

Glossary of AI Innovation and Diffusion

Key Terms in Strategy, Adoption, Industry Structure, and Financial Performance

Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics

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About This Glossary

This glossary consolidates key terminology used throughout the course Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics. Definitions are drawn from the course materials and from the academic, professional, regulatory, and company sources cited in those materials.

Where an established published definition is available, that source is cited directly. Where the course combines ideas from multiple sources or applies a concept specifically to AI, the entry is identified as drawn from the course materials.

The glossary is organized alphabetically so it remains useful even as the course presentation is revised, shortened, or reordered.

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A

Accountability chain

Definition: The sequence of parties — model developer, platform provider, application vendor, deploying organization, manager, professional user, data provider — potentially responsible for an AI-assisted outcome.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Liability

Adoption

Definition: As used throughout this module: usage that becomes sustained, paid, and ultimately profitable — not simply usage that exists, per the six-stage progression from technical availability to value creation.

Why it matters: When a headline states that a product has 'millions of users,' ask which of the six stages that statistic actually describes; usage statistics answer stage 1–3 questions, not stage 4–6 questions.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Financial validation, Capacity utilization

Advanced packaging

Definition: Techniques for combining multiple chip dies into a single package, increasingly a bottleneck in its own right independent of raw fabrication capacity.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Process node, EUV lithography

AI champion

Definition: An internal advocate selected for genuine peer credibility (homophily) and network centrality, given real time and organizational support to accelerate AI diffusion.

Why it matters: A champion program that selects for enthusiasm over credibility, provides no protected time, and creates no feedback loop to leadership is set up to fail regardless of the champion's talent.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Homophily, Heterophily, Opinion leader

ASIC

Definition: Application-specific integrated circuit; custom silicon designed for a narrow purpose (such as AI inference) rather than general-purpose computing.

Why it matters: Hyperscalers build custom ASICs to control cost and reduce dependence on merchant GPU suppliers.

AI application: Google's TPU and Amazon's Trainium are ASIC families built for AI workloads.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: GPU, TPU

Attack surface

Definition: The range of ways a system can potentially be exploited or manipulated, expanded by AI tool adoption (data leakage, model manipulation, third-party dependence).

Why it matters: Security concerns can slow adoption in some use cases while AI simultaneously becomes necessary to manage AI-enabled threats in others.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Data leakage

Attribution

Definition: Whether and how sources must be credited for content an AI system produces.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: IP ownership, Licensing

Augmentation

Definition: AI helping a person perform a task better or faster while the person remains central to the task.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Automation, Task creation

Authority decision

Definition: “Choices to adopt or reject an innovation made by relatively few individuals possessing power, status, or technical expertise” (Rogers, 2003, p. 406); can produce rapid adoption but risks resistance if not socially endorsed.

Why it matters: Before issuing an Authority-decision AI mandate, leadership should verify that prerequisite Contingent infrastructure is actually in place.

AI application: A hospital director mandating electronic health-record AI features produced immediate adoption but uneven staff compliance.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 406–407). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Collective decision, Contingent decision, Laggard

Automation

Definition: AI performing an existing task that a person previously performed.

Why it matters: Workforce strategy should assess automation, augmentation, and creation separately for each function rather than assuming one uniform effect across a department.

AI application: A marketing team might see automation of first-draft copywriting alongside augmentation of campaign analysis and creation of an entirely new AI-output-review role.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Augmentation, Task creation

Automation dependence

Definition: Growing reliance on a tool being available and correct, at the potential cost of weaker independent judgment when it is absent.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Deskilling

Awareness-knowledge

Definition: Knowing that an innovation exists, the shallowest of the three knowledge types.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 173–174). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Knowledge, How-to knowledge, Principles knowledge

B

Backlog

Definition: Revenue a customer has already committed to but that has not yet been delivered or recognized.

Why it matters: Backlog growing faster than recognized revenue can mean healthy future demand or can mean capacity is not yet built to deliver it — the distinction is worth asking about directly.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Consumption, Gross margin

Bandwidth

Definition: How much data moves per second — the AI-networking analogy is highway lanes.

Why it matters: AI clusters need both bandwidth and low latency simultaneously at massive scale, and shortfalls in either bottleneck GPU utilization.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Latency, HBM

Barriers to entry

Definition: Structural factors making it difficult for a new competitor to enter and take share in an industry.

Source: Porter, “How Competitive Forces Shape Strategy,” Harvard Business Review, Mar.–Apr. 1979. Porter, *Competitive Strategy*, Free Press, 1980. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Economies of scale, Switching cost

Beta

Definition: A measure of a stock's volatility relative to the overall market, used with the equity risk premium to estimate the cost of equity within WACC.

Why it matters: The AI-specific judgment call in WACC is mainly in the beta and risk-premium inputs, where reasonable analysts can land on different answers for the same company.

Source: Damodaran, *Investment Valuation*. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Equity risk premium, Weighted average cost of capital

Bottleneck

Definition: A point of scarce control in a value chain that lets its owner capture disproportionate value; introduced conceptually here and formalized later in the module.

Why it matters: Bottleneck control, not total value created, is the strongest predictor of which layer of the AI ecosystem captures profit.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Value capture, Profit pool

C

Capacity Utilization

Definition: The share of a firm's built infrastructure capacity that is actually being used and billed, rather than sitting idle.

Why it matters: Utilization is the single biggest driver of whether infrastructure investment translates into margin or sits idle as depreciating, unmonetized capacity; also called utilization rate in some course materials.

AI application: A hyperscaler's revenue can grow while capacity utilization falls if new data centers come online faster than customer demand fills them.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Gross margin, Free cash flow, Backlog

Capital expenditure

Definition: Spending on physical assets such as property, equipment, owned servers, GPUs, and data centers, recorded on the balance sheet and depreciated over time.

Why it matters: Whether an AI cost is capitalized or expensed changes reported earnings without changing actual cash spent, which is central to reading AI-era financial statements correctly.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Operating expenditure, Capitalization

Capital intensity

Definition: Capital expenditure as a percentage of revenue, and CapEx per unit of incremental revenue growth — a measure of how much capital a business consumes to grow.

Why it matters: Hyperscalers and semiconductor manufacturers are highly capital-intensive while software and consulting firms are comparatively capital-light, which changes how a low FCF yield should be read.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Capital turnover, Free cash flow yield

Capital turnover

Definition: Revenue divided by invested capital, measuring how efficiently the capital base is being used.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Capital intensity, Invested capital

Capitalization

Definition: The accounting treatment of recording a cost as an asset (to be depreciated over time) rather than expensing it immediately.

Why it matters: The capitalize-vs-expense judgment call is one of the clearest levers management has over reported near-term AI earnings.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Capital expenditure, Historical cost

Change agent

Definition: “An individual who influences clients' innovation-decisions in a direction deemed desirable by a change agency” (Rogers, 2003, p. 368); success depends heavily on client trust.

Why it matters: AI transformation budgets should explicitly fund a peer “aide” layer, not just the external expert layer, since aides make the expert's input locally credible.

AI application: External AI consultants (heterophilous, technically credible) frequently lack local trust; pairing them with internal “aides” bridges that gap.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 368, 372, 375). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: AI champion, Opinion leader

Collective decision

Definition: “Choices to adopt or reject an innovation made by consensus among members of a system” (Rogers, 2003, p. 404); slower but often more legitimate once adopted.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 404). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Optional decision

Colocation

Definition: A data-center rental model in which a company rents physical space and power inside someone else's facility rather than owning it.

Why it matters: Shifts infrastructure risk partly to the colocation provider and affects balance-sheet treatment relative to owned facilities.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Finance lease, Take-or-pay contract

Commoditization

Definition: The process by which a product or service loses differentiation and competes primarily on price as substitutes become more interchangeable.

Why it matters: Foundation models are flagged as the ecosystem layer most exposed to commoditization risk, given falling per-token pricing and comparatively low switching costs.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Switching cost, Profit pool

Communication behavior

Definition: Social participation, media exposure, and connectedness to opinion leaders in the network.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 173). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Decision-making unit, Opinion leader

Communication channel

Definition: The means by which messages about an innovation move from one individual to another (e.g., vendor demos, LinkedIn, town halls, peer conversations).

Why it matters: One of Rogers' four elements of diffusion; strategists should map channels before forecasting adoption, not just assess the technology's technical merits.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Mass media, Interpersonal channel

Comparable-company analysis

Definition: Valuing a company by reference to similar firms matched on business model, customer type, growth rate, margin profile, capital intensity, and competitive position — not just a shared “AI” label.

Why it matters: Labeling every company “AI” does not make it comparable; a foundation-model lab, a GPU designer, and an enterprise-software incumbent are not comparable just because all three are “AI companies.”

