

Craft an Artificial Intelligence Strategy: A Gartner Trend Insight Report

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The promise of AI will be fulfilled only by establishing a clear, coherent link between AI and business value. This Gartner Special Report will help CIOs incorporate AI into their strategic planning and evaluation processes for business transformation.

Opportunities and Challenges

- Artificial intelligence (AI) isn't an end in itself, but rather a strategic capability that organizations can develop and mature to achieve specific, measurable and transformative business outcomes.
- Only 4% of CIOs say their organization has deployed AI, but we expect a substantial increase in deployments as one-fifth say they are experimenting with AI, or have short-term plans for AI.
- Moving from pilots and short-term plans to large-scale implementations of AI is a daunting task that requires sound planning.
- Organizations will need new or updated strategies as vendors exploit AI capabilities within business suites, enterprise applications, platforms, infrastructure support services and the customer experience.

What You Need to Know

- Start by prioritizing critical business scenarios and outcomes, before assessing the extent to which the use of AI in IT solutions could help you achieve desired outcomes.
- Normalize strategy development for AI capabilities, as you have for other advanced technologies, while identifying AI's unique requirements, which include data scientists, very large datasets and natural-language understanding.
- Use AI especially for tasks that require classification and prediction on an unprecedentedly large scale, which range from granular text autocorrection to strategic sales forecasting.

- Foster a culture of AI innovation by taking a "bimodal IT" approach that enables your organization to rapidly plan, test, assess and innovate with AI capabilities developed either in-house or integrated into vendors' software applications, services and platforms.

Insight From the Analyst

You Already Have What It Takes to Make AI Work for Your Business



[Whit Andrews](#), Vice President and Distinguished Analyst

As a CIO, you don't need to be a mathematics genius or have a PhD in software engineering to make sense of AI for your business. You don't have to make massive investments in infrastructure and personnel in order to start applying AI's potentially transformative technologies.

Instead, you can draw on the experience and expertise you already have, in two key ways. First, you can assess which business outcomes would benefit most from AI. Second, you can evaluate AI as simply the latest advanced analytical technology that might help achieve those outcomes. Your main goal is to normalize AI planning and development for your whole organization, including leaders of data and analytics, applications and lines of business.

This Gartner Special Report aims to help you initiate development of an AI strategy by focusing on three key tasks. First is linking AI with the "big picture" of business priorities and outcomes, business content, and key business and technology trends. Second is tactical planning — redefining application strategy and exploiting AI for IT operations, marketing and specific business opportunities. Third is facilitating the transition from AI planning to production by learning lessons from early AI projects, avoiding pitfalls and protecting your intellectual property in third-party AI contracts.

You can hasten progress by taking a "bimodal IT" approach. This is the practice of managing two separate but coherent styles of work. "Mode 1" focuses on the predictable, on improving and renovating in well-understood areas. "Mode 2" is explorative — it involves experimentation to innovate and overcome new challenges. Mode 2 is ideally suited to rapidly evolving AI capabilities that could help grow and transform a business.

Effective strategic planning will help you set realistic expectations, and realizable objectives, for AI in your organization.

