

Leadership Vision for 2024: Technology Innovation

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Initiatives: [Digital Innovation and Enablement Function](#)

Technology innovation leaders (CTOs, CIOs) should position technology innovation as a critical capability for organizational adaptability and resilience. Leverage trendspotting to anticipate future disruptions and evolve their capabilities to rapidly prototype solutions in response to change.

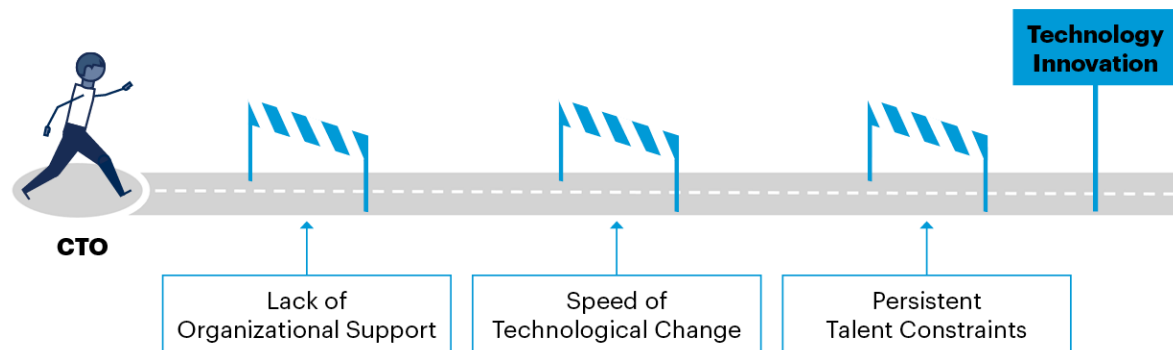
Overview

Is your organization the disruptor or the disrupted? As CTO and technology innovation leader, your mission is to advise your C-level peers on how they can take advantage of emerging technologies. There are two approaches. Either you leverage emerging technologies to develop new products and business models and be the disruptor, or you wield emerging technologies as a defensive weapon against those who disrupt your industry. In both cases, you must position technology innovation as a critical capability that the whole organization needs to address uncertainty and respond to perpetual disruption. To succeed, CTOs need both funding and business support to establish technology innovation as a means to better organizational agility and resilience in the face of continual disruption (see Figure 1).

Figure 1: Three Key Impacts Prevent Technology Innovation Success

Three Key Impacts Prevent Technology Innovation Success

Illustrative



Source: Gartner
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Impacts on CTOs as Technology Innovation Leaders

The top three impacts on CTOs as technology innovation leaders are:

- The need to gain broad, organizational support for technology innovation. The root cause of this challenge is the common misconception that innovation is “nice to have.” A key objective for CTOs in 2024 should be to position technology innovation as critical to organizational agility and resilience.
- Speed of technological evolution is a key factor in driving combinatorial innovation, which explores and exploits how multiple technologies and nontechnological events interact to create disruptions, drive trends or enable innovative opportunities to generate business value. Keep on top of technological evolution by:
 - Monitoring the technology trends featured in Gartner’s [Top Strategic Technology Trends for 2024](#).
 - Leveraging Gartner’s TAPESTRY framework and trend cards illustrate the effects of nontechnological trends (see [Complexity, Chaos and Confidence: A Tapestry of Trends Across Brave New Worlds](#)).
 - Tracking the innovation profiles in Gartner’s [Hype Cycle for Emerging Technologies, 2023](#), which highlights themes around emerging AI and pervasive cloud, which can fuel combinatorial innovation.

- Thirty-seven percent of CTOs cite talent constraints as their top challenges for technology implementation. Gartner's CTO survey shows that only 42% of CTOs are responsible or accountable for talent management, while a further 42% are consulted or informed. CTOs must work with the CIO and HR to embrace long-term workforce planning.

Challenges for Technology Innovation Leaders

The top three challenges for CTOs as technology innovation leaders are:

- How to position technology innovation as a critical capability for organizational agility —
 - CTOs can help their organizations respond quickly to perpetual disruption by establishing technology innovation as a critical capability. This shift enables the organization to rapidly problem-solve and develop new solutions when new challenges arise.
- How to determine when to invest in an emerging technology —
 - CTOs need to consider multiple factors before deciding to invest in a new technology. These factors include technology feasibility and organizational readiness, as well as external factors, such as regulation and societal response.
- How to hire more technical skills to exploit the new technologies they are investing in —
 - CTOs know they need critical skill sets to leverage emerging technologies, such as generative AI (GenAI), machine learning, data science and innovations in cybersecurity solutions, to deliver the revenue growth their organizations seek. However, the talent shortage means that they will have to be selective in prioritizing which talent pools to target.