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Enterprise value to revenue

Compatibility

Definition: “The degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters” (Rogers, 2003, p. 240).

Why it matters: Incompatible ideas meet resistance regardless of technical merit; professions built on independent judgment (audit, law, medicine) report lower compatibility with AI that appears to substitute for that judgment.

AI application: Framing AI tools as “judgment support” rather than “judgment replacement” materially changes compatibility perception among professional adopters.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 240, 242). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Relative advantage, Complexity

Complement

Definition: A product or service whose value increases the value of another product (e.g., AI applications and the chips that run them).

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Network effect

Complexity

Definition: “The degree to which an innovation is perceived as relatively difficult to understand and use” (Rogers, 2003, p. 257); slows diffusion through cognitive and behavioral barriers.

Why it matters: Personal-use AI has extremely low perceived complexity while enterprise-scale deployment has very high actual complexity — leaders should not assume enterprise complexity is solved just because individual usage is high.

AI application: This asymmetry explains why individual AI usage statistics and enterprise workflow deployment statistics diverge so sharply.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 257). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Relative advantage, Compatibility, Pilot-to-scale gap

Compute

Definition: The processing capacity (chips, memory, networking) required to train and run AI models — a physical resource, not a purely digital one.

Why it matters: Software can diffuse quickly, but the physical compute infrastructure supporting it often cannot scale at the same speed.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Grid interconnection, Data center

Confirmation

Definition: The stage in which individuals “seek reinforcement for the innovation-decision already made, or they may reverse this decision if exposed to conflicting messages” (Rogers, 2003, p. 189).

Why it matters: Continued adoption depends on satisfaction, peer validation, and consistent results.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 189). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Discontinuance, Implementation

Consensus estimate

Definition: The average of analysts' published forecasts for a company's financial results, against which actual results are judged as a beat or a miss.

Why it matters: Markets can move a stock sharply in either direction based on results relative to consensus and forward guidance, not the absolute level of the reported quarter.

AI application: Alphabet beat consensus revenue growth yet its stock fell on capex/FCF concerns; Microsoft beat estimates and its stock rose the same week.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Guidance

Constraint

Definition: As used in the course: a factor that can slow, redirect, fragment, or cap diffusion — not necessarily stop it.

Why it matters: Reframes market enthusiasm about AI as an empirical question about the speed of diffusion, not a foregone conclusion.

AI application: Electricity capacity, chip supply, regulation, labor-market absorption, trust, and governance all apply specifically to generative and agentic AI.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Technology readiness, System readiness

Consumer surplus

Definition: The extra value end users receive beyond what they pay — e.g., a \$20/month AI subscription delivering research, drafting, and coding help that would otherwise require hiring specialized support.

Why it matters: Illustrates how AI can create large customer value without the value being captured by the vendor as profit.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Value creation, Value capture

Consumption

Definition: Growth in how much compute or service existing customers use over time, distinct from merely signing new contracts.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Backlog

Contingent decision

Definition: “The adoption of one innovation depends on prior adoption of another innovation” (Rogers, 2003, p. 408).

Why it matters: Many organizations discover their AI ambitions are actually Contingent decisions in disguise — e.g., agentic workflows require prior cloud/API infrastructure.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 408–409). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Authority decision

Continuing capital expenditures

Definition: Money that must keep being spent on infrastructure on an ongoing basis, not just the initial build.

Why it matters: A business can show improving margins on paper while still consuming more cash than it generates if continuing capex outpaces operating cash flow improvement.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Operating costs, Financing costs

Cosmopolite

Definition: Rooted in Georg Simmel's (1908) concept of “the stranger” — a person connected to sources outside their own social system; early adopters tend to be more cosmopolite.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 45–47, 199–201). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Localite, Early adopter

Cosmopolite channel

Definition: A channel connecting individuals “to sources outside their own social system” (Rogers, 2003, p. 199); Early Adopters tend to rely on these to bring new ideas in.

Why it matters: Diffusion strategy should combine cosmopolite scouting with localite legitimation before an idea reaches the Majority.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 199, 200–201). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Localite, Cosmopolite

CUDA

Definition: Nvidia's proprietary parallel-computing software layer (launched 2006) that sits beneath nearly every major AI framework.

Why it matters: CUDA functions as a switching-cost moat — sunk engineering investment, library ecosystem, and trained developer talent — not just raw chip performance.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Switching cost, GPU

Customer concentration

Definition: How much of total revenue comes from a small number of customers.

Why it matters: Two companies can report identical revenue growth where one reflects broad, deepening usage and the other reflects a handful of large, discounted, or prepaid contracts.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Prepaid commitments, Backlog

D

Data center

Definition: The physical buildings, racks, and space that house AI compute infrastructure; construction and cooling take years to plan and build.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Compute, Grid interconnection

Data gravity

Definition: An informal industry term describing why data tends to stay where it already sits, creating switching costs for the platform storing it.

Why it matters: Explains lock-in for data platforms like Snowflake independent of any formal contract terms.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Switching cost

Data leakage

Definition: The exposure of sensitive data through the use of AI tools.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Attack surface

Decision

Definition: The stage in which an individual “engages in activities that lead to a choice to adopt or reject the innovation” (Rogers, 2003, p. 179).

Why it matters: Boards and CFOs should distinguish decision announcements from implementation evidence when evaluating management's AI narrative.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 179). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Persuasion, Implementation

Decision-making unit

Definition: The individual or unit whose socioeconomic characteristics, personality variables, and communication behavior shape an adoption decision.

Why it matters: “The organization” is rarely a single decision-making unit — a large enterprise contains many, which is why AI adoption inside one company is so often uneven rather than uniform.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 173). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Socioeconomic characteristics, Personality variables, Communication behavior

Defensive adoption

Definition: Adopting an innovation to avoid falling behind competitors, distinct from strategic, symbolic, or experimental adoption motives.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Symbolic adoption, Persuasion

Depreciable base

Definition: The amount of an asset's cost subject to depreciation, typically historical cost less any salvage value.

Source: FASB ASC 360. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Useful life, Straight-line depreciation

Depreciation

Definition: Spreading the cost of a long-lived asset, such as a data center, as an expense over its useful life rather than all at once when purchased.

Why it matters: Before concluding that soft margins mean an AI investment case is failing, check whether depreciation or another ordinary, temporary cost pressure is the actual cause.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Useful life

Deskilling

Definition: The gradual loss of foundational knowledge or independent judgment that can occur as employees grow dependent on an AI tool.

Why it matters: Organizations should deliberately decide which foundational skills they still want employees to retain rather than leaving it to chance.

AI application: A junior employee using AI to draft analysis may develop faster pattern-recognition skills while developing weaker skills at producing that analysis unaided.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Automation dependence

Diffusion

Definition: “The process by which an innovation is communicated through certain channels over time among members of a social system” (Rogers, 2003, p. 5); a special type of communication in which the messages concern a new idea.

Why it matters: Finance professionals who understand diffusion theory can stress-test growth assumptions more rigorously than those who only model cash flows — every DCF assumes an adoption curve.

AI application: When an analyst assumes “enterprise AI spend triples by 2028,” they are making a diffusion claim whether they realize it or not.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 5). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Innovation, Communication channel, Social system

Discontinuance

Definition: The reversal of a prior adoption decision; Rogers distinguishes replacement discontinuance (rejecting to adopt a better idea) from disenchantment discontinuance (rejecting due to dissatisfaction).

Why it matters: Post-implementation surveys should ask which type of discontinuance is occurring, since the two require opposite responses.

AI application: High replacement-discontinuance is a healthy market signal; high disenchantment-discontinuance is a warning sign for the entire program.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 189–190). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Confirmation, Reinvention

Downstream

Definition: Closer to the end customer in a value chain (for a chip designer like Nvidia, downstream means hyperscalers, enterprise customers, and consumers).

Why it matters: Clarifies which layer of the ecosystem actually owns the customer relationship.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Upstream, Vertical integration

DRAM

Definition: Dynamic random-access memory; the conventional memory technology that HBM improves upon for AI workloads.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: HBM

E

Early adopter

Definition: The second category (~13.5%), respected opinion leaders who adopt deliberately but early.

Why it matters: Rogers identifies Early Adopters as the most influential category for accelerating diffusion to the rest of the population.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 267–299). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Innovator, Opinion leader

Early majority

Definition: The third category (~34%), deliberate adopters who move just ahead of the average member of the system.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 267–299). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Early adopter, Late majority

Economic obsolescence

Definition: The point at which an asset remains physically functional but is no longer cost-competitive to keep running versus replacing it with a newer generation.

Why it matters: New chip generations compress the economic (not physical) life of the prior generation, making impairment testing necessary even for working equipment.