Executive Overview

AI Is Here, but It Demands a Strategy

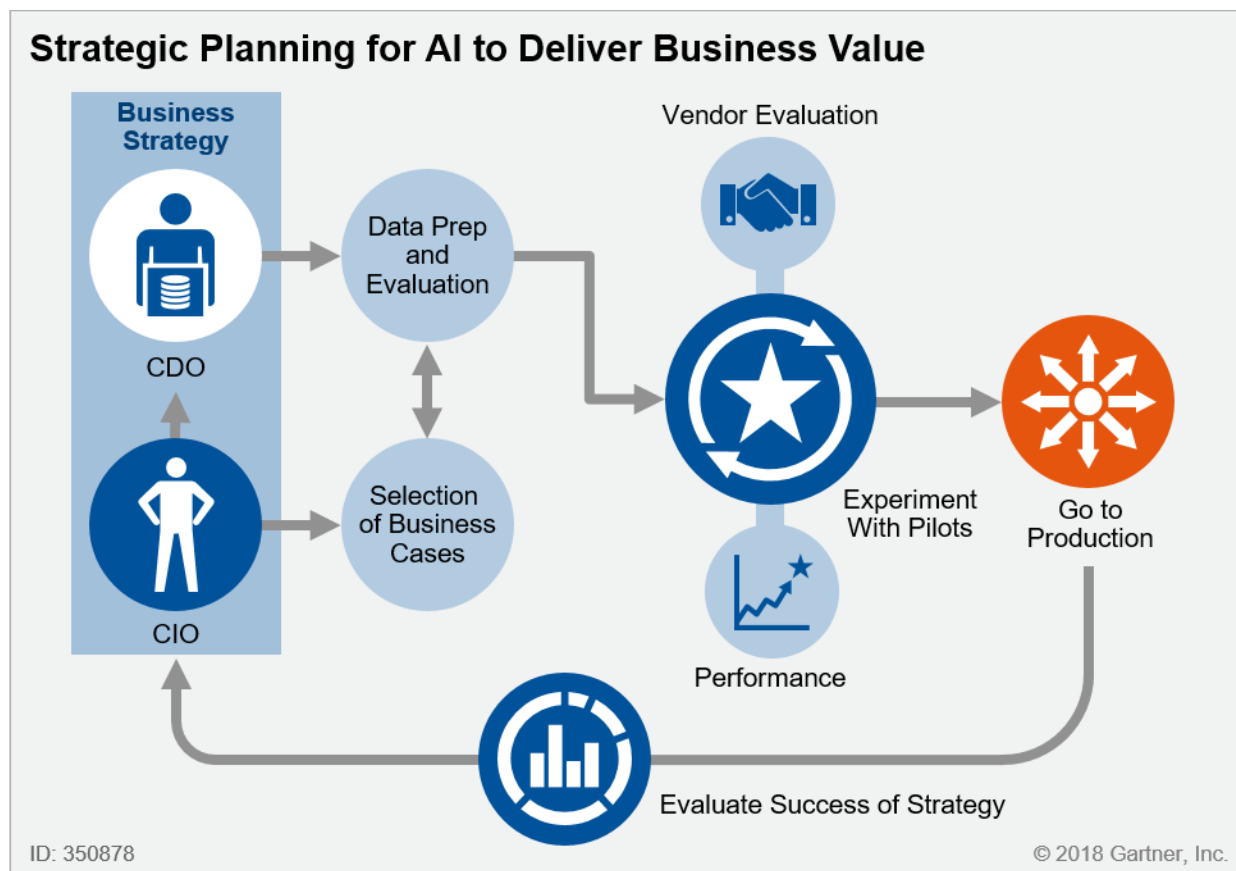
CIOs are struggling to accelerate deployment of AI. Only one in 25 says their organization has deployed AI, according to Gartner's 2018 CIO Survey. However, one-fifth claim to be experimenting with AI or to have short-term plans for it, and one-quarter say that AI is among their mid- or long-term plans.

Such ambition puts these leaders in a challenging position. AI efforts are already stressing staff, skills and the readiness of in-house and third-party AI products and services. One danger lies in treating AI mainly as a technical and tactical project, or as an end in itself. Instead, you should understand AI as technological capability that can enable applications that could not be implemented previously. This understanding ensures a clear link between AI and business priorities and outcomes. Without effective strategic plans for AI, organizations risk wasting money, falling short in performance and falling behind their business rivals.

An effective AI strategy defines how AI should be used to help your organization succeed in its business context. It requires you, as a CIO, to work closely with business leaders, exploit AI where it can help achieve desired business outcomes, plan tactically for specific use cases, and implement best practices to move from plan to production.

As a CIO, you have the expertise and skills to make strategic planning for AI the norm. Together with your chief data officer (if you have one), you can initiate an AI strategy by incorporating AI into existing planning and development processes (see Figure 1). You can also begin to foster a culture of experimentation that encourages IT and business teams to test what AI can offer and identify its measurable value to your business.

Figure 1. Artificial Intelligence Strategy Starts With the CIO and Chief Data Officer



Source: Gartner (January 2018)

Research Highlights

The Big Picture: Include AI in Your Strategic Planning

You can think of AI as a basket of advanced, sometimes exotic technologies that are evolving rapidly. AI is attracting a huge amount of often wildly misleading hype, but, for you as CIO, AI poses the same challenges to your IT and business as any emerging technology. Your organization needs to gain experience of what AI can, and cannot, do, and what business value it can deliver. You, along with your chief data officer (if you have one), should take the lead in incorporating AI into your strategic planning process for IT and business.