How to Use This Leadership Vision Document

This research is in the form of a PowerPoint presentation and provides Gartner's overall point of view on the important things that you, as a technology innovation leader, should focus on. This deck is designed for you to download and use with your peers, your team or others who might benefit from it. You can also integrate it into your own materials. This deck is meant to provide input into your strategy or plans for the future.

Recommended Actions

To enable organizational adaptability and resilience, CTOs as technology innovation leaders should:

- Use trendspotting to identify technology risks and opportunities —
 - Scout emerging technologies to understand the discrete technologies on the horizon to anticipate their potential impact on the organization.
 - Continuously scan and respond to disruptions by evaluating a variety of trends, beyond just technology, to inform their impact on innovation.
- Develop or revise their technology strategy to reflect decisions to adopt new technologies.
- Guide technology strategies by understanding the broad technology trends that will affect their short-, mid- and long-term planning horizons.
- Create a technology talent management strategy to focus on sourcing critical technical skills and determine how to source talent despite ongoing talent constraints —
 - In the short term, use GenAI tools to assist software engineers in improving their productivity for coding software.
- Develop the right capabilities to establish technology innovation as a critical capability for enabling organizational performance, agility and resilience —
 - These capabilities include trendspotting, digital products and external innovation partnerships.

- Manage the innovation portfolio to align with strategic business priorities —
 - Balance the innovation portfolio to create new business value, as well as improve existing business operations and models.
 - The organization's strategic priorities will guide CTOs to focus more on incremental innovation to improve existing products and customer experience.
 - Smaller proportions of the portfolio should be dedicated to creating new products and business models. This approach will help the organization be less vulnerable to the effects of creative destruction over the decade.

Evidence

2023 Gartner Changing Role of the CTO Function Survey. This study was conducted to understand the CTO function design and how CTOs and their organizations are changing their operating models and enabling digital business model innovation and transformation. The research was conducted online from 15 May through 6 July 2023 among 404 participants from North America (n = 204), Europe (n = 147) and Asia/Pacific (n = 53). Participants were leaders in their organization who were knowledgeable about the roles and responsibilities of the CTO. Respondents were screened for industry, job title, company size (at least \$500 million in annual revenue), knowledge on organizational structure and their reporting level away from the CTO. Industries surveyed include banking/investment services, manufacturing, healthcare providers, insurance, natural resources, government services, energy, retail, utilities, health payer, communications service provider, transportation, education provider and wholesale. Disclaimer: Results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

2023 Gartner CEO and Senior Business Executive Survey. This survey was conducted to examine CEO and senior business executive views on current business issues, as well as some areas of technology agenda impact. The survey was conducted from July 2022 through December 2022, with questions about the period from 2022 through 2024. One-quarter of the survey sample was collected in July and August 2022, and three-quarters was collected from October through December 2022. In total, 422 actively employed CEOs and other senior executive business leaders qualified and participated. The research was collected via 382 online surveys and 40 telephone interviews. The sample mix, by role, was CEOs (n = 277); CFOs (n = 95); COOs or other C-level executives (n = 19); and chairs, presidents or board directors (n = 31). The sample mix by location was North America (n = 169), Europe (n = 105), Asia/Pacific (n = 102), Latin America (n = 29), the Middle East (n = 11) and South Africa (n = 6). The sample mix by size was \$10 million to less than \$50 million (n = 3), \$50 million to less than \$250 million (n = 51), \$250 million to less than \$1 billion (n = 102), \$1 billion to less than \$10 billion (n = 190) and \$10 billion or more (n = 76). Disclaimer: Results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

Document Revision History

[Leadership Vision for 2023: Technology Innovation - 29 November 2022](#)

[Leadership Vision for 2022: Technology Innovation - 12 August 2021](#)

[Leadership Vision for 2021: Technology Innovation - 16 October 2020](#)

Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

[Understanding the CTO's Role in Technology Strategy](#)

[How CTOs Can Build a Technology Talent Acquisition Strategy](#)

[A CTO's Guide to Build the Right Executive Partnerships](#)

[How CTOs Can Create a Winning Digital Innovation and Enablement Function](#)

[Case Study: Build CTO Trust Through Increased Transparency \(United States Trustees Program\)](#)

[Building Technology Acceptance Through Business Enablement: An Interview With Trinity Logistics' Russ Felker](#)

[Lie, Cheat and Steal Your Way to Innovation Funding Success](#)

[Diversity of Thought Is Critical for Business Innovation and Talent Retention](#)

The Gartner Trendspotting Framework: Driving Operations, Innovation and Strategy Leveraging Digital Product Management for Digital Business Transformation and Optimization

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