Source: FASB ASC 360. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Impairment, Useful life

Economic profit

Definition: NOPAT minus ($WACC \times$ invested capital); when negative, the business is growing its way into value destruction regardless of headline revenue growth.

Source: Stern Stewart's Economic Value Added (EVA) framework. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Return on invested capital, Weighted average cost of capital

Economies of scale

Definition: Cost advantages that arise as production volume increases, spreading fixed costs over more output.

Why it matters: One of the frameworks used, along with switching costs and bottleneck control, to determine which value-chain layer captures profit.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Economies of scope, Barriers to entry

Economies of scope

Definition: Cost advantages that arise from producing multiple related products or services together rather than separately.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Economies of scale

Embedded AI

Definition: AI capability added into an existing enterprise application by an incumbent vendor (e.g., Microsoft 365 Copilot), which can ride an existing renewal cycle and security approval.

Why it matters: Incumbents with embedded AI face a lower sales-cycle cost than standalone challengers who must win net-new budget and security review.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Standalone AI

Engagement

Definition: Whether users spend more time on a platform, or return more often, because of AI-driven features.

Why it matters: An internal AI user rarely reports a separate 'AI revenue' line — adoption shows up inside existing engagement and monetization metrics instead.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Revenue per user, Return on ad spend

Enterprise value

Definition: Present value of forecast free cash flow plus present value of terminal value.

Why it matters: Terminal value can represent the majority of total enterprise value for a company early in its growth cycle, which is why AI valuations are unusually sensitive to terminal assumptions.

Source: Damodaran, *Investment Valuation*. Koller/Goedhart/Wessels, *Valuation*, McKinsey & Company/Wiley. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Equity value, Terminal value

Enterprise value to EBITDA

Definition: Enterprise value divided by EBITDA; a common multiple for comparing companies independent of capital structure and depreciation policy.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Price-to-earnings, Enterprise value to revenue

Enterprise value to revenue

Definition: Enterprise value divided by revenue; used heavily for high-growth AI firms where earnings-based multiples are unreliable, though it can conceal poor unit economics.

Why it matters: A revenue multiple can make fast growth funded by deeply negative free cash flow look identical to fast, profitable growth.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Price-to-earnings, Comparable-company analysis

Equity risk premium

Definition: The extra return equity investors require over the risk-free rate, another input blended into WACC.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Risk-free rate, Beta

Equity value

Definition: Enterprise value minus net debt.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Enterprise value

Ethernet

Definition: In the AI-networking context, an emerging lower-cost, more open alternative to InfiniBand (e.g., Nvidia's Spectrum-X, the Ultra Ethernet Consortium).

Why it matters: Represents the competitive check on InfiniBand's dominance in AI cluster networking.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: InfiniBand

EUV lithography

Definition: Extreme ultraviolet lithography; the tool technology, supplied solely by ASML, capable of patterning the most advanced chips.

Why it matters: A single-supplier bottleneck that gives ASML outsized value capture within the semiconductor equipment layer.

AI application: ASML's FY2025 revenue was €32.7B at a 52.8% gross margin as the sole global EUV supplier.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Process node, Bottleneck

Exit multiple

Definition: A terminal-value method applying a market multiple to a projected terminal-year financial metric.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Terminal value, Perpetuity growth

External AI Seller

Definition: A company that sells AI infrastructure, models, or compute capacity to other businesses as its product (e.g., AWS, Oracle, CoreWeave).

Why it matters: For an external AI seller, revenue growth without rising utilization and gross margin is a warning sign rather than validation of real adoption.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Internal AI User, Capacity Utilization, Gross margin

F

Fabless

Definition: A chip-design company (e.g., Nvidia, AMD) that designs chips but owns no manufacturing factories.

Why it matters: Clarifies the division of labor in chip supply chains and why designers depend heavily on a small number of foundries.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Foundry, Integrated device manufacturer

Fabrication

Definition: The actual manufacturing of advanced chips, concentrated among a small number of foundries capable of leading-edge production.

Why it matters: An adoption forecast that assumes unconstrained chip supply should be treated with caution; capacity at the fabrication layer is a real, structural limit on how fast frontier AI capability can scale.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Advanced packaging, High-bandwidth memory

Felt needs

Definition: A gap the potential adopter already perceives between the current state and a desired one.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 172). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Prior conditions

Finance lease

Definition: A lease in which the asset and a corresponding liability both appear on the balance sheet, under ASC 842.

Source: FASB ASC 842, Leases. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Operating lease, Colocation

Financial validation

Definition: Confirmation that AI adoption has become economically meaningful — usage that is sustained, paid, and eventually profitable — rather than merely visible.

Why it matters: Reframes 'is AI adoption real?' as an empirical, stage-by-stage measurement question rather than a single yes/no judgment.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Capacity utilization, Return on invested capital

Financing costs

Definition: Interest and other costs of the debt or capital used to fund an investment.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Continuing capital expenditures

Fixed cost

Definition: A cost, such as depreciation on a data center, that does not change with the amount of usage.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Unit economics, Capacity utilization

Foundry

Definition: A company (e.g., TSMC, Samsung Foundry) that manufactures chips designed by other companies but does not sell its own chip products.

Why it matters: Foundry capacity, concentrated in Taiwan, is one of the narrowest bottlenecks in the AI chip supply chain.

AI application: TSMC's Q2 2026 revenue was \$40.2B with a 67.7% gross margin, concentrated in Taiwan.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Fabless, Integrated device manufacturer

Free cash flow

Definition: Operating cash flow less capital expenditures — the simplest and most commonly reported convention (used throughout this course unless stated otherwise); other conventions exist (FCFF, FCFE).

Why it matters: Feeds directly into DCF valuation and funds debt repayment, dividends, buybacks, and reinvestment — the central question for the module.

Source: Damodaran, Investment Valuation. Brealey/Myers/Allen, Principles of Corporate Finance. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Free cash flow to the firm, Free cash flow to equity, Operating cash flow

Free cash flow to equity

Definition: Cash available to equity holders specifically, after debt service.

Why it matters: Different analysts mean different things by “FCF,” so the convention in use should always be confirmed.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Free cash flow, Free cash flow to the firm

Free cash flow to the firm

Definition: Cash available to all capital providers (debt and equity) before financing effects.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Free cash flow, Free cash flow to equity

Free cash flow yield

Definition: Free cash flow divided by market capitalization (or by enterprise value for an unlevered version).

Why it matters: A low or negative yield may simply reflect the market pricing in high expected future growth, but it also raises sensitivity to forecast error.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Capital intensity, Free cash flow

G

GPU

Definition: Graphics processing unit; the chip architecture, originally built for graphics rendering, that became the dominant hardware for AI training and inference.

Why it matters: Nvidia's dominance in GPUs, reinforced by the CUDA software moat, is central to how value is captured in the AI chip layer.

AI application: Nvidia's fiscal Q1 2027 Data Center revenue was \$75.2B, up 92% year over year.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: ASIC, TPU, CUDA

Grid capacity

Definition: The amount of large, dependable power supply available to a region's electricity grid for AI training and inference facilities.

Why it matters: A company's AI strategy can be constrained by a decision made by a utility or grid operator, not by anything internal to the company.

AI application: Firms and regions with early, reliable access to large power blocks may scale AI capacity faster than those without it, independent of model or talent quality.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Interconnection queue

Grid interconnection

Definition: The process by which new power-generation or data-center capacity is connected to the electricity grid.

Why it matters: Software can diffuse quickly; the physical systems supporting it (power, cooling, construction) often cannot.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Grid capacity, Interconnection queue

Gross margin

Definition: Revenue minus the direct cost of delivering a service.

Why it matters: For a seller of AI infrastructure, revenue growth without utilization and margin is a warning sign, not a validation.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Capacity utilization

Growth CapEx

Definition: Spending to add new capacity to serve new demand — the spending investors most readily associate with an exciting growth story.

Why it matters: As a buildout matures, an increasing share of a hyperscaler's total CapEx may shift from growth to pure replacement spending, a distinction rarely made explicit in AI models.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Maintenance CapEx

Guidance

Definition: Management's own forecast of future financial results, disclosed on earnings calls; the baseline the market actually trades against.

Why it matters: Whether guidance is rising, falling, or steady versus the prior quarter is one of the key things to listen for on an AI earnings call.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Consensus estimate

H

HBM

Definition: High Bandwidth Memory; memory that stacks DRAM dies vertically next to a GPU package for far higher bandwidth than conventional memory.

Why it matters: Memory bandwidth can bottleneck GPU utilization even when compute silicon has spare capacity, making HBM supply a hidden constraint on AI scaling.

