. The framework does not determine legal ownership, privacy compliance, intellectual-property protection, accounting recognition, tax treatment, technical fitness or transaction value and does not replace authorised legal, privacy, accounting, tax, cyber, technical, valuation or investment advice.

JEL Classification: G34, G32, O34, M41, K24

Keywords: data asset valuation, data rights, scarcity, utility, replacement cost, intangible assets, M&A, data moat

1. Define the valuation question

Separate business value, data-asset value, transaction price and accounting measurement.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a valuation scope memorandum.

The principal failure occurs when data is assigned a premium before the basis of value is defined. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for define the valuation question should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

2. Inventory the data estate

Identify datasets, fields, volumes, formats, locations, lineage, owners and custodians.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a data asset register.

The principal failure occurs when the claimed asset cannot be located or bounded. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for inventory the data estate should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

3. Map data provenance

Trace collection, creation, purchase, inference, transformation and enrichment.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a provenance graph.

The principal failure occurs when lineage gaps conceal unlawful or low-quality inputs. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for map data provenance should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

4. Establish legal rights

Verify ownership, licence, consent, contractual use, database rights, confidentiality and trade-secret protection.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a rights and restrictions matrix.

The principal failure occurs when possession is mistaken for an unrestricted commercial right. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for establish legal rights should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

5. Classify personal and regulated data

Identify personal, sensitive, sector-regulated, export-controlled and confidential information.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a regulatory classification schedule.

The principal failure occurs when valuation ignores legal limits on use and transfer. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for classify personal and regulated data should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

6. Test purpose compatibility

Compare original collection purpose, notices, consent and contractual purpose with intended monetisation.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a purpose-compatibility assessment.

The principal failure occurs when future use cases exceed authorised purpose. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for test purpose compatibility should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

7. Map geographic constraints

Assess localisation, cross-border transfer, adequacy, contractual safeguards and government access.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a geographic transfer map.

The principal failure occurs when global forecasts assume frictionless data movement. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for map geographic constraints should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

8. Assess exclusivity

Determine whether competitors, customers, suppliers or public sources can access equivalent data.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an exclusivity evidence file.

The principal failure occurs when scarcity is claimed despite broad market availability. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for assess exclusivity should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

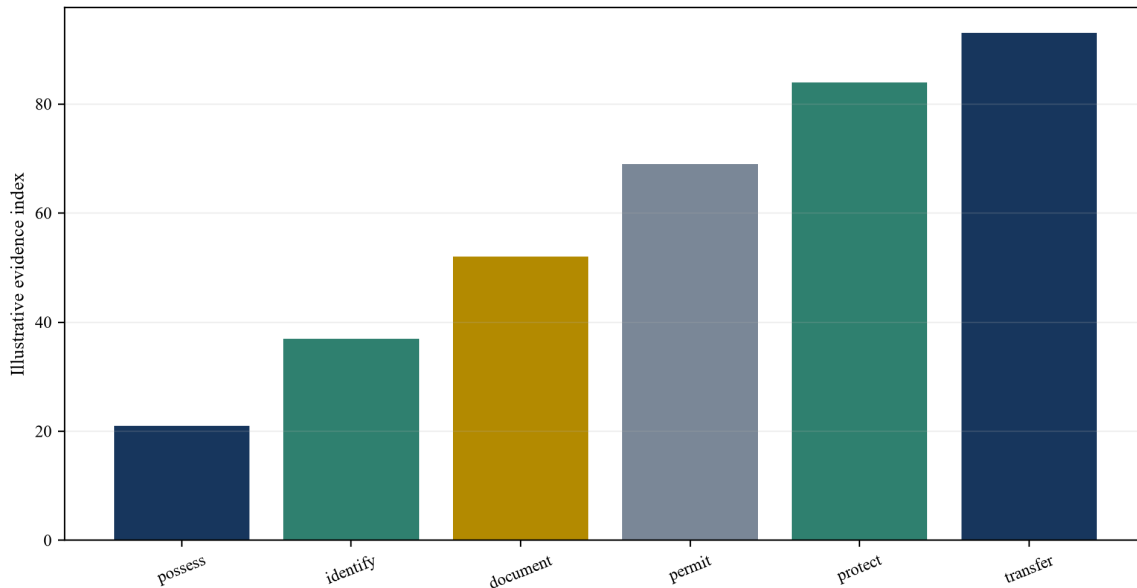
Table 1. Rights and scarcity

Test	Evidence	Failure
ownership	contracts and law	possession only
purpose	notices and consent	restricted use
exclusivity	market comparison	common data
transfer	assignment and approvals	stranded asset

