Predicts 2024: Generative AI Boosts IT Service Delivery and Productivity

Published 5 December 2023 - ID G00801409 - 16 min read

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Initiatives: IT Contracts Negotiations

> Tools like ChatGPT highlighted GenAI's potential to create new, derived versions of content, designs and methods by learning from repositories of original source content. IT leaders must understand the impact these technologies can have on the delivery of services and talent to their organizations.

Overview

Key Findings

- GenAI, coupled with other technologies such as hyperautomation and metaverse, will fundamentally change how customer and IT services are delivered.
- Future services will be delivered using a combination of human plus digital delivery. Whether human augmented by AI or pure-play automation, digital arbitrage will eventually replace labor arbitrage as the means of delivering services, making many current outsourcing contracts obsolete.
- Despite an ongoing shortage of software developers, business leaders are increasing spending on digital business initiatives, resulting in service providers exploring the use of GenAI tools to enhance developer productivity and balance out the demand to meet the available supply.

Recommendations

Sourcing, procurement and vendor management (SPVM) leaders responsible for buying IT services must:

- Upskill and develop know-how to evaluate, select and contract service providers for new services like GenAI-powered code generators, digital twins, and machine learning as a service (MLaaS).

- Engage with incumbent service providers about the self-serve model and, if necessary, revisit existing contracts to ensure that new contracts have flexibility to account for digitally delivered services. Renegotiate SLAs around coverage, volume, customer satisfaction scores (CSATs), response and resolution times, and co-create new SLAs around personalization.
- Seek opportunities with service providers to select and deploy enterprise-friendly GenAI tools that will result in productivity efficiencies and improvements, and incorporate into existing and new engagements.

Strategic Planning Assumptions

- By 2028, 60% of IT services will be powered by the trifecta of GenAI, hyperautomation and metaverse, radically changing the services buyer landscape.
- By 2028, 80% of customer service and IT support will be self-serve through GenAI-led automation, forcing organizations to renegotiate existing outsourcing contracts.
- By 2026, demand for IT development talent will stabilize as application implementation and managed services will be impacted by use of GenAI.

Analysis

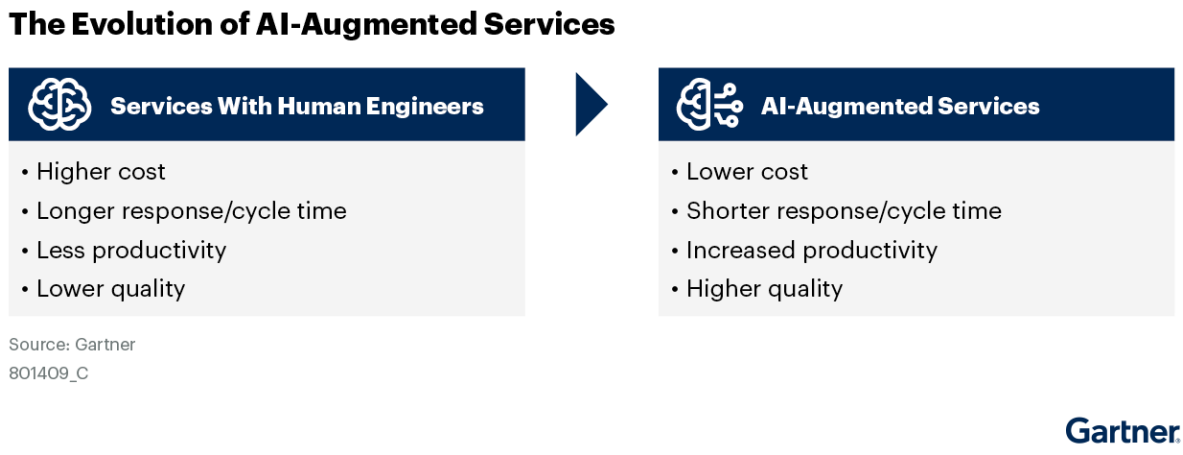
What You Need to Know

OpenAI's ChatGPT generative AI (GenAI) tool has galvanized public attention since its launch on 30 November 2022 with both positive and negative sentiments (see Figure 1). As the hype continues to wear off and the reality of implementation sets in, its impact will continue to grow as people discover new applications for the technology in their daily work and lives. GenAI can be viewed as a general-purpose technology that will find its way into most everyday work and personal roles and activities in the same way that electricity is a pervasive technology.