AI application: Micron's Cloud Memory Business Unit (its HBM segment) generated \$5.284B in revenue at 66% gross margin in fiscal Q1 2026.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: DRAM, Bandwidth, Latency

Heterophily

Definition: The degree to which communicating individuals differ; effective diffusion networks balance homophily and heterophily — enough similarity for credibility, enough difference for genuinely new information.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 306). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Homophily, AI champion

Historical cost

Definition: The original purchase cost of an asset, used as the base for depreciation calculations.

Source: FASB ASC 360, Property, Plant, and Equipment. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Depreciable base

Homophily

Definition: “Communication is most effective when source and receiver are homophilous — similar in beliefs, education, and social status” (Rogers, 2003, p. 305).

Why it matters: Single-source communication strategies (all-internal or all-external) likely underperform deliberately mixed strategies.

AI application: A peer accountant demonstrating an AI audit tool is more persuasive to other accountants than the same demonstration from an outside IT consultant.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 305). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Heterophily, AI champion

Horizontal integration

Definition: Expanding within the same stage of a value chain (e.g., one cloud provider acquiring another, or one foundation-model lab acquiring a competitor).

Why it matters: Distinguishes scale-building moves from the vertical moves that reshape which stages a firm controls.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Vertical integration

How-to knowledge

Definition: Knowing how to use an innovation correctly.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 173–174). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Knowledge, Awareness-knowledge

Human oversight

Definition: The governance stage defining who reviews and can override AI system outputs.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Risk classification, Incident response

Hurdle rate

Definition: The minimum acceptable rate of return for a project, typically anchored to WACC or a risk-adjusted variant.

Source: Brealey/Myers/Allen, *Principles of Corporate Finance*. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Net present value, Internal rate of return

Hyperscaler

Definition: A company that operates cloud data-center infrastructure at massive, globally distributed scale and rents that capacity to other businesses.

Why it matters: Hyperscalers sit at the center of the AI ecosystem, both consuming upstream chip/energy supply and selling downstream compute services.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: IaaS, PaaS

IaaS

Definition: Infrastructure as a Service; renting raw compute, storage, and networking (e.g., an Azure virtual machine), with the customer managing everything above the hardware layer.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: PaaS, Hyperscaler

Impairment

Definition: A write-down of an asset's value when it becomes uneconomic to keep running, even if it remains physically functional; governed by FASB ASC 360.

Why it matters: Captures the gap between physical life and economic life — an asset can be fully functional and still uneconomic to keep running.

Source: FASB ASC 360, Property, Plant, and Equipment. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Economic obsolescence, Useful life

Implementation

Definition: The stage in which “an individual puts an innovation into use” (Rogers, 2003, p. 181), often revealing unanticipated problems that lead to reinvention.

Why it matters: Organizational settings require coordination, resource allocation, and formal support to sustain implementation (Rogers, 2003, p. 184) — precisely where most enterprise AI programs currently stall.

AI application: Project NANDA (MIT, 2025) found approximately 95% of enterprise generative-AI pilots fail to reach measurable P&L impact.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 181–184). Challapally et al., Project NANDA, “The GenAI Divide: State of AI in Business 2025,” MIT Media Lab, Aug. 2025. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Reinvention, Pilot-to-scale gap, Decision

Incident response

Definition: Having a plan ready before something goes wrong with an AI system, one of nine continuous governance stages.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Risk classification, Human oversight

Incremental margins

Definition: The profit earned on each additional dollar of new revenue, not on total revenue as a whole.

Why it matters: Especially useful for AI businesses because so much of the cost structure is fixed — once fixed cost is covered, the margin on each additional dollar of new revenue can be very high.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Fixed cost, Unit economics

Industry

Definition: A group of firms producing products or services that customers view as close substitutes for one another; the test is the customer's willingness to substitute, not how the firms describe themselves.

Why it matters: AI companies span traditional classification boundaries (chip maker, cloud provider, software vendor), so analysts must define industry boundaries functionally rather than by label.

AI application: Whether Nvidia is in the “semiconductor,” “AI infrastructure,” or “cloud computing” industry depends on which customer decision is being analyzed.

Source: Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, Free Press, 1980. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: NAICS, SIC

InfiniBand

Definition: The default AI-cluster networking standard, valued for its native low latency and reinforced by Nvidia's 2020 acquisition of Mellanox.

Why it matters: Its dominance shows how AI infrastructure choices can lock in a single vendor's networking standard across an industry.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Ethernet

Innovation

Definition: An idea, practice, or object perceived as new by an individual or unit of adoption; newness is perceptual, not chronological.

Why it matters: A technology invented years earlier can still function as a Rogers “innovation” the first time a given adopter encounters it.

AI application: Transformer-based language models existed in research form since 2017, but ChatGPT's November 2022 release is when the innovation diffused into public perception.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Invention, Diffusion

Innovation-decision process

Definition: The five-stage process (Knowledge, Persuasion, Decision, Implementation, Confirmation) by which an individual or unit moves from first learning of an innovation to continued adoption or discontinuance.

Why it matters: Diagnosing which stage an initiative is stuck at should precede any remediation spending; most “AI adoption is failing” narratives describe a stall at one specific stage, not wholesale rejection.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (Figure 5-1). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Knowledge, Persuasion, Decision, Implementation, Confirmation

Innovativeness

Definition: How early an individual or organization tends to adopt new ideas, relative to others in its social system.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 172). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Prior conditions, Innovator

Innovator

Definition: The earliest-adopting category (~2.5% of a social system), venturesome and comfortable with technical risk; the first to try an innovation.

Why it matters: Change-management strategy should target Early Adopters, not Innovators, since Rogers identifies Early Adopters as the most influential category for accelerating the rest of the curve.

AI application: An engineer independently wiring an internal LLM API into a workflow before any formal policy exists is a classic Innovator profile.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 267–299). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Early adopter, Early majority, Late majority, Laggard

Integrated device manufacturer (IDM)

Definition: A company (historically Intel) that both designs and manufactures its own chips, combining the fabless and foundry roles.

Why it matters: Illustrates an alternative structural choice to the fabless/foundry split that dominates the modern AI chip industry.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Fabless, Foundry

Interconnection queue

Definition: The ordered list of projects awaiting grid-connection approval, which can delay new AI power capacity regardless of available capital.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Grid capacity

Internal AI User

Definition: A company that primarily uses AI to improve its own existing products or operations, rather than selling AI infrastructure or tools to others (e.g., Meta using AI to improve ad targeting and content ranking).

Why it matters: An internal AI user rarely reports a separate “AI revenue” line — its AI-driven gains show up inside existing metrics such as engagement, revenue per user, and cost efficiency instead.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: External AI Seller, Engagement, Revenue per user

Internal rate of return

Definition: The discount rate at which a project's NPV equals exactly zero — the project's own break-even rate of return; compared against the hurdle rate to judge value creation.

Why it matters: Watch for the multiple-IRR problem: unconventional cash flows (e.g., a large decommissioning cost at the end) can produce more than one IRR, making NPV more robust.

Source: Brealey/Myers/Allen, *Principles of Corporate Finance*. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Net present value, Hurdle rate, Payback period

Interpersonal channel

Definition: A communication channel “more effective in persuading individuals to adopt new ideas, especially when such channels link near peers” (Rogers, 2003, p. 199); crucial during Persuasion and Decision.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 199). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Mass media, Homophily

Invention

Definition: The original creation of a new idea, process, or technology (e.g., the transformer architecture, Vaswani et al., 2017), distinct from Rogers' "innovation" (perceived newness).

Why it matters: "First-mover" framing in press releases and earnings calls is often about perceived newness to a market segment, not technical novelty.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 5). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Innovation

Invested capital

Definition: The capital base (debt and equity) deployed in a business, used as the denominator in ROIC.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: NOPAT, Return on invested capital

IP ownership

Definition: Who owns content an AI system produces, an open question that can pause adoption until a firm's legal team is satisfied.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Licensing, Attribution

K

Knowledge

Definition: The stage in which an individual "is exposed to the innovation's existence and gains understanding of how it functions" (Rogers, 2003, p. 172); comprises awareness-knowledge, how-to knowledge, and principles-knowledge.

Why it matters: Training budgets should be split across all three knowledge types, not concentrated on how-to alone.

AI application: An accountant who knows AI exists and can type a prompt but does not understand that a model can generate plausible-but-false output is the highest-risk adopter profile.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 172–175). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Awareness-knowledge, How-to knowledge, Principles knowledge

L

Laggard

Definition: The final category (~16%), traditional and localite, often adopting only under an Authority decision (mandate).

