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Top Strategic Technology Trends for 2024: Machine Customers

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Initiatives: CRM Strategy and Customer Experience; Digital Future

Billions of machines with the potential to become customers will provide trillions of dollars of growth opportunities. IT leaders must lead the construction of the platforms and applications capable of serving machine customers, and can even build their own machine customers.

Overview

Opportunities

- CEOs estimate that 15% to 20% of their revenue will come from machine customers by 2030.
- Machine customers will make markets more efficient, as they'll match demand more accurately in real time to supply, which will improve operations. Machine customers can open up and expand markets by overcoming sales cycle frictions, such as reliability or interest, as well as geographical and resource constraints.
- Machine customers will force a reshaping of key functions such as supply chain, sales, marketing, customer service, digital commerce and customer experience.

Recommendations

IT leaders supporting customer experience and seeking to build a competitive advantage should:

- Prepare for machine customers by identifying Internet of Things (IoT)-enabled products that might arise in the situations/activities where customers use your products and services today.

- Plan for the future by architecting the data sources and API platforms needed to serve machine customers that shouldn't, or won't, use your human-readable digital storefront.
- Become exceptional at digital commerce by modeling how selling to or serving a machine customer will impact existing processes across the operation.

Strategic Planning Assumptions

- By 2027, more than 50% of sales and service centers will be fielding calls from machine customers.
- By 2027, 50% of people in advanced economies will have AI personal assistants working for them every day.
- By 2028, machine customers will render 20% of digital storefronts obsolete.
- By 2028, a machine customer will earn the Customer of the Year award at a global enterprise.
- By 2028, economists will recognize machine customers as a GDP growth factor.

What You Need to Know

This research is part of Gartner's Top Strategic Technology Trends for 2024.

Download the Executive Guide to Machine Customers.

Machine customers are nonhuman economic actors that purchase goods and services in exchange for payment. We also use a friendlier term for them — “custobots.” Machine customers represent a growth megatrend that has slowly been building. This trend, especially with the advent of generative AI, will eventually become more significant than the arrival of digital commerce.

CEOs Gartner has surveyed believe that, on average, 15% to 20% of their company's revenue will come from machine customers by 2030.¹ Gartner modeling predicts that machine customers will be directly involved in, or have influence over, trillions of dollars in purchases by 2030. By 2028, 15 billion connected products will exist with the potential to behave as customers, shopping for services and supplies for themselves and their owners.

Machine customers are already among us. They're performing the tasks we'd normally do as human customers (see Figure 1). They:

- **Receive messages.** These messages include advertising, offers, email and information from the surrounding environment.

Example: Carvana, the pioneering online car retailer, uses bots to receive messages from humans trying to sell their cars.²

- **Make their own purchasing decisions.**

Example: The Amazon Dash Replenishment service uses a smart shelf, at home or at the office, to trigger a reorder of a consumable product once a certain usage threshold is reached.³

- **Negotiate for the best deal.** This includes finding the best value for the transaction and executing the purchase.

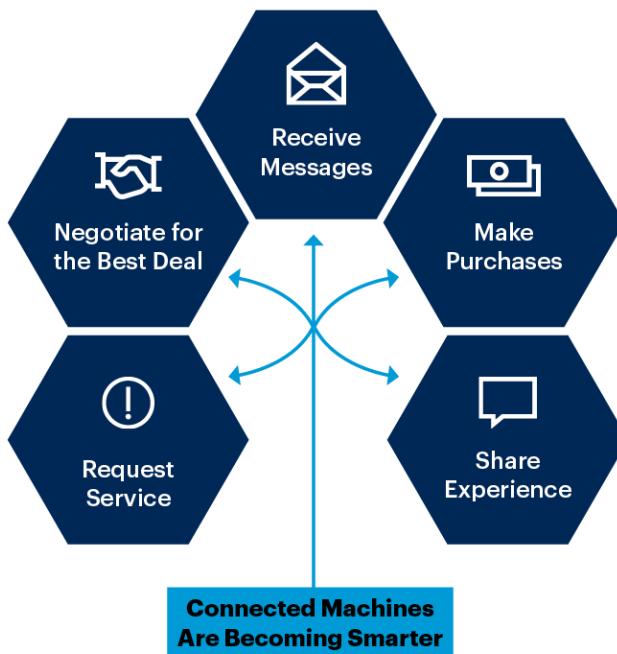
Example: Walmart has deployed AI-powered negotiations chatbots to connect with suppliers of "goods not for resale" – categories such as fleet services, carts and other equipment used in retail stores.⁴

- **Request service.** This includes repairs, upgrades or even replacement.