This IT services Predicts report highlights three Strategic Planning Assumptions (SPAs) that Gartner believes will impact the delivery of services and talent to client organizations over the next four years.

SPVM leaders responsible for engaging service providers must recognize the potential that GenAI and other types of AI have to fundamentally change delivery of services that have characteristics aligned to GenAI capabilities: large amounts of data (structured and unstructured), foundation models, and beneficial use cases. Each of the SPAs highlights a reasonably mature use case for GenAI, all of which have the potential to impact how IT services are delivered in the future. Recognize that these three use cases are a subset of the potential use cases available, all of which will evolve and grow into the future.

Figure 1: The Evolution of AI-Augmented Services



One of the primary impacts will be the change from a predominantly labor-based delivery model to a mixed labor and digital delivery mode (see Predicts 2023: Services Contract Flexibility Is Crucial in the Age of Disruptive Uncertainty). SPVM and service provider leaders will have to agree on how to value digital delivery and capture those results in the impacted statements of work.

Strategic Planning Assumptions

Strategic Planning Assumption: By 2028, 60% of IT services will be powered by the trifecta of GenAI, hyperautomation and metaverse, radically changing the services buyer landscape.

Analysis by: Sundar Viswanathan

Key Findings:

- GenAI and hyperautomation now make it easier for business technologists in fusion teams to develop, support, and adopt software as they bridge the technical skills gap.
- While business leaders are already heavily involved in software purchase decisions, their growing participation and influence in services are likely to shift even the services buying centers from centralized IT departments to line of business (LOB).
- Approaches and tools for contracting traditional IT development, testing and support services have limitations and cannot be reused to source modern services. Services like GenAI-curated knowledge management services, industry-specific digital twins for what-if/scenario modeling, prepackaged automations and ML “models as a service” demand new tools across the sourcing life cycle from evaluation through to contracting.
- Metaspheres are evolving at a rapid pace and starting to offer immersive experiences for humans to leverage their perceptive capabilities and perform more complex tasks that require human emotions and ingenuity.
- Convergence of major technologies and trends like automation, integration, business process orchestration, GenAI, composability and content interaction has enabled service providers to differentiate themselves by creating industry- and domain-specific, purpose-built assets and services. Domain-specific digital twins are an example of this trend.

- In new roles like prompt engineer, AI auditor, model mechanic, AI citizen scientist, and AR/VR camera driver engineer, humans are augmenting machines. New talent-sourcing strategies are needed to enable organizations to fulfill these roles. This will force organizations to create new talent-sourcing strategies. Ironically, over time, these new roles themselves will be replaced by AI and autonomous machines.

Market Implications:

- The shift to democratized IT organizations (where responsibility for digital delivery shifts into the business) will only accelerate involvement of broader business in technology procurement decisions. Currently, 67% of people involved in technology buying decisions are not in IT. [1] With increasing democratization of technology, evolution of fusion teams and the active role played by business technologists in application development, implementation and support services, IT will become even more federated. SPVM leaders will have to educate and arm themselves to support a highly federated services contracting setup.

- The initial previews and research show that GenAI-powered code generators improve the productivity of software development and testing by about 40%-50%. However, such developments will bring with them vulnerability and (intellectual property) IP risks that need to be handled technically and contractually. [2,3]

- In complex environments, implementing a digital twin will require custom integration, metadata management and significant governance efforts (see Emerging Tech: Tech Innovators for Digital Twins — Service Providers). Availing one of a service like this will require strong sourcing and contracting expertise.