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 267–299). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Late majority, Authority decision, Localite

Late majority

Definition: The fourth category (~34%), skeptical adopters who move under peer or economic pressure.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 267–299). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Early majority, Laggard

Latency

Definition: How long one piece of data takes to arrive — the AI-networking analogy is trip time.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Bandwidth

Leading indicator

Definition: A measure (pilot-to-sustained-use movement, workflow integration, documented use cases, discontinuation rates, infrastructure utilization) that signals adoption progress before it appears in quarterly financial results.

Why it matters: Boards, investors, and management should ask for these leading indicators directly rather than accepting adoption claims at face value.

AI application: A company can report high AI usage numbers from purchased licenses while active use, workflow integration, and documented use cases all remain low.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Takeoff date, Penetration ceiling

Legitimacy

Definition: As distinct from legality: the combination of legal permission, managerial approval, professional acceptance, employee acceptance, customer acceptance, and community acceptance required for adoption to scale.

Why it matters: Adoption requires more than usefulness — it requires legitimacy across all six dimensions simultaneously; a gap in any one can cap the pace of scaling.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Task-specific trust

Liability

Definition: Legal or financial responsibility for the consequences of an AI-assisted decision, potentially implicating the model developer, platform provider, application vendor, deploying organization, approving manager, or professional user simultaneously.

Why it matters: Unclear accountability increases perceived risk and slows adoption, independent of whether the technology actually performs well.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Accountability chain, Regulatory uncertainty

Liability exposure

Definition: The risk an adopting organization bears if an AI-assisted decision or output causes harm.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Regulatory uncertainty, Accountability chain

Licensing

Definition: The terms governing use of underlying AI models and data.

Why it matters: Organizations may delay adoption when the rights associated with inputs and outputs remain unclear; vendors offering contractual clarity may diffuse faster.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Attribution, IP ownership

Localite

Definition: A channel that transmits information within the social system itself, the dominant channel for the Late Majority and Laggards.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 199). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Cosmopolite, Laggard

M

Maintenance CapEx

Definition: Spending required just to replace aging or obsolete capacity and keep existing revenue flowing — server, GPU, and network refresh cycles.

Why it matters: Given rapid chip-generation turnover, maintenance CapEx may become a much larger ongoing burden than investors currently assume.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Growth CapEx, Economic obsolescence

Mass media

Definition: “Means of transmitting messages that involve a mass medium, such as radio, television, newspapers, and the Internet” (Rogers, 2003, p. 199); most influential at the Knowledge stage.

Why it matters: Change-management budgets should be rebalanced toward structured peer-demonstration programs rather than only top-down mass communication.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 199). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Interpersonal channel, Communication channel

Merchant generator

Definition: A competitive power generator (e.g., Vistra, Talen) that sells electricity into wholesale markets and can sign direct deals with hyperscalers.

Why it matters: Merchant generators can move faster than regulated utilities to sign large, direct power deals with AI data-center developers.

AI application: Talen Energy released a \$300M escrow tied to AWS development milestones on a co-located data-center campus.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Rate-regulated utility

N

NAICS

Definition: The North American Industry Classification System; a U.S. Census Bureau code used to classify firms for statistical purposes, revised only every five years.

Why it matters: Classification codes built for a pre-cloud, pre-AI economy cannot cleanly capture vertically integrated AI players, which distorts competitor identification and comparable-company sets.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: SIC, Industry

NAND

Definition: A type of flash memory used for data storage in AI infrastructure, distinct from the DRAM/HBM used for working memory.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: DRAM, HBM

Net present value

Definition: The present value of a project's future net benefits minus the initial investment; a negative NPV means the project would destroy value at the assumed hurdle rate.

Why it matters: Applies the ROIC > WACC principle to a single project rather than a whole company.

Source: Brealey/Myers/Allen, Principles of Corporate Finance. Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Hurdle rate, Internal rate of return

Network

Definition: The structure and density of communication connections within a social system; clustered, siloed systems slow diffusion while highly connected systems accelerate it (Rogers, 2003, p. 308).

Source: Rogers, Everett M. 2003. Diffusion of Innovations, 5th ed. New York: Free Press. (p. 308). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Opinion leader, Social structure

Network effect

Definition: A dynamic in which a product or platform becomes more valuable to each user as more users join it.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Platform, Complement

Non-GAAP measure

Definition: A financial metric disclosed outside standard GAAP reporting; a red flag pattern is when non-GAAP measures appear, then quietly disappear once they stop looking favorable.

Why it matters: New or disappearing non-GAAP measures and shifting definitions of “AI revenue” are red flags for comparability, even absent any wrongdoing.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Guidance

NOPAT

Definition: Net operating profit after tax; the numerator in the ROIC calculation.

Source: Damodaran, Investment Valuation. Brealey/Myers/Allen, Principles of Corporate Finance. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Return on invested capital, Invested capital

Norms

Definition: Established behavior patterns and expectations of a social system that can either encourage or resist a proposed change.

Source: Rogers, Everett M. 2003. Diffusion of Innovations, 5th ed. New York: Free Press. (p. 172). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Social norm, Prior conditions

O

Observability

Definition: “The degree to which the results of an innovation are visible to others” (Rogers, 2003, p. 258); visibility accelerates diffusion through social learning and imitation.

Why it matters: Organizations serious about accelerating AI diffusion should treat “making results observable” (dashboards, case studies, show-and-tell) as a distinct diffusion-acceleration activity.

AI application: AI's highest-value applications (better judgment, avoided errors) are often the least observable, while the most visible use cases are not always where the greatest relative advantage lives.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 258). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Relative advantage, Trialability

Operating cash flow

Definition: Net income adjusted for noncash charges (depreciation, amortization, stock compensation) and working-capital changes; cash generated by running the core business before capital spending.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Free cash flow

Operating costs

Definition: The ongoing cost of running the business, which revenue from adoption must first cover before an investment is validated.

Why it matters: 'The AI business is profitable' and 'the AI business generates enough free cash flow to justify the capital invested in it' are two different, sequential claims.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Continuing capital expenditures, Free cash flow

Operating expenditure

Definition: Spending expensed as incurred on the income statement, such as cloud-service and inference costs, R&D, and AI-related compensation.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Capital expenditure

Operating lease

Definition: Post-ASC 842, a lease type that, like finance leases, now requires balance-sheet recognition of a right-of-use asset and lease liability, unlike the pre-2019 regime where it stayed off-balance-sheet.

Why it matters: The lease-vs-buy decision now mainly changes cash-flow timing and risk allocation rather than whether the obligation appears on the balance sheet at all.

Source: FASB ASC 842, Leases, effective for fiscal years beginning after Dec. 15, 2018. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Finance lease

Opinion leader

Definition: “The degree to which an individual is able to influence others' attitudes or overt behavior informally” (Rogers, 2003, p. 27) — a function of network position and trust, not formal title.

Why it matters: Change-agent programs should be built around identified informal opinion leaders, supplementing rather than replacing formal AI leadership roles.

AI application: The actual opinion leaders for AI adoption are often mid-level staff who are early, credible, visible users respected by their peers — not necessarily anyone in a named “AI” role.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 27, 308). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Network, AI champion, Early adopter

Optional decision

Definition: “Choices to adopt or reject an innovation made by an individual independent of others in the system” (Rogers, 2003, p. 404); the fastest diffusion type since no coordination is required.

Why it matters: Most Shadow AI usage is technically an Optional decision made by individuals outside any formal governance process.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 404). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Collective decision, Authority decision, Contingent decision

Orchestration

Definition: As used in AI tooling, the coordination of multiple AI model calls, tools, and data sources into a working application pipeline (e.g., LangChain).

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Vector database

Organizational readiness

Definition: Whether the firm has the data, workflows, budget, management support, and change capacity to actually deploy and sustain an innovation.

Source: original course synthesis building on Rogers (Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press.). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Technology readiness, System readiness

Outcome-based pricing

Definition: A pricing model tying payment to a measured business result rather than seats or usage volume; introduced conceptually for later scenario discussion.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Usage-based pricing, Seat-based pricing

P

PaaS

Definition: Platform as a Service; renting a managed development environment (e.g., a managed database or model-hosting service), where the provider manages more of the stack.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: IaaS, Hyperscaler

Payback period

Definition: How long until cumulative cash inflows recover the initial investment; intuitive but ignores the time value of money and cash flows after the payback point.

Why it matters: Still practically relevant when technology changes quickly, project life is uncertain, or liquidity is a binding constraint.

Source: Brealey/Myers/Allen, *Principles of Corporate Finance*. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Internal rate of return, Net present value

Penetration ceiling

Definition: The ultimate share of a population or market that a diffusing innovation reaches, which can vary by sector, task, or geography.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Takeoff date

Perpetuity growth

Definition: A terminal-value method dividing terminal free cash flow, grown at a long-run rate, by the discount rate minus that growth rate.