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 1. Data rights maturity

FIGURE 1. DATA RIGHTS MATURITY



Values are illustrative evidence indices and require company-specific support.

9. Measure replicability

Estimate time, cost, permissions, coverage and failure risk for recreating the dataset.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a replication feasibility model.

The principal failure occurs when historical spend is treated as replacement cost. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for measure replicability should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

10. Test substitutability

Identify alternative datasets, synthetic data, proxies and model techniques.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a substitution analysis.

The principal failure occurs when the dataset is valuable only within one obsolete workflow. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for test substitutability should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

11. Measure data quality

Assess completeness, accuracy, timeliness, consistency, uniqueness and fitness for purpose.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a quality scorecard.

The principal failure occurs when volume substitutes for utility. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for measure data quality should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

12. Quantify coverage

Map population, geography, time, edge cases, labels and selection bias.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a coverage matrix.

The principal failure occurs when data breadth is overstated by duplicate or narrow records. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for quantify coverage should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

13. Analyse freshness and decay

Measure update frequency, latency, drift and useful life by use case.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a data-decay curve.

The principal failure occurs when stale observations receive perpetual value. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for analyse freshness and decay should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

14. Test identity resolution

Review entity matching, duplicates, confidence, false links and master-data controls.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an identity-resolution dossier.

The principal failure occurs when apparent scale reflects unresolved duplication. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for test identity resolution should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

15. Assess interoperability

Evaluate schema, metadata, standards, APIs, exportability and integration effort.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an interoperability assessment.

The principal failure occurs when data value depends on a proprietary system that limits transfer. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for assess interoperability should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

16. Measure annotation economics

Quantify labelling method, expertise, quality assurance, disagreement and refresh cost.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an annotation cost model.

The principal failure occurs when labels are assumed accurate and reusable without evidence. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

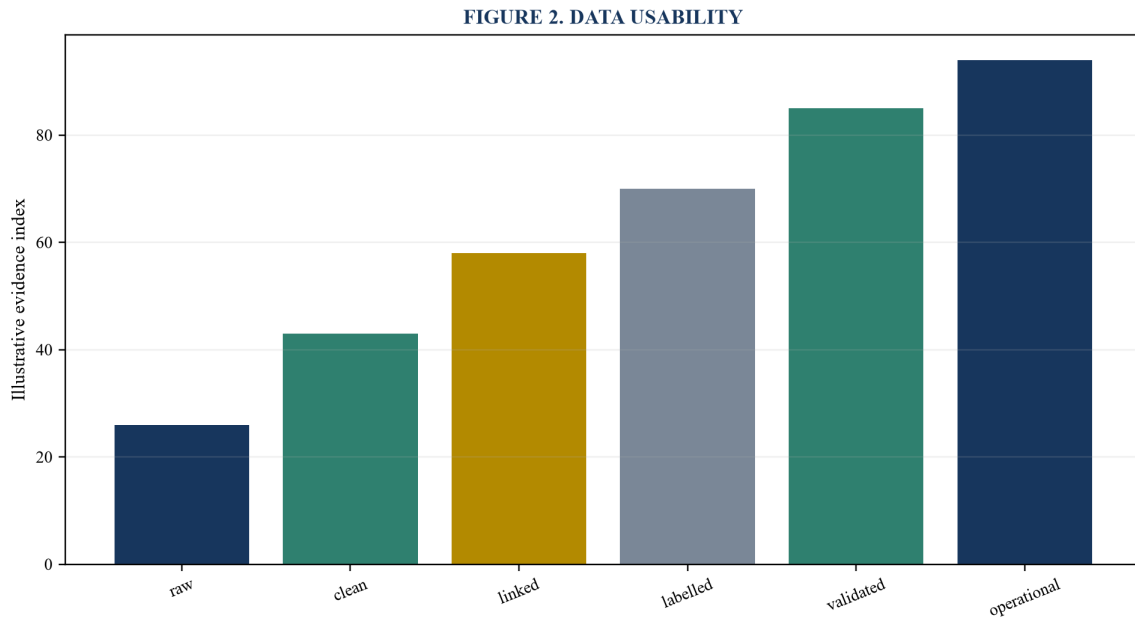
The decision pack for measure annotation economics should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