- As of today, individuals can physically manipulate objects from a remote location. Innovation in field service will evolve from augmented, virtual and mixed reality (AR/VR/MR) to a future where humans assist automatons to accomplish a task by collaborating with it in a metasphere. Over time, individual metaspheres will converge to form a metaverse.

- Competitive differentiation will be derived from humans augmenting machines rather than machines augmenting humans. Empathy, discretion and curiosity will become sought-after skills. The IT workforce will be a hybrid of digital and human workforce, requiring organizations to create new workplace policies.

- New IT operating models will evolve to accommodate the shift in buying centers, scope of services and new roles.

Recommendations:

SPVM leaders involved in sourcing and contracting for IT services involving GenAI, hyperautomation and metaverse capabilities should:

- Take charge of procurement of services related to these emerging technologies and prevent sporadic sourcing of services by working with the broader organization to apply the appropriate governance around procuring these services.

- Gather market intelligence on emerging new roles like prompt engineer and model mechanic, talent sources, resource costs and contracting models, and prepare for sourcing and negotiations with GenAI service providers.

- Develop sourcing guidelines and principles to procure GenAI tools and services in your organization with appropriate oversight to mitigate risks around IP infringement, code leakage, etc.

- Include humans, robots and AI models as resources in demand forecasting, capacity planning and cost modeling exercises while evaluating sourcing options for specific services.

Related Research:

Preparing the Enterprise for the Metaverse

Strategic Planning Assumption: By 2028, 80% of customer service and IT support will be self-serve through GenAI-led automation, forcing organizations to renegotiate existing outsourcing contracts.

Analysis by: Sundar Viswanathan, Alan Stanley and DD Mishra

Key Findings:

- Product vendors are incorporating GenAI-driven self-service capabilities in their offerings to improve product experience.

- In order to develop competitive differentiation, service providers are reengineering their customer service and IT support offerings to leverage GenAI's ability to create knowledge banks, provide contextual and natural language responses, and offer personalized support service at scale.

- In situations where customer service and IT support services are delivered through managed service arrangements, service providers are keen to introduce these capabilities in their current projects and improve operating margins.

- Currently, 10% of customer service journeys are fulfilled using end-to-end self-service capabilities. One of the key root causes for abandonment of self-service capabilities is ineffective knowledge management (see Improve Customer Self-Service Adoption by Automating Knowledge Capture and Curation). GenAI-based knowledge management offers an opportunity to draw insights from near-real-time support conversations, synthesize the knowledge, and create reusable standard operating procedures or advisories. This technology development will act as a catalyst in improving the self-service channel adoption.

- Younger generations of the workforce, millennials and Gen Z, typically prefer to resolve issues through self-serve and digital channels, and it is a key aspect of their user experience.

- CIOs are under constant pressure to reduce cost per unit for customer service and IT support. While self-service has been around for a while, IT departments have not been able to fully capitalize on its potential due to the inability to incorporate transactional knowledge and keep self-service channels current and relevant. GenAI has demonstrated the ability to fill this gap, and CIOs are keen to source this opportunity from service providers and seize the opportunity to reduce costs.

Market Implications:

- Service providers will charge a premium for humans in customer service and IT support services for their ingenuity, discretion and empathy skills. Cost per human-assisted support ticket will continuously go up. Even at the current rate of automation, a majority of customer service and IT support is still delivered by human agents, which drove the cost from $7 in 2009 to nearly $10 five years later. [4] CIOs will be forced to go down the self-service path to save costs. Expect to see a drop in total cost of ownership as GenAI continues to drive the shift from labor to digital arbitrage.

- Software product vendors will increase license and subscription costs to accommodate support services for the new GenAI capabilities and features.

- User experience will move up the CIO priority ladder, attract commensurate investments and accelerate adoption of self-service channels. A recent Gartner survey revealed that 79% percent of CIOs expect an increase in self-service investment by 2024. [5]

- Frontline customer service and support teams will be led by machines and augmented by humans, forcing both customer and service provider organizations to repurpose, retrain or reduce their workforce.