Why it matters: Small changes in the assumed terminal growth rate compound heavily through the perpetuity-growth formula.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Terminal value, Exit multiple

Personality variables

Definition: Risk tolerance, dogmatism, and the capacity to handle abstraction and ambiguity.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 173). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Decision-making unit

Persuasion

Definition: The stage in which “the individual forms a favorable or unfavorable attitude toward the innovation” (Rogers, 2003, p. 176); affective, not purely cognitive.

Why it matters: The five perceived attributes of an innovation explain 49–87% of the variance in adoption rate at this stage (Rogers, 2003, pp. 221–222).

AI application: Competitive FOMO (“our competitors are already using this”) is a documented persuasion-stage driver distinct from a rational cost-benefit case.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 176–179, 221–222). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Decision, Symbolic adoption, Defensive adoption

Pilot-to-scale gap

Definition: The empirical pattern in which individual-level consumer AI tool use frequently succeeds while an organization's formal enterprise workflow deployment stalls.

Why it matters: Roughly 95% of enterprise generative-AI pilots fail to reach measurable P&L impact, while purchased/vendor tools succeed about 67% of the time versus roughly one-third for internal builds.

Source: Challapally, A. et al., Project NANDA, “The GenAI Divide: State of AI in Business 2025,” MIT Media Lab, Aug. 2025. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Implementation

Platform

Definition: A business that enables interactions or transactions between two or more distinct groups of participants (e.g., a cloud marketplace or a foundation-model API).

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Network effect

Power purchase agreement (PPA)

Definition: A long-term contract in which a buyer commits to purchase electricity from a generator at agreed terms.

Why it matters: PPAs let hyperscalers lock in dedicated, long-term power supply for data centers ahead of construction.

AI application: Constellation Energy signed a 20-year PPA with Microsoft to restart Three Mile Island Unit 1, adding ~835 MW of carbon-free capacity.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Rate-regulated utility, Merchant generator

Prepaid commitments

Definition: Revenue collected or contracted before the customer has actually used the service.

Why it matters: Revenue growth becomes a credible adoption signal only when paired with evidence that prepaid commitments and customer concentration are not what is actually driving it.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Customer concentration

Previous practice

Definition: The customary, already-established way a task or decision was handled before the innovation appeared.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 172). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Prior conditions

Price-to-earnings

Definition: Price divided by earnings per share (trailing or forward); becomes meaningless for firms with negative or unstable earnings.

Why it matters: Many high-growth AI firms (CoreWeave, Snowflake) have negative or unstable earnings, which is why revenue multiples dominate their valuation discussion instead.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Enterprise value to revenue, Enterprise value to EBITDA

Principles knowledge

Definition: Understanding the underlying functioning principles of an innovation — why and how it works, and where it can fail.

Why it matters: The most commonly neglected training track, yet potentially the most consequential, since it determines whether users trust outputs uncritically.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 173–174). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Knowledge, How-to knowledge

Prior conditions

Definition: The four conditions existing before the innovation-decision process begins: previous practice, felt needs, innovativeness, and norms of the social system.

Why it matters: A highly innovative unit with a strong felt need and permissive norms will diffuse the same tool far faster than an otherwise identical unit lacking any of the three.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 172, Figure 5-1). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Previous practice, Felt needs, Innovativeness, Norms

Process node

Definition: A generation of chip-manufacturing technology (e.g., 7nm and below), used as shorthand for how advanced a chip's fabrication is.

Why it matters: Advanced-node capacity is scarce and concentrated, making it a structural constraint on AI chip supply.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Leading-edge node, EUV lithography

Profit pool

Definition: A map of an entire industry chain by both revenue and profit simultaneously, since the two maps often look completely different.

Why it matters: Shows that a layer can be enormous in revenue and still capture very little profit if competition, supplier power, or buyer power compress margin.

AI application: Foundation-model API revenue is large and fast-growing, but per-token pricing has fallen roughly 50x/year, while ASML's much smaller revenue reflects near-total profit capture within its bottleneck.

Source: McKinsey/strategy literature on sequential value-chain profitability analysis. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Value capture, Bottleneck

R

Rate-regulated utility

Definition: A utility (e.g., NextEra, Duke, Dominion) that earns a regulated return on capital invested in the grid.

Why it matters: Distinguishes utilities whose returns are set by regulators from merchant generators exposed to wholesale market prices.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Merchant generator, Power purchase agreement

Real option

Definition: A small pilot investment that buys the right, but not the obligation, to expand later if results justify it, exactly like a financial call option.

Why it matters: A project can be worth pursuing even with a negative expected NPV under simple analysis because it preserves valuable future flexibility.

Source: Brealey/Myers/Allen, *Principles of Corporate Finance*. real-options valuation literature originating with Black-Scholes-Merton option-pricing theory. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Net present value, Total cost of ownership

Regulatory uncertainty

Definition: Ambiguity about what regulation will require or permit, which delays investment decisions independent of what the eventual rule says.

Why it matters: The absence of regulation is not automatically pro-adoption; predictable, well-designed rules can accelerate adoption by resolving ambiguity.

AI application: An organization may delay deployment not because a rule forbids it, but because no rule yet clarifies who is liable if it fails.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Liability exposure

Reinvention

Definition: “The degree to which an innovation is changed or modified by a user in the process of its adoption and implementation” (Rogers, 2003); a normal, often adaptive part of implementation.

Why it matters: Vendors who under-anticipate reinvention (rigid, non-configurable tools) diffuse more slowly into heterogeneous enterprise environments than vendors who design for local adaptation.

AI application: Large language models are, in a sense, built for reinvention — the same base model is reinvented into wildly different configurations by each adopting organization.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (page citation pending manual verification). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)
Related terms: Implementation

Rejection

Definition: An active, considered decision not to adopt an innovation after genuine consideration — distinct from simple non-adoption due to lack of knowledge; Rogers' model shows a path back to 'Later Adoption' even after Rejection.

Why it matters: An organization that rejected an AI tool eighteen months ago is not permanently a Laggard; many firms that dismissed early GenAI tools in 2023 have since adopted mature versions of the same category.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (Figure 5-1). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Innovation-decision process, Discontinuance

Relative advantage

Definition: "The degree to which an innovation is perceived as being better than the idea it supersedes" (Rogers, 2003, p. 229); the strongest single predictor of adoption rate.

Why it matters: Financial ROI cases should be built task-by-task rather than function-by-function, since aggregating high- and low-relative-advantage tasks together dilutes the real signal.

AI application: A single AI product can have very high relative advantage on first-draft generation and very low or negative relative advantage on final judgment tasks.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 229). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Compatibility, Complexity, Trialability, Observability

Replacement investment

Definition: Money needed to replace equipment as it wears out or becomes technologically obsolete.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Continuing capital expenditures

Responsible diffusion

Definition: A framework deliberately balancing competing goals — speed of adoption, realized value, risk management, user trust, fairness, data privacy, security, and accountability — rather than optimizing for speed alone.

Why it matters: An organization that maximizes adoption speed alone, ignoring fairness, privacy, security, and accountability, risks a rebound of disenchantment discontinuance once problems surface publicly.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 379–382, 394). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Discontinuance, Change agent

Retention

Definition: Whether customers keep using or paying for a product over successive periods, rather than churning away.

Why it matters: Sustained retention is a lagging indicator that confirms whether earlier adoption signals were worth it.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Leading indicator

Return on ad spend

Definition: The return advertisers get on their ad spend, which AI-driven targeting and ranking improvements can raise.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Engagement, Revenue per user

Return on invested capital

Definition: NOPAT divided by invested capital; growth only creates value when this exceeds the cost of that capital (WACC).

Why it matters: The central principle of the module: growth below the cost of capital destroys value no matter how fast revenue grows, so ROIC should be tested against every hyperscaler capex figure before assuming bigger spending is automatically better.

Source: Damodaran, Investment Valuation. foundational logic behind Stern Stewart's Economic Value Added framework. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Weighted average cost of capital, Economic profit, NOPAT

Revenue per user

Definition: Monetization per user, which can rise as AI improves targeting, content ranking, and ad matching.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Engagement

Reverse DCF

Definition: A valuation technique that starts from today's market price and solves backward for the growth, margin, or terminal-value assumption required to justify it.

Why it matters: Lets an analyst ask directly whether the required assumption implied by a current price is plausible, rather than only forecasting forward.

Source: Damodaran, Investment Valuation. related to Michael Mauboussin's "expectations investing." (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Net present value, Enterprise value

Risk classification

Definition: The stage of AI governance that assesses the stakes and sensitivity of a given use case.