Table 2. Quality and usability

Dimension	Measure	Decision
accuracy	verified error	fitness
coverage	population and time	bias
freshness	update latency	decay
interoperability	schema and export	integration

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 2. Data usability



Values are illustrative evidence indices and require company-specific support.

17. Map transformation value

Separate raw collection from cleaning, linking, features, insights and decisions.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a data value-chain map.

The principal failure occurs when all value is attributed to raw data. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for map transformation value should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

18. Identify use cases

Tie each dataset to a specific decision, product, customer and economic outcome.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a use-case register.

The principal failure occurs when generic optionality is capitalised without a route to cash. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for identify use cases should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

19. Prove incremental utility

Compare outcomes with and without the dataset through controlled evaluation.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an incremental utility test.

The principal failure occurs when correlation is treated as causal value. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for prove incremental utility should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

20. Measure model lift

Quantify accuracy, calibration, latency, robustness and segment effects attributable to data.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a model-lift dossier.

The principal failure occurs when technical improvement lacks a commercial threshold. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for measure model lift should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

21. Translate utility into cash flow

Connect improved pricing, conversion, loss reduction, productivity or risk control to attributable cash.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a utility-to-cash bridge.

The principal failure occurs when technical metrics remain disconnected from enterprise value. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for translate utility into cash flow should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

22. Test customer willingness to pay

Review contracts, price differences, renewals and controlled experiments.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a monetisation evidence pack.

The principal failure occurs when internal enthusiasm substitutes for external demand. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for test customer willingness to pay should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

23. Assess revenue attribution

Separate value created by data from product, brand, distribution, talent and capital.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an attributable-revenue model.

The principal failure occurs when total product revenue is assigned to the dataset. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for assess revenue attribution should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

24. Map cost to maintain

Include ingestion, storage, security, governance, licences, quality, annotation and compliance.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a lifecycle cost model.

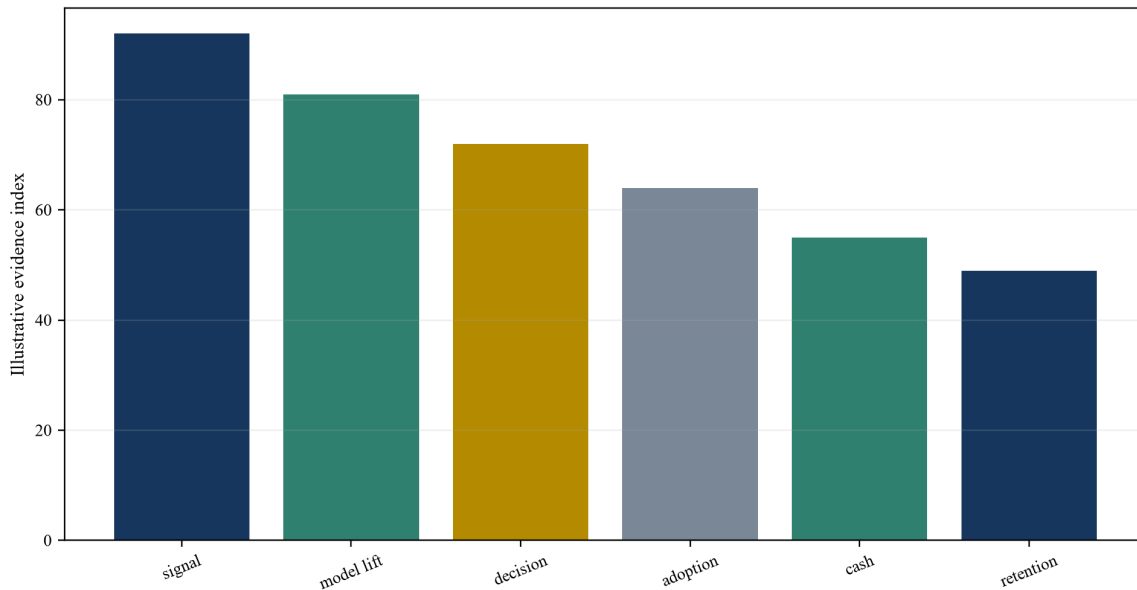
The principal failure occurs when maintenance obligations are omitted from value. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for map cost to maintain should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

