# What is the True Return on AI Investment?

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Enterprises do not achieve maximum leverage from artificial intelligence investments despite increased spending. Executive leaders must become keen and discerning creators of AI investment strategies in order to obtain optimum value from AI initiatives.

**More on This Topic**

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- Applying AI — Key Trends and Futures

## Quick Answer

**What is the real return on AI investment?**

- Scale, dimension and reach across the enterprise are the real return on investment in AI. AI that is detached from enterprise performance outcomes is unlikely to provide material consequence.
- The best return yield from AI investment will come from an extensive portfolio of AI guided by an expansive and evolving investment thesis that informs the strategic allocation of resources.
- Attaining significant return on investment for discrete AI or a small collection of business area use cases is difficult because of the tactical focus of AI design and the accumulation of technical debt.
- On average, 53% of AI projects make it from pilot to production. And those that do often incur significant unexpected maintenance costs. [1]

- Most AI use cases premise value on cost savings. [2] But AI investments and value are best esteemed for their potential to create coherence across people, process and technology and produce a spectrum of benefits including improvement in productivity, efficiency, agility, and resilience in addition to reduced cost and risk.

## More Detail

Prior to the industrialization of digital business, most enterprises implemented a capital structure and an investment process that was designed — and has been optimized — for real assets.Maximizing favorable business outcomes in the contemporary digital business environment requires executive leaders to adapt that design to take advantage of the potential of AI to, for example, underpin automation and autonomy. A key difference between AI and many other digital technologies is that AI is relevant virtually everywhere and is applicable across and beyond the boundaries of the enterprise.

Despite this broad opportunity, many executive leaders have taken an overly tactical approach to AI investment, choosing discrete AI and small collections of use cases as contained experiments. While seemingly prudent for experimentation, controlling R&D spend and reducing disruption to business operations the prevailing result of tactical AI confinement has been the attainment of limited business gains and value. Further, emphasizing tactical AI proofs of concept rather than build out of minimum viable products produces added technical debt from prototypes without the chance of benefit from full production solutions.

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*AI investment strategy should align closely to enterprise strategy and the AI operating model should enable rapid change without needlessly changing organizational or business unit structure.*

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Intentional investment design and operating model changes are needed where strategy conception seeks to leverage automation and autonomy through AI. This will allow AI to flourish within the bounds of enterprise strategy and ethics and to improve the benefit yield of AI now and in the future.

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*Executive leaders should take the following key actions:*

- *Take a portfolio investment approach linking AI projects to strategic performance outcomes.*

- *Become adept at identifying, measuring and capturing AI value.*
- *Exploit the AI opportunity by design, and widely share an enterprise business case for AI.*
- *Invest in projects stressing AI operationalization.*
- *Seek scale, expansive value and broad impact over discrete improvement.*

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In the quest to obtain outwardly hard numbers to calculate the return on investment from AI, many executive leaders have lost sight of the important idea of the variability of performance in business case calculations and of the variables of return that express the real goals of enterprise investment.

Use cases are a pragmatic first take for confronting uncertainty and exploring AI. But executive leaders should avoid the common mistake of simply planning for the best case scenario. This is where the attractive outcomes of an investment are premised on a set of assumptions that are highly favorable to the project or to the company, but are likely to happen only if the assumptions are completely accurate and the company's execution is flawless.

Digital business investment cases, including those for AI, should be scenario based wherein the evaluation of the investment case calculates the ROI as follows:

$$ROI = NPV\{P_{(i)}[B(b)-C(b)], P_{(ii)}[Scenario\ 2], \ldots P_{(n)}[Scenario\ n]\}$$

ROI: Return on Investment
NPV: Net Present Value
P(i): Probability of each scenario occurring
Scenario: Where B(b) is the best case benefit and C(b) is the best case cost

Executive leaders should become much more proficient in AI capital allocation, balancing risk factors and integrating into strategy the likelihood of success or failure, while developing visibility into and developing the capabilities of foresight to probabilistically predict future events.