Example: Tesla vehicles can diagnose their own issues, preorder parts for service and prompt the user to schedule a service appointment.⁵

- **Share experiences.**

Example: Review bots have been plaguing online retailers and restaurants for years with fake reviews.⁶

Figure 1. Five Behaviors of Human and Machine Customers**Five Behaviors of Human and Machine Customers**

Source: Gartner
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Companies that quickly learn how to create machine customers that purchase on behalf of the organization and from the organization, and those that learn how to sell to custobots, will gain an advantage in the trillions of dollars at stake. Others could find their traditional human buyers gradually disappearing. Exploiting the machine customer opportunity isn't about technology or marketing. It's a business opportunity every executive in the organization should be involved in. All C-suite executives, including the CIO, must engage in a coordinated effort to decide how machine customers fit in the business model. Without that full team collaboration, progress will be partial, ineffectual and inconclusive.

Trend: Machine Customers**Description**

Machine customers are nonhuman economic actors that obtain goods or services in exchange for payment. Examples include: IoT-connected devices or assets that place orders independently of a human command; intelligent replenishment algorithms that maintain availability of consumables; and intelligent assistants that suggest deals to consumers.

Why Trending

- By 2028, 15 billion connected products will exist with the potential to behave as customers – to shop for services and supplies for themselves and their owners.⁷
- Machines are gaining the ability to buy, sell and request services. Currently, most machines merely inform or make simple recommendations. However, some machines are emerging as more complex customers. For example:
 - HP Inc.'s HP Instant Ink enables connected printers to automatically order their own ink when supplies run low.⁸
 - Italy-based iProd created iProd MOP, the first platform that can accommodate the requests of machine customers located in a manufacturing environment. The platform allows the machine to automatically purchase what it needs from its manufacturer or the iProd IOT Marketplace.⁹
 - Rolls-Royce jet engines, equipped by the IoT and interpreted by AI, are clever enough to help engineers make critical decisions. These decisions include the need to mobilize a service team and have replacement parts available when the plane lands, anywhere in the world.¹⁰
 - Amazon's iRobot sweepers can automatically reorder supplies such as filters.¹¹
- Advances in generative AI and the broad set of applications demonstrated by tools such as ChatGPT will accelerate the development and deployment of machine customers. These applications can diagnose a job to be done and break down complex tasks to make the right recommendations and service requests, and execute other functions to complete the job.
 - Examples: Expedia and OpenTable work with the ChatGPT API.^{12,13}
- Other key technologies can enable machine customers, including: edge and cloud computing, machine learning, complex event processing, text analytics, image recognition, pattern recognition, large language models and digital commerce platforms.
- In B2B, platforms such as Datapred use machine learning to recommend optimized purchasing strategies and generate related financial risk reports based on commodity, raw material price predictions and organization-specific internal constraints.¹⁴

- Machine customers could generate revenue opportunities, increase productivity and efficiency, improve health and well-being, and enhance the security of people and physical assets.

Implications:

The impact of machine customers isn't limited to a few obvious functions. Custobots will cause changes in:

- Corporate strategy
- Sales
- Digital commerce
- Marketing
- Supply chain
- Customer service
- Business process service (BPS) providers
- Industries

Corporate Strategy

Machine customers' entry to an industry has the potential to change key factors, such as the industry's:

- Topology
- Competition dynamics
- Total addressable market size
- Typical gross margin
- Supply chain cadence

Strategy leaders must investigate what kinds of machines will become customers in their industries. Which companies could create those machines, and what kind of control will that exert over the way the industry operates? Should they build or should they buy?

In some cases, machine customers could shrink a market, because their ruthless logic and efficiency will blast through sales that are overly dependent on human emotional or irrational behaviors. In many more situations, machine buyers' vigilance, efficiency and reliability will create growth opportunities. Constructing machine customer platforms and apps requires advanced technology and skills. These might be beyond the reach of markets with resource constraints.

Strategists must reframe their long-term vision to enable addressable market increases or changes in the way their organizations are structured.

Sales

Sales has a legacy of reliance on the intuition of the individual seller and the seller's ability to forge a human connection with the buyer. Machine customers challenge this and embody yet another type of technology that sales must prepare for. Seventy-four percent of sales leaders¹⁵ believe their investments in revenue technology are empowering their teams, while 67% of sellers¹⁶ feel their leaders are disconnected from their daily reality. This suggests a gap in the sales leaders' perceptions of their sellers' relationships with technology.

Unlike with generative AI, where sales leaders can choose whether to unlock its potential, machine customers will make themselves known in sales interactions, regardless of sales' preference. Machine customers aren't bound by the same limitations as their human counterparts. Sales leaders can unlock massive scale if they can identify how to adapt their sales organizations to work effectively with machine customers.