Proving AI's worth means proving its value to your business. The following Gartner publications will help.

Related Research

"The CIO's Journey to Artificial Intelligence: Learn Then Leap" — Given the hype about AI, many CIOs are rightly cautious about promoting its potential value to their business. But they can learn, by experimentation, about the reality of AI, and then, by influencing their CEO's strategy, make the leap to exploiting AI's power to disrupt markets and remake business models.

"Predicts 2018: AI and the Future of Work" — AI will have a profound impact on how we work. Some jobs will become obsolete, others will be created, most will change. To derive business value from AI, IT leaders must orchestrate key changes in the enterprise workforce.

"How to Boost Artificial Intelligence With Content (and Vice Versa)" — AI can derive transformative insights from a wealth of unstructured enterprise content sources that are otherwise difficult to access, untrusted or unready for analysis. Curated content is the fuel of AI, which in turn enables far more effective content curation. This document identifies best practices for unlocking the value of content for AI.

"How CIOs Can Analyze the Strategic Possibilities of AI" — At present, most AI applications deliver only incremental improvements to operations. But CEOs who are aware of AI's strategic potential are demanding more value. This document's AI strategy framework will help CIOs prepare strategic AI investment options for presentation to their CEO.

"Artificial Intelligence Demands That CIOs Foster a Data-Literate Society" — AI uses algorithms to make sense of and act on diverse, complex and fast-moving data. CIOs should help ensure success with AI by encouraging, promoting and facilitating a culture of data literacy.

Get Tactical: Embed AI in Business and IT

Unlike most other technological advancements, AI has broad applicability to many types of use case. It's rapidly permeating new and often unexpected business scenarios, and influencing the way IT departments operate. As a result, it's vital to organizations' pursuit of digital business.

Take, for example, the desire of companies and governments to benefit from what amounts to the conversion of physical businesses into digitally agile operations. Here, AI promises to be the engine of large-scale intelligent automation, spanning industrial, IT and customer use cases. Gartner predicts that, by 2022, 40% of customer-facing employees and government workers will consult an AI-powered virtual agent every day for decision-making or process-related support.

AI capabilities are coming from two main sources: internal development, coupled with cloud-based AI platforms and features, and vendors that are racing to add AI to established and new software products. Strategic thinking about AI enables targeted tactical planning, evaluation and piloting, with both sources in mind. The following Gartner publications will help you plan a course of action.

Related Research

"Redefine Your Application Strategy to Exploit Conversational AI for Digital Business Success" — Application leaders have traditionally favored a mobile- or digital-first strategy for the user

experience, but conversational AI redefines both. They should prepare to put "AI first" in their application strategy for digital business by creating new product management and design practices that use conversational AI.

"12 Steps to Artificial Intelligence for IT Operations Excellence" — To derive maximum value from AI for IT operations platforms, infrastructure and operations leaders must radically modify IT operations tasks and processes. This document identifies 12 steps they should take.

"Three Questions Marketing Leaders Should Ask Before Approving an AI Plan" — Marketers need guidelines to accelerate decision making about AI and manage the associated risk without stifling innovation. This document presents a practical method by which marketing leaders can assess the risks and benefits of AI proposals.

"Artificial Intelligence Creates New Semiconductor Business Opportunities" — The rise of AI systems creates opportunities for new custom and semicustom semiconductor devices, especially for the demanding parallel processing needed to train neural-network models efficiently. Technology strategic planners at semiconductor vendors must establish the partnerships and tools to seize this opportunity.

"Automation and AI Will Slash Access Layer Downtime and the Reliance on Network Administrators" — Network administrators struggle with the seemingly ever-growing burden of larger and more complex networks, which the Internet of Things will increase. Automating network administration tasks by employing machine learning and emerging AI for IT operations platforms must therefore be a priority. This document outlines initial actions for infrastructure and operations leaders to take.

"Improve Your Sourcing Organization's Processes in 3 Easy Steps by Adopting Intelligent Automation" — The emergence of AI in intelligent automation services (IAS) will give sourcing and vendor management leaders new capabilities to digitize and automate the business, and to improve the speed, cost and efficiency of the sourcing organization. This document advises how to assess organizational maturity, establish a business case for IAS and initiate proofs of concept.