Table 3. Utility-to-cash

Use	Evidence	Value driver
pricing	controlled uplift	margin
conversion	cohort experiment	revenue
risk	loss comparison	avoided cost
productivity	time and quality	cash saving

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 3. Utility conversion**FIGURE 3. UTILITY CONVERSION**

Values are illustrative evidence indices and require company-specific support.

25. Estimate replacement cost

Build current cost for lawful collection, cleaning, linkage, validation and readiness, with obsolescence.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a replacement-cost schedule.

The principal failure occurs when book cost and historical spend are used without adjustment. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for estimate replacement cost should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

26. Apply obsolescence

Adjust for physical, functional, technological, economic and legal impairment.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an obsolescence model.

The principal failure occurs when replacement cost ignores cheaper current methods and lost rights. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for apply obsolescence should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

27. Select income methods

Evaluate relief-from-royalty, excess earnings, with-and-without and incremental cash flow.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is an income-method selection paper.

The principal failure occurs when method choice follows the highest output. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for select income methods should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

28. Select market evidence

Review licences, transactions and comparable assets with rights and utility adjustments.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a market evidence matrix.

The principal failure occurs when non-comparable headline data prices set the conclusion. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for select market evidence should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

29. Reconcile valuation approaches

Weight income, market and cost evidence by reliability and purpose.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a valuation reconciliation.

The principal failure occurs when divergent methods are averaged without diagnosis. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for reconcile valuation approaches should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

30. Assess data concentration

Measure dependence on one supplier, customer, geography, source or collection channel.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a concentration heat map.

The principal failure occurs when a fragile source supports the full forecast. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for assess data concentration should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

31. Test licence termination

Model renewal, audit, price reset, change of control, assignment and revocation.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a licence continuity scenario.

The principal failure occurs when a cancellable licence is valued as owned property. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for test licence termination should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

32. Assess cyber and leakage risk

Scenario-weight breach, theft, corruption, ransomware, disclosure and competitive diffusion.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a cyber value-at-risk model.

The principal failure occurs when secrecy value ignores loss probability. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for assess cyber and leakage risk should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