Digital Commerce

Organizations will have a larger customer base to sell to because there will be more connected machines than human customers. They'll also be able to capture hidden revenue opportunities that humans could miss; for example, when supplies run below the threshold or when equipment breaks down unexpectedly. Organizations will also be able to cater to ad hoc opportunities that machines can predict and process more efficiently than human customers.

Organizations will need to upgrade technology to support the larger volume and higher velocity of machine commerce orders. This will entail developing machine interfaces supported by APIs, data exchanges and event streams, where a traditional human-readable storefront doesn't work. The main challenge is obtaining trust from human customers who will delegate purchase decisions to machines.

Marketing

Conventional marketing excellence relies mainly on human initiative, emotion and personal contact or relationships. How will this work when marketing to machines? Machines don't have emotions — they'll behave logically and rationally, based on the rules and programming of their human owners. Marketing will also be programmatic and automated. This is good news because marketing is among the leading users of AI in business and has over 20 years' experience with digital advertising and marketing. Marketers will still be needed to understand the needs and behaviors of human customers and to develop experiences that drive confidence, but they'll have to consider how machines have become integral parts of the customer journey.

Supply Chain

The continued acceleration of machine customer ordering will require chief supply chain officers (CSCOs) to build a new supply chain operating model. This must be able to respond to this new demand channel, where automated buyers will transact at greater speeds, issuing lower volume orders more frequently than their human predecessors. We expect demand forecasting will be more reliable and predictable because it will be fully based on algorithmic purchasing decisions. However, machine customers will also be better able to quickly find alternative products that may be more convenient to buy or are delivered more reliably. This will require CSCOs to improve their supply chain planning and risk management capabilities. Digitally transforming the supply chain operating model and integrating the ecosystem of partners will be key to responding to machine customer demand.

Customer Service

Organizations that embrace machine customers will be able to differentiate their value and set higher standards for effortless service. In customer service, generative AI can enable virtual assistants that can help human agents and can also interact with machine customers to understand the intent, help resolve the issue and perform follow-up tasks. Automation and reduced human involvement can reduce operating costs and offer lower-effort experiences for customers. Customer service must shift from reactive customer service to proactive customer success management by using relevant data sources to gain a comprehensive view of the customer (and its machine) throughout the customer life cycle.

BPS Providers

BPS providers face a new technology disruption that will remove customer interactions from their traditional market. Machine customers will bypass many of the traditional contact center communication channels and be serviced by automated solutions. BPS providers must position themselves as technology and service providers with a unique understanding of sales, service and marketing. This will make them the right type of organization to build and service machine customers and the infrastructure required to deploy and manage them.

Industries

Machine customers can act as corporate buyers (B2B) or consumers (B2C). In B2B, smart shelf sensors alert when products need to be reordered, preventing disruption in manufacturing production while reducing warehouse storage requirements. In B2C, patients with diabetes could use their glucose monitors to not only inform them of their current levels, but also proactively order insulin to ensure they don't run out. Machine customers could also negotiate pricing. Pharmaceutical companies could use these machine customers to determine demand and ensure the proper amounts of medications are sent. By 2030, we expect machine customers will represent 10% of sales in the retail and consumer goods industries.

Actions

Do the following to take a lead role in building machine customer platform/application capabilities and constructing interfaces to engage with third-party machine customer solutions:

- **Identify use cases where your products and services can be extended to machine customers.** Initiate collaboration with your chief digital officer, chief data officer, chief strategy officer, sales leaders and chief customer officer to explore machine customers' business potential.
- **Expose your catalog, pricing and inventory through APIs and data interfaces, so that machine customers can search and understand them.** Aim for real-time data to ensure the accuracy of order pricing and stock availability.
- **Upgrade your commerce platform and operations** to handle the larger volume of orders and requests from machine customers. Be able to detect fake machine customers.
- **Pilot the ideas you compile during the identification of use cases** to understand the technologies, processes and skills required to implement machine customers effectively.

- **Build your organization's capabilities for digital commerce and AI for the next few years.** Use APIs, bots and AI to enable machine customers for low-complexity transactions. Next, extend your organization's capabilities to other facets involved in machine customers' processing of information to make informed decisions and purchases. Join other platforms with these capabilities if you don't have the resources to build them yourself.