- As organizations typically consider “know-how” as proprietary, machine-generated standard operating procedure (SOP) and training guides introduce IP risks. Also, organizations need to review liability risks should something go wrong as a result of following machine-generated procedures or guides.

Recommendations:

- Take an inventory of all service agreements related to outsourced service desk or customer service support.

- Engage incumbent service providers with an active conversation on the mutual benefit of early transition into self-serve models, and seek transformation and transition proposals. This may include some early proofs-of-concept for the various applicable use cases and GenAI-led automation plans/commitments. Assess the overall economic impact of GenAI-led automation to get negotiation leverage.

- Renegotiate SLAs around coverage, volume, customer satisfaction scores (CSATs), and response and resolution times, and co-create new SLAs around personalization as automation driven by BOTs and AI eliminates constraints around human scale.

- Work with business stakeholders and legal counsel to assess how risks are addressed in your services contracts and how GenAI use may require a renegotiation, especially in areas such as IP, security, liability and warranty, and allocate accountability to appropriate business functions.

- Review the termination clauses and create provisions for early termination, and negotiate penalties in case you are entering into a new service desk or customer service support contract based on a human-agent-heavy model.

Related Research:

Quick Answer: How Can I Address Generative AI Risk in IT Contracts?

State of the Customer: How Millennials and Gen Z Increasingly Self-Serve Through Noncompany Digital Channels

Strategic Planning Assumption: By 2026, demand for IT development talent will stabilize as application implementation and managed services will be impacted by use of GenAI.

Analysis by: Gunjan Gupta, Allan Wilkins and Rajib Gupta

Key Findings:

- Software developers are in short supply and overworked, and they suffer from burnout and reduced productivity and efficiency.

- The number of job openings for software engineering roles decreased from record highs, but there were still nearly 1 million job postings globally in 4Q22. [6]

- Instead of cutting IT budgets, CEOs and CFOs are planning to increase spending on digital business initiatives, with 70% of surveyed buyers expecting to increase IT services spending in the next 12 months. [7]

- Initial experimentation with GenAI has shown 15% to 20% increase in developer productivity. Some providers are even talking about freezing hiring for back-office processes.

- In a recent Gartner survey, more than half of IT leaders surveyed (52%) believe that enterprises will use GenAI to build software applications.

- In the same survey, more than 300 software engineering leaders listed GenAI among the top three factors that will improve developer productivity.

Market Implications:

- Software engineering leaders and IT service providers are actively exploring how GenAI tools can be used to increase developer productivity, ramp up junior developers, improve the ratio of junior developers to senior developers, and reduce code review time and rework.

- GenAI tools can help drive significant productivity and quality improvements for different kinds of IT services, such as application development, modernization and testing.

- Several IT service providers are running pilots and experiments with clients to investigate the use of GenAI on the software development process from requirements gathering, coding, testing and deployment. They are extensively investing in building accelerators and use cases that can be leveraged by clients to build new capabilities and products with more efficiency.

- GenAI development tools will reduce development time with use cases such as:
  - Generating code and code structure
  - Generating unit tests
  - Detecting and fixing code errors
  - Documenting test plan from stories
  - Generating integration tests
  - Generating acceptance tests from user stories
  - Refactoring legacy code

- GenAI tools such as GitHub Copilot, OpenAI's ChatGPT and Codex, Amazon CodeWhisperer or Project Wisdom can be used to complete lines of code. They also create code in most programming languages from a natural language prompt. There is a new generation of dialogue-based coding assistants that show an ability to generate and analyze not only code fragments, but entire programs in an iterative, conversational manner.

- IT companies that have done POCs using AI-powered assistants, such as Tabnine, have achieved an 11% increase in productivity, with developers accepting 90% of the tool's single-line coding suggestions. [8]

- Use of GenAI tools will scale developer productivity and will also require developers to engage in new learning curves to elevate their skills to higher-level design and orchestration of systems and workflows.

- This will stabilize the demand for software engineering talent in the short to medium term as developers adopt AI-augmented code assistants to execute and deliver faster.