Why it matters: Governance must operate continuously, not only at the approval stage — a tool approved under one risk classification may need reclassification if its use expands into higher-stakes decisions.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Risk tiering, Human oversight

Risk tiering

Definition: Matching control intensity to the actual risk level of a use case (lower risk for drafting/brainstorming, higher risk for healthcare, credit, hiring, or legal decisions).

Why it matters: Excessive controls can block low-risk experimentation; weak controls can make high-risk use unacceptable — matching control to risk tier is the governance design problem.

AI application: A firm requiring the same multi-week review for an internal brainstorming tool as for a customer-facing credit-decision tool slows low-risk experimentation without making high-risk use any safer.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Risk classification

Risk-free rate

Definition: The theoretical return on a riskless investment, one of the inputs blended into WACC.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Weighted average cost of capital, Equity risk premium

Rule of 40

Definition: A software-industry heuristic that a healthy company's revenue growth rate plus profit margin should sum to at least 40%.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Enterprise value to revenue

S

Scenario analysis

Definition: A valuation method building coherent bull, base, and bear cases rather than relying on a single point estimate.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Sensitivity analysis

S-curve

Definition: The characteristic cumulative shape of adoption over time, first documented by Gabriel Tarde (1903) and central to Rogers' distribution of adopter categories.

Why it matters: Contrasted with Geoffrey Moore's "chasm" concept; Rogers treats adoption as a smooth continuous curve rather than one with a structural break.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 40–41). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Innovator, Early adopter

Seat-based pricing

Definition: A pricing model charging per licensed user (e.g., Microsoft 365 Copilot at \$30/user/month), regardless of actual usage volume.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Usage-based pricing, Outcome-based pricing

Sensitivity analysis

Definition: A method testing how changes in individual assumptions (adoption rate, margin, discount rate, terminal growth, capital intensity) move a valuation output.

Why it matters: Because several AI-valuation assumptions interact multiplicatively, plausible-looking individual changes can compound into a very wide range of implied enterprise values.

Source: Damodaran, Investment Valuation. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Scenario analysis

Shadow AI

Definition: Unsanctioned use of AI tools by employees ahead of any formal governance, enabled by AI's near-zero trialability cost.

Why it matters: 78% of AI users bring their own AI tools to work, rising to 80% at small and mid-sized companies (Microsoft/LinkedIn, 2024).

Source: Microsoft/LinkedIn, '2024 Work Trend Index Annual Report,' May 8, 2024. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Trialability

SIC

Definition: The Standard Industrial Classification code; an SEC classification system used for disclosure purposes (e.g., Nvidia is coded SIC 3674 "Semiconductors" despite most revenue now coming from AI data-center systems).

Why it matters: A stale SIC code can leave a company's comparable-company set and regulatory treatment misaligned with its actual current business.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: NAICS, Industry

Social norm

Definition: “The established behavior patterns for members of a social system” (Rogers, 2003, p. 26); systems with open communication and tolerance for deviance adopt more quickly than highly conformist ones.

Why it matters: Leadership modeling — partners and executives visibly using AI themselves, including visible mistakes — has an outsized effect on norm-setting relative to formal policy alone.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 26, 232–233). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Norms, Social system

Social structure

Definition: “The patterned arrangements of the units within” a social system (Rogers, 2003, p. 24); hierarchy, network density, and role differentiation determine how efficiently new ideas flow.

Why it matters: A highly centralized, hierarchical firm will structurally diffuse AI more slowly than a flat, cross-functional organization, independent of either firm's enthusiasm for the technology.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 24, 229). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Social system, Network

Social system

Definition: “A set of interrelated units engaged in joint problem-solving toward a common goal” (Rogers, 2003, p. 23) — a firm, an industry, a profession, or society.

Why it matters: Provides the context for communication structure, norms, and diffusion boundaries.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 23). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Social structure, Social norm

Socioeconomic characteristics

Definition: Education, income, organizational role, and the resources available to act on a decision.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (p. 173). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Decision-making unit

Standalone AI

Definition: A separate, purpose-built AI product or company that must win a net-new budget line and security review rather than riding an existing vendor relationship.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Embedded AI

Straight-line depreciation

Definition: A depreciation method that expenses an equal amount of an asset's depreciable base in each year of its useful life.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Useful life, Depreciable base

Switching cost

Definition: The cost, effort, or risk a customer incurs by moving from one vendor or platform to another.

Why it matters: Switching costs (e.g., CUDA, data gravity, workflow lock-in) are a recurring explanation for which AI-ecosystem layers can defend margin as the underlying technology commoditizes.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: CUDA, Data gravity, Commoditization

Symbolic adoption

Definition: Adopting a visible AI tool primarily to signal legitimacy to investors, regulators, or customers before any operational case has been built.

Why it matters: Distinguishing symbolic from strategic adoption motives early prevents mis-measuring ROI later — a symbolic pilot cannot be held to a strategic P&L standard.

AI application: Many 2023–2024 corporate “AI strategies” were Decision-stage symbolic commitments that had not yet progressed to genuine Implementation.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Defensive adoption, Persuasion, Decision

System readiness

Definition: Whether the wider environment permits and supports adoption: electricity and data-center capacity, legal permission, professional standards, cybersecurity, labor-market capacity, and public legitimacy.

Why it matters: A bottleneck at the system level cannot be solved by better internal execution — executives should audit all three readiness levels separately.

AI application: A firm can have a working model and a bought-in leadership team and still be unable to scale because the region's power grid cannot support the load.

Source: original course synthesis building on Rogers (Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press.). (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Technology readiness, Organizational readiness

T

Takeoff date

Definition: The point at which an industry's or technology's diffusion curve begins its steep upward slope.

Why it matters: The constraints examined in this module can affect the takeoff date, the slope, the ultimate penetration ceiling, the discontinuation rate, and the unevenness of diffusion across sectors.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Penetration ceiling, Discontinuance

Take-or-pay contract

Definition: A contractual commitment to pay for capacity whether or not it is fully used, creating a real financial obligation even without owning a physical asset.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Colocation, Finance lease

Task creation

Definition: AI enabling a task, role, or product that did not previously exist at all.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Automation, Augmentation

Task-specific trust

Definition: The observation that comfort delegating decisions to AI varies sharply by task and consequence (e.g., high comfort with music recommendations, low comfort with legal interpretation).

Why it matters: A single 'trust in AI' survey percentage is not a reliable predictor of adoption for any particular high-stakes use case; forecasts must specify the task, consequence, and decision context.

AI application: High customer comfort with an AI recommendation feature does not imply similar comfort with an AI credit or employment decision.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Legitimacy

Technology readiness

Definition: Whether the tool itself functions reliably enough for the intended use case, at an acceptable error rate and cost — the first of three nested readiness levels.

Why it matters: A firm can have a working model and still be unable to scale a deployment if organizational or system readiness is missing.

Source: builds on Rogers' innovation-decision process (Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press.). three-level framework is original course synthesis. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Organizational readiness, System readiness

Terminal value

Definition: The value of a business beyond the explicit forecast period, calculated by the perpetuity-growth method or the exit-multiple method.

Why it matters: Terminal economics is especially unclear for a technology this early in its diffusion curve, which is why AI valuations are unusually sensitive to small changes in terminal assumptions.

Source: Damodaran, *Investment Valuation*. Koller/Goedhart/Wessels, *Valuation*, McKinsey & Company/Wiley. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Perpetuity growth, Exit multiple, Enterprise value

Total cost of ownership

Definition: The full cost of an AI investment beyond the software license: model/token usage, cloud compute, storage, integration, cybersecurity, governance, human review, training, maintenance, vendor management, compliance, and change management.

Why it matters: The software or model license is frequently a small fraction of TCO — the surrounding organizational and operational cost is usually larger and easy to underestimate in a business case.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Real option

TPU

Definition: Tensor Processing Unit; Google's custom ASIC line designed specifically for AI workloads.

Why it matters: Represents a hyperscaler's move toward vertical integration to control cost and reduce reliance on Nvidia.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: ASIC, GPU

Trialability

Definition: “The degree to which an innovation may be experimented with on a limited basis” (Rogers, 2003, p. 258); especially important for high-cost or high-risk innovations.

Why it matters: Governance teams should treat high trialability as a given constraint, not a problem to eliminate — fast, low-friction sanctioned alternatives work better than prohibition.

AI application: AI tools like ChatGPT and Claude are inexpensive and trivially triable, which is precisely why unsanctioned Shadow AI use has become so widespread.

Source: Rogers, Everett M. 2003. *Diffusion of Innovations*, 5th ed. New York: Free Press. (pp. 258–259). Microsoft/LinkedIn, '2024 Work Trend Index Annual Report,' May 8, 2024. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Shadow AI, Relative advantage

U

Unit economics

Definition: The profit or cost associated with one unit of usage, such as one workload or one customer.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Fixed cost, Incremental margins

Upstream

Definition: Further back in a value chain toward raw inputs (for a hyperscaler, upstream means chip designers, foundries, and electricity generation).