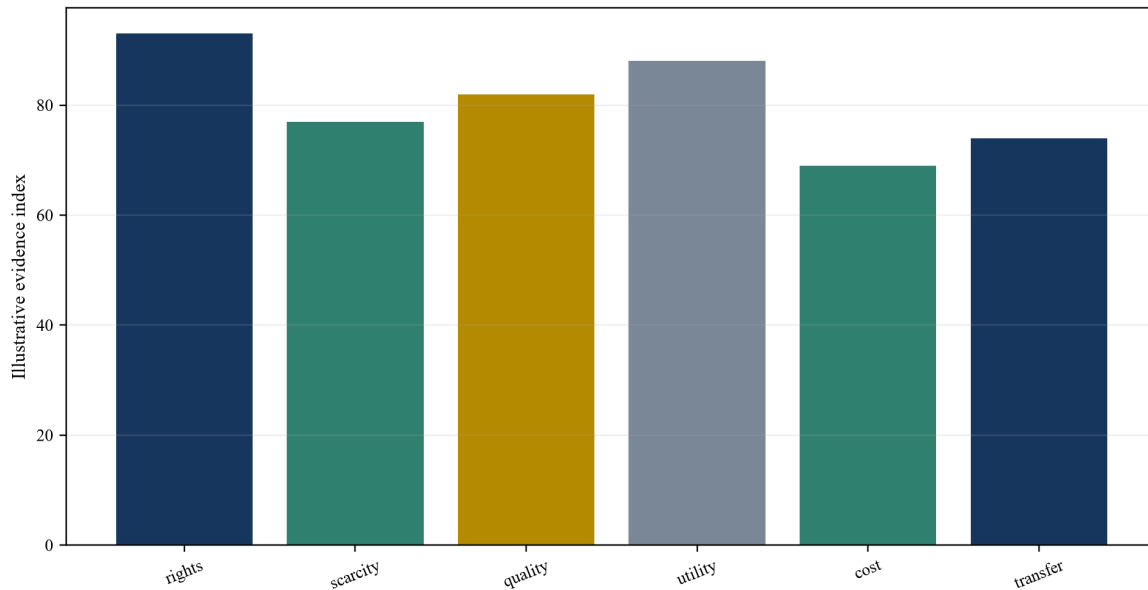
Table 4. Valuation approaches

Approach	Primary evidence	Constraint
income	incremental cash	attribution
market	licences and deals	comparability
cost	lawful replacement	utility ceiling
reconciliation	evidence weighting	purpose

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 4. Value evidence strength

FIGURE 4. VALUE EVIDENCE STRENGTH



Values are illustrative evidence indices and require company-specific support.

33. Test trade-secret controls

Review secrecy, access, contracts, monitoring, employee practices and incident response.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a trade-secret control file.

The principal failure occurs when claimed secrecy lacks reasonable protective measures. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for test trade-secret controls should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

34. Assess regulatory change

Model consent withdrawal, access rights, deletion, portability, AI restrictions and sector rules.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a regulatory scenario matrix.

The principal failure occurs when future cash assumes today's permissions persist. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for assess regulatory change should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

35. Analyse transaction transferability

Verify assignability, consents, separation, migration, transitional services and buyer purpose.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a transferability close plan.

The principal failure occurs when data cannot move with the deal as assumed. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for analyse transaction transferability should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

36. Separate standalone and buyer-specific value

Identify synergies from buyer distribution, models, rights and complementary datasets.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a standalone-to-synergy bridge.

The principal failure occurs when strategic value is presented as universal fair value. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for separate standalone and buyer-specific value should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

37. Design contingent consideration

Link deferred price to auditable rights, quality, utility, revenue and transfer milestones.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a data-value earnout architecture.

The principal failure occurs when earnouts reward data volume without usable rights. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for design contingent consideration should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

38. Run reverse stress tests

Identify rights, scarcity, quality, utility and cost thresholds that eliminate value.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a reverse-stress dashboard.

The principal failure occurs when downside stops before the data moat disappears. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for run reverse stress tests should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

39. Build the valuation record

Document evidence, methods, assumptions, sensitivities, specialists and approvals.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a valuation committee file.

The principal failure occurs when the conclusion cannot be reproduced. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for build the valuation record should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

40. Close through evidence gates

Require verified rights, scarcity, utility, replacement economics, transferability and approved value ranges.

The controlled record should identify the relevant customer, revenue stream, contract, cohort, relationship owner, commercial dependency, evidence source, baseline, trend, scenario, control, exception, accountable executive, deadline and approval. The immediate deliverable is a data-asset valuation close certificate.