Recommendations:

- Work with service providers to identify enterprise-friendly AI code generation tools such as Codex, GitHub Copilot, Amazon CodeWhisperer and others that can be used to accelerate product development and testing cycles.

- Identify repetitive, low-value work that can be reduced by using Generative AI while monitoring the known risks of these tools.
- Investigate productivity efficiencies and improvements that third-party service providers have generated in internal pilots and programs. Work with service providers to identify ways these techniques can be leveraged in your existing and new engagements.
- Agree upon an enterprisewide responsible usage policy of GenAI tools and techniques for risks arising from issues like trust, bias mitigation, privacy and regulatory compliance, that can originate from uncontrolled use of these tools.
- Engage with GenAI large language model (LLM) service providers to test whether their tools can read and interpret legacy codebase; help document and annotate the business logic, data and process flows; and help reduce the overall cost of legacy modernization.

Related Research:

Quick Answer: How Can Generative AI Tools Speed Up Software Delivery?

Innovation Guide for AI Coding Assistants

Quick Answer: How to Ensure Quality in AI-Generated Code

Quick Answer: Should Software Engineering Teams Use ChatGPT to Generate Code?

Quick Answer: Can We Use ChatGPT for Code Transformation and Modernization?

Quick Answer: Can Generative AI Help Manage Technical Debt?

How to Ensure Your Vendors are Accountable for Governance of Responsible AI

Gartner's Top Strategic Predictions for 2024 and Beyond — Living With the Year Everything Changed

A Look Back

In response to your requests, we are taking a look back at some key predictions from previous years. We have intentionally selected predictions from opposite ends of the scale — one where we were wholly or largely on target, as well as one we missed.

On Target: 2022 Prediction — Through 2023, demand for IT digital transformation skills will be at least 20% higher than the experienced supply available, forcing creative talent acquisition/management solutions.

- Despite large layoffs by many large IT companies in 2022 and 2023, individual IT shops are still in a competition for talent, with over 80% of CIOs reporting increased competition for qualified IT talent. [9]
- The move to product-centric delivery is changing the skill set of traditional IT talent
- This has forced CIOs to:
  - Rethink talent assets and strategy
  - Engage partners innovatively
  - Access untapped talent
  - Create and foster digital productivity
  - Hone tech skills with business partners

Missed: 2020 Prediction — Through 2022, steep demand growth for specialist skills in digital transformation and cloud application migration services will increase labor rates by 50%.

- While rates have definitely increased over the past three years, the steep demand for transformation projects has been dampened by a softening in the economy and increased usage of hyperautomation and AI technologies.

Evidence

[1] The Big Book of Technology Buyer Behavior

[2] How Generative AI Is Already Transforming Customer Service, BCG.

[3] Unleashing Developer Productivity With Generative AI, McKinsey.

[4] Kick-Ass Customer Service, HBR.

[5] **2022 Gartner Chatbot and Live Chat Implementation Survey.** This survey was conducted online from 19 January to 7 February to understand how organizations are leveraging chatbots and virtual customer assistants for customer self-service. Of the 50 participants, 39 were from Gartner's Customer Service & Support Research Circle (primary/secondary) and 11 participants were from outside of Research Circle.

[6] Software Engineering Talent Market Benchmarks: 4Q22

[7] Forecast: IT Services, Worldwide, 2021-2027, 3Q23 Update

[8] How CI&T Accelerated Development by 11% With AI From Tabnine and Google Cloud, Tabnine.

[9] **2023 Gartner CIO Talent Planning Survey.** This survey was conducted to benchmark which skills CIOs plan to prioritize, what methods they plan to use to hire and develop talent, and how digitally mature companies' plans differ from others. The research was conducted online during October through November 2022 among 501 respondents from North America, EMEA and the Asia/Pacific region from midsize and large enterprises. Respondents were screened for CIO or senior IT Leadership roles with decision-making responsibilities in talent planning strategies.

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.

Recommended by the Authors

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

Quick Answer: How Can I Address Generative AI Risk in IT Contracts?

Generative AI in Outsourced Software Development