Why it matters: Locating where a firm sits upstream or downstream clarifies its dependencies and bargaining relationships across the AI value chain.

AI application: Google designs its own TPU chips upstream while operating Google Cloud and Gemini downstream.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Downstream, Vertical integration, Horizontal integration

Usage-based pricing

Definition: A pricing model charging by consumption (e.g., Salesforce Agentforce at \$2.00 per customer-facing conversation).

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Seat-based pricing

Useful life

Definition: The estimated period over which an asset is depreciated; extending it (e.g., 15 to 25 years on a \$10B asset base) lowers annual depreciation expense and raises reported income with zero change in actual cash spent.

Why it matters: This is the exact mechanism behind Microsoft's disclosed useful-life extension for AI infrastructure — a judgment call that materially changes reported earnings without changing cash flow.

Source: Microsoft FY2026 Q4 earnings call, July 29, 2026. FASB ASC 360. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Depreciable base, Economic obsolescence

V

Value capture

Definition: The share of created value a firm actually keeps as profit, which depends on bargaining power rather than on how much value was created.

Why it matters: Explains why a company controlling a scarce bottleneck can capture value out of proportion to the value it alone creates — the organizing logic of the module.

AI application: ASML captures a 52.8% gross margin as the sole global supplier of EUV lithography machines, a genuine bottleneck rather than superior value creation.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Value creation, Bottleneck, Profit pool

Value creation

Definition: The total benefit delivered to the customer relative to their next-best alternative.

Why it matters: A firm can create enormous customer value and still earn thin margins, so value creation alone does not predict profitability.

AI application: Foundation-model API pricing has fallen roughly 50x per year in price-per-performance — enormous value delivered to developers.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Value capture, Bottleneck

Vector database

Definition: A database (e.g., Pinecone) optimized to store and search embeddings for AI applications; carries high re-platforming cost since switching requires re-embedding an entire corpus.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Orchestration, Data gravity

Vertical integration

Definition: Owning multiple stages of the same value chain (e.g., Google designing its own TPU chips while also operating Google Cloud and consumer products).

Why it matters: Signals where a firm is capturing value across more than one layer rather than depending on external suppliers or customers.

Source: Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.

Related terms: Horizontal integration, Upstream, Downstream

W

Weighted average cost of capital

Definition: The blended cost of a firm's debt and equity capital, weighted by capital structure; used as the hurdle rate against which ROIC and project returns are compared.

Why it matters: AI's unusual uncertainty means the real judgment call in WACC sits mainly in the beta and risk-premium inputs, and reasonable analysts can land on different answers for the same company.

Source: Damodaran, *Investment Valuation*. Brealey/Myers/Allen, *Principles of Corporate Finance*. (Course materials, *Diffusion of AI Innovation: Strategy, Adoption, and Market Dynamics*.)

Related terms: Return on invested capital, Risk-free rate, Beta

Frequently Confused Terms

Adoption vs. Diffusion

Adoption is a single individual or organization's decision and use of an innovation. Diffusion is the broader process by which that innovation spreads across an entire population or social system over time. Adoption is one data point; diffusion is the pattern those data points form.

Invention vs. Innovation

Invention is the original creation of a new idea, process, or technology. Innovation is that idea as perceived as new by a particular adopter — newness is perceptual, not chronological. A technology invented years earlier can still be a Rogers-style “innovation” the first time a given adopter encounters it.

Implementation vs. Confirmation

Implementation is the stage where an individual or organization actually puts an innovation into use, often revealing problems that lead to reinvention. Confirmation is the later stage where the adopter seeks reinforcement for that decision — or reverses it if exposed to conflicting evidence.

Rejection vs. Discontinuance

Rejection is a decision not to adopt in the first place, made after genuine consideration. Discontinuance is a reversal of a decision to adopt that was already made — either because a better alternative appeared (replacement) or because the adopter grew dissatisfied (disenchantment).

Industry vs. Market

An industry is a group of firms producing substitutable products or services — the supply side. A market is the set of customers and their demand for a given need, which can be served by firms across multiple industries. The same customer need can be met by competing industries (e.g., video entertainment can be served by streaming, gaming, or live events).

Ecosystem vs. Value Chain

A value chain is the linear sequence of upstream-to-downstream stages a product passes through (raw inputs to end customer). An ecosystem is the fuller network of interdependent players — competitors, complementors, platforms, and infrastructure providers — whose combined actions determine how value is created and captured across that chain.

Value Creation vs. Value Capture

Value creation is the total benefit delivered to the customer relative to their next-best alternative. Value capture is the share of that created value a firm actually keeps as profit. A firm can create enormous value and still capture very little of it if it lacks a defensible bottleneck or bargaining power.

Revenue vs. Free Cash Flow

Revenue is the top-line amount recognized from sales. Free cash flow is what remains after operating costs and capital expenditures are paid — the cash genuinely available to reinvest or return to investors. Revenue can grow briskly while free cash flow falls, if capital spending is growing even faster.

Profit vs. Cash Flow

Profit (net income) is an accounting measure that includes noncash charges such as depreciation. Cash flow reflects actual cash moving in and out of the business. A company can be profitable on paper while still consuming more cash than it generates, particularly during a heavy infrastructure buildout.

Physical Life vs. Economic Life

Physical life is whether an asset still functions — an engineering question. Economic life is whether it remains cost-competitive to keep running versus replacing it with a newer generation — a financial question. An asset can be fully functional and still uneconomic to keep running, which is exactly what impairment testing is designed to capture.

Backlog vs. Recognized Revenue

Backlog is revenue a customer has already committed to but that has not yet been delivered or recognized. Recognized revenue is the portion actually reported on the income statement once the good or service has been delivered. Backlog growing faster than recognized revenue can signal healthy future demand — or simply that capacity is not yet built to deliver it.

Usage vs. Paid Usage

Usage means people are actually using a tool, which can happen at no cost during trial or experimentation. Paid usage means that usage has converted into recognized revenue — customers are paying for it. A tool can have heavy usage for a long time before it reaches paid usage.

Paid Usage vs. Profitable Usage

Paid usage means customers are paying for a product. Profitable usage means the revenue it generates exceeds the cost of delivering it. A product can reach paid usage well before it reaches profitable usage, particularly while infrastructure capacity is still being built out.

Leading Indicator vs. Lagging Indicator

Leading indicators (active users, workloads, pilot-to-production conversion) signal that adoption may be starting. Lagging indicators (revenue, margins, free cash flow, return on invested capital) confirm whether that adoption was actually worth it. A leading-only story is, at best, halfway to a validated adoption thesis.

Internal AI User vs. External AI Seller

An internal AI user applies AI to improve its own existing products or operations and rarely reports a separate “AI revenue” line — its gains show up inside existing metrics. An external AI seller sells AI infrastructure, models, or compute capacity to other businesses as its actual product, so its AI revenue, utilization, and margin are directly reported and observable.

Automation vs. Augmentation

Automation is AI performing an existing task a person previously performed, replacing that step of human effort. Augmentation is AI helping a person perform a task better or faster while the person remains central to the task and its outcome.

Acronyms and Abbreviations

AI	Artificial Intelligence
API	Application Programming Interface
ASIC	Application-Specific Integrated Circuit
ASC	Accounting Standards Codification (FASB)
CUDA	Compute Unified Device Architecture (Nvidia's proprietary GPU computing platform)
DCF	Discounted Cash Flow
DRAM	Dynamic Random-Access Memory
EUV	Extreme Ultraviolet (lithography)
EV	Enterprise Value
EV/EBITDA	Enterprise Value to EBITDA
EV/Revenue	Enterprise Value to Revenue
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
FCF	Free Cash Flow
FCFE	Free Cash Flow to Equity
FCFF	Free Cash Flow to the Firm
GAAP	Generally Accepted Accounting Principles
GPU	Graphics Processing Unit
HBM	High Bandwidth Memory
IaaS	Infrastructure as a Service
IDM	Integrated Device Manufacturer
IP	Intellectual Property
IRR	Internal Rate of Return
LLM	Large Language Model
NAICS	North American Industry Classification System
NAND	NAND flash memory
NOPAT	Net Operating Profit After Tax
NPV	Net Present Value
PaaS	Platform as a Service
P/E	Price-to-Earnings

PPA	Power Purchase Agreement
ROI	Return on Investment
ROIC	Return on Invested Capital
SEC	Securities and Exchange Commission
SIC	Standard Industrial Classification
TCO	Total Cost of Ownership
TPU	Tensor Processing Unit
WACC	Weighted Average Cost of Capital