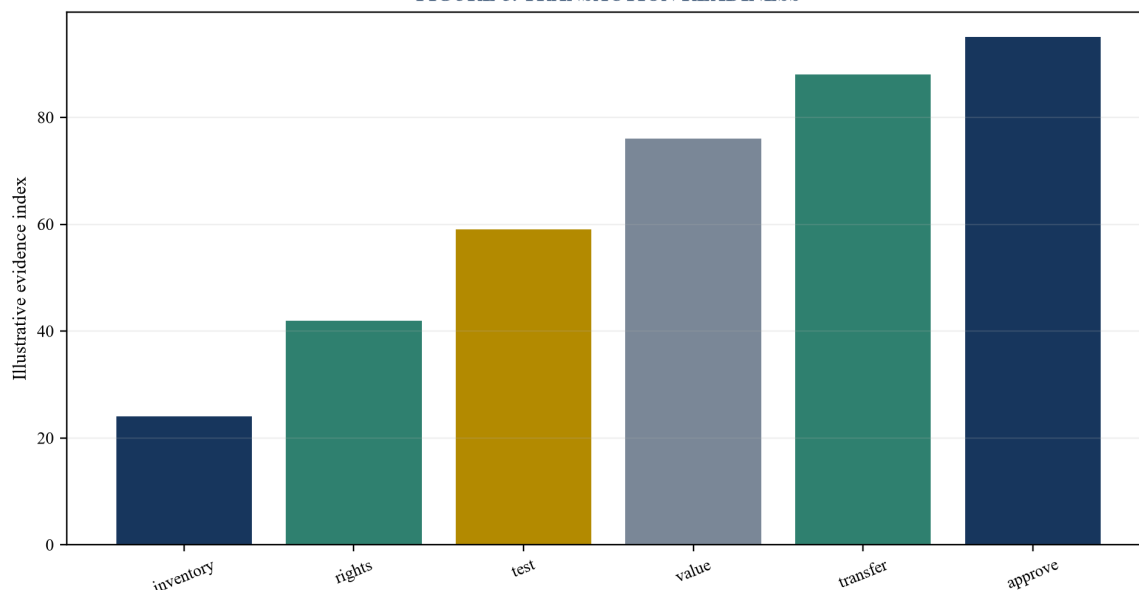
The principal failure occurs when transaction narrative substitutes for evidence. Reviewers should connect the evidence to revenue durability, gross margin, cash conversion, renewal probability, switching behaviour, counterparty credit and transaction value; distinguish contractual protection from observed customer behaviour; and test whether the conclusion survives a downside scenario.

The decision pack for close through evidence gates should state the commercial question, measurement perimeter, historical evidence, customer-specific facts, forecast logic, sensitivity, management action, buyer implication, residual uncertainty and next gate. Material exceptions should flow into the valuation model, quality-of-earnings work, diligence room, sale-process narrative, transaction protections and board reporting.

Table 5. Valuation close

Outcome	Measure	Evidence
rights	permitted use	legal file
scarcity	replication barrier	market test
utility	incremental outcome	evaluation
value	approved range	committee record

Illustrative analytical design; company-specific evidence and professional advice govern.

Figure 5. Transaction readiness**FIGURE 5. TRANSACTION READINESS**

Values are illustrative evidence indices and require company-specific support.

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Chennakeshav (CK) is a corporate finance and investment banking executive with 25+ years of global experience in deal origination, structuring and execution across M&A, growth capital and corporate strategy. He has led value-creation mandates for founders, corporates and funds — bridging the boardroom view to hands-on execution and close.

His career spans Morgan Stanley, HSBC, Lloyds Banking Group, EWEC, ADQ portfolio companies and Emirates Growth Fund, across TMT, real estate, fintech, deeptech, cleantech, infrastructure and energy. He has partnered with C-suite leaders, private equity and venture funds, sovereign wealth funds and family offices to finance complex fund raises and scale-up ventures, and has led M&A due diligence, post-merger integration and business-transformation initiatives to create value.

At Matchpoint Partners he is Managing Partner, leading the firm's corporate finance, M&A and capital-raising practice. He holds an MBA from London Business School, an engineering degree from VTU and a Master of Laws (LLM, in progress) from UCL London.

An active start-up mentor, CK mentors at Techstars, DIFC FinTech Hive, Startup Grind, Founder Institute and IN5, serves as Entrepreneur Mentor in Residence (EMiR) at London Business School, and judges the Entrepreneurship World Cup.