"Impacts of Artificial Intelligence on Financial Management Applications" — AI will enable organizations to predict financial results on the basis of trends and market data, and ultimately recommend actions to optimize financial and business outcomes. Application leaders should therefore prepare to exploit AI in their financial management application portfolio.

Get Practical: Prepare for the Shift From AI Plan to AI Production

There is a positive feedback loop between planning and implementation. Organizations gain practical experience from AI pilots, experiments and early production systems. They can then use this experience to revise strategic and tactical plans, and to set more realistic expectations and objectives. This revision, in turn, can guide future AI prioritization, metrics, development and deployment. The following documents offer practical guidance on how to make planned AI deployments effective.

Related Research

"Six Pitfalls to Avoid When Planning Data Science and Machine Learning Projects" — Organizational and process pitfalls in data science and machine learning projects can undermine success and erode confidence in these powerful techniques. This document will help data and analytics leaders sidestep the six most common planning pitfalls.

"Market Insight: Let Customers Make Smarter Products Using AI" — Using AI within a network-effect-based feedback loop can help translate customer usage trends and needs into better personal technology products and services. This document will help technology strategic planners infuse products with "personal AI" by establishing an improving product-planning process.

"Lessons From Early AI Projects" — Only 4% of CIOs have deployed AI, but these early adopters are learning from their experiences, as Gartner client surveys and interviews show. This document outlines important lessons for CIOs as they plan, pilot and deploy AI.

"Negotiate AI Contracts to Prevent Loss of Your Valuable Intellectual Property to Vendors and Competitors" — Many standard contracts for AI solutions can put ownership of the client organization's intellectual property at risk. For example, common definitions of customer data often fail to establish clearly that datasets created by AI systems that learn belong to the customer. Sourcing and vendor management leaders must minimize this risk by negotiating expanded ownership of datasets and improved models.

Related Priorities

Table 1. Related Priorities

Priority	Focus
Customer Relationship Management and Customer Experience	CRM and customer experience are business strategies that optimize profitability, operational efficiency, customer satisfaction and loyalty through the implementation of customer-centric processes.
Analytics and BI Strategies	The analytics and BI strategies initiative focuses on the strategies, practices, technologies and products needed to support a variety of users across different types of business problems.
Internet of Things	Internet of Things (IoT) enables business value creation by reducing operational costs, better managing risk or developing new revenue streams via digital business models and advancing technologies.

Source: Gartner

Gartner Analysts Supporting This Trend



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Related Resources

Webinars

["AI Strategy Special Report: What You Need to Do in 2018"](#)

["What to Do and Not to Do With Artificial Intelligence and Cognitive Computing"](#)

["Ride the Major Trends in Artificial Intelligence"](#)

["Connected! How to Live and Work in the Digital Society"](#)

["Preparing and Architecting for Machine Learning"](#)

Articles

["The Disruptive Power of Artificial Intelligence"](#)

["The CIO's Guide to Artificial Intelligence"](#)

["2018 Will Mark the Beginning of AI Democratization"](#)

Evidence

The 2018 Gartner CIO Survey was conducted online from 20 April to 26 June 2017 among Gartner Executive Programs members and other CIOs. Qualified respondents were the most senior IT leaders (typically the CIO) in their overall organization or part thereof (such as IT leaders of a business unit or regional unit). In all, there were 3,160 respondents, with representation from all

major regions and industry sectors (public and private). The survey was developed by a team of Gartner analysts and reviewed, tested and administered by Gartner's Research Data and Analytics team.

Table 1 shows the percentage breakdown of responses to the question "What are your organization's plans in terms of artificial intelligence?"

Table 1. What Are Your Organization's Plans in Terms of Artificial Intelligence (AI)?

	Percentage of Respondents
No interest	14%
On the radar, but no action planned	35%
In mid- or long-term planning	25%
In short-term planning or actively experimenting	21%
Have already invested and deployed	4%
n = 3,138 (excluding "don't know" and "did not answer")	

Source: Gartner (January 2018)

More on This Topic

This is part of an in-depth collection of research. See the collection:

- Research Roundup: What Insurance CIOs Need to Know About Emerging Analytics Needs

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