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*Developing a strategic allocation for scaling AI investment is an important strategic activity.*

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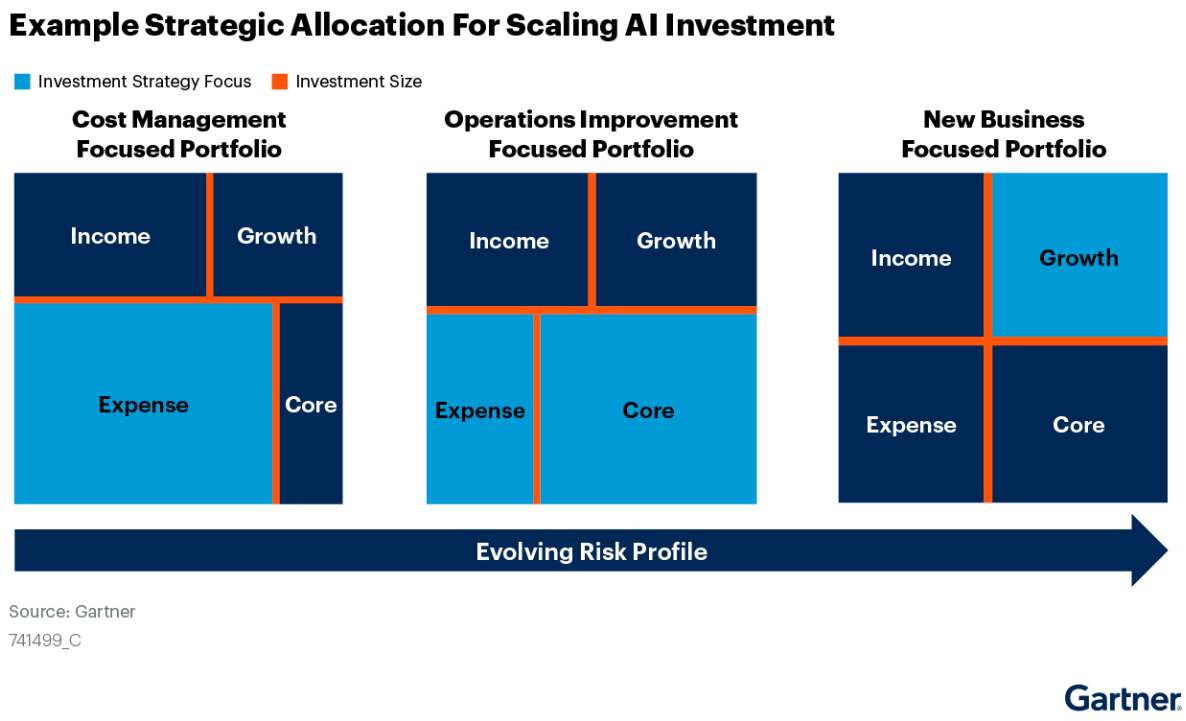
Finding the right investment allocation mix for AI scaling is very important. Executive leaders should consider apportioning investment according to strategic goals and benefits including reducing expenses, increasing income, accelerating growth and improving the core products and services of the enterprise, based on the enterprise's risk tolerance profile. In making allocations, emphasis can be placed across the balance sheet and business performance. The spectrum of potential strategic investment theses can also be focused in and adjusted over time (see Figure 1).

## Figure 1. Example Strategic Allocation For Scaling AI Investment




Source: Gartner
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Gartner

Executive leaders can develop a strategic investment model for scaling AI by also considering that:

- AI investment models and portfolios will differ across industries and organizations. There is no generic best practice that is applicable to all. But best practices in investment will develop as organizations become practiced at strategy-driven allocations and should be captured and integrated into the investment allocation process.

- AI business cases will differ across organizations and business units, but regardless of industry or enterprise, no AI value case should be deemed worthy of investment consideration without:
  - A clear business problem
  - A statement of AI solution that simplifies or rectifies the business problem
  - A check that the AI is ethical and complies with enterprise policies and law
  - A planned structure for the scaling of the AI to be developed and maintained
  - A roadmap for the caretaking and stewardship of the AI across relevant business and technology groups
  - A pressure test, a minimum viable product effort that demonstrates efficacy and benefits [3]
- Dynamically balance the investment portfolio between enterprise focus areas by targeting a reduction in time to value (TTV) with each successive investment iteration. Adjust the amount allocated to each focus area according to the variability in TTV.
- AI investment strategies are not a substitute for other requisite enterprise investment governance or a guarantee of a quotient of return. A strategic AI investment portfolio strategy is designed principally to enable AI scaling and to help enterprise leaders target, prioritize and allocate investment in a manner that ties directly to strategy and emphasizes a gain in benefits and outcomes.

### Evidence

[1] Survey Analysis: Moving AI Projects From Prototype to Production

[2] Emerging Technologies: Edge AI Adoption Patterns Deliver Business Value

[3] 5 Steps to Practically Implement AI Techniques

## Recommended by the Authors

Hype Cycle for Artificial Intelligence, 2020

Hype Cycle for Data Science and Machine Learning, 2020

Artificial Intelligence Maturity Model

How to Optimize Business Value From Data and Analytics Investments … Finally