About Gartner's Top Strategic Technology Trends for 2024

This trend is one of our Top Strategic Technology Trends for 2024. These are the trends we consider most relevant and impactful. Our trends fall into three main themes:

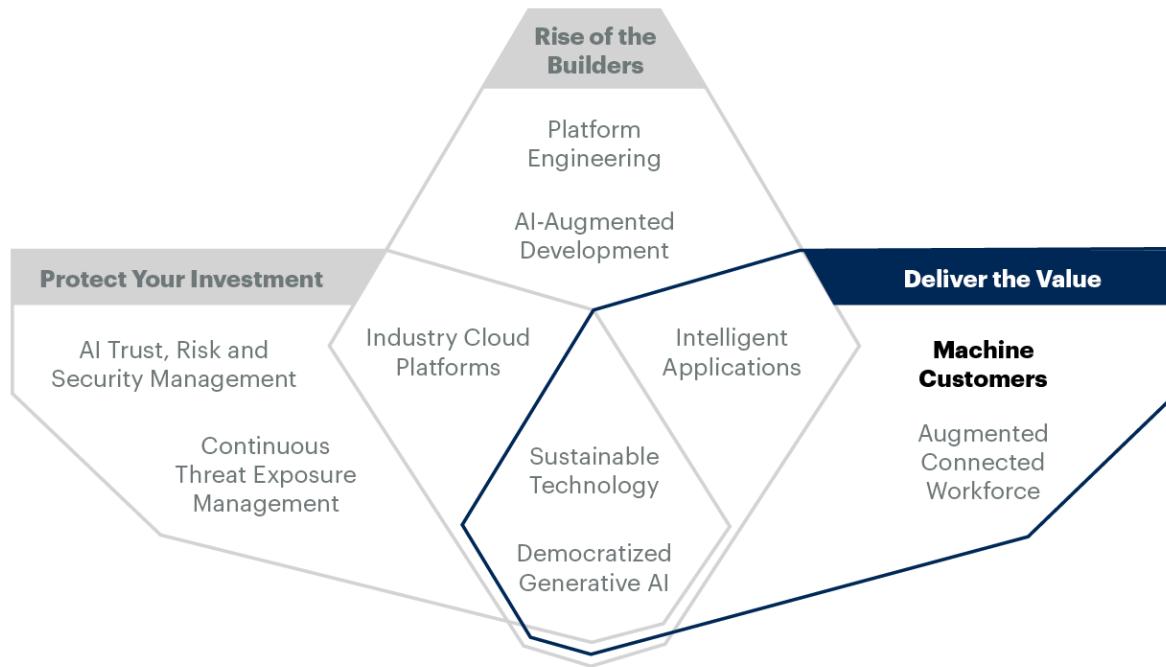
- **Protect your investment.** Preserve your investments and secure the benefits from past and future strategic technology decisions to make them durable.
- **Rise of the builders.** Unleash creative powers by using the appropriate technology for the appropriate functions.
- **Deliver the value.** Refine and accelerate value optimization, built on top of durable operational excellence.

These technology trends don't exist in isolation – they interconnect (see Figure 2) and several fall into more than one theme. The trends' potential importance for your organization differs by organizational maturity, but also by industry, business needs and previously devised strategic plans.

Work with other executives to evaluate the impacts and benefits of our trends. This will enable you to determine which single trends – or strategic combination – will have the most significant impact on your organization, and the ecosystem in which it operates. Examine the trends' potential relative to your organization's specific situation, factor them into your strategic planning for the next few years, and adjust your business models and operations appropriately.

Figure 2: Top Strategic Technology Trends for 2024: Machine Customers

Top Strategic Technology Trends for 2024: Machine Customers



Source: Gartner
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Evidence

¹ 2022 Gartner CEO and Senior Business Executive Survey, Wave 2: 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 2021 through December 2021, with questions about the period from 2021 through 2023. One-quarter of the survey sample was collected in July and August 2021, and three-quarters was collected in October through December 2021. In total, 410 actively employed CEOs, and other senior executive business leaders qualified and participated. The research was collected via 382 online surveys and 28 telephone interviews. The sample mix by role was CEOs (n = 253); CFOs (n = 88); COOs or other C-level executives (n = 19); and chairs, presidents or board directors (n = 50). The sample mix by location was North America (n = 176), Europe (n = 97), Asia/Pacific (n = 86), Latin America (n = 40), the Middle East (n = 4) and South Africa (n = 7). The sample mix by size was \$50 million to less than \$250 million (n = 58), \$250 million to less than \$1 billion (n = 81), \$1 billion to less than \$10 billion (n = 212) and \$10 billion or more (n = 59). 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.

² A Robot Bought My Seven-Year-Old Car for More Than I Paid Brand-New, The Verge.

³ Dash Smart Shelf Is Now Available, Amazon Business.

⁴ How Walmart Automated Supplier Negotiations, Harvard Business Review.

⁵ Tesla Vehicles Can Now Diagnose Themselves and Even Pre-order Parts for Service, Electrek.

⁶ People Are Using AI Chatbots to Write Amazon Reviews, CNBC.

⁷ Forecast: Internet of Things, Endpoints and Communications, Worldwide, 2021-2032, 2Q23 Update

⁸ Never Run Out and Save Up to 50% With HP Instant Ink, HP Inc.

⁹ iProd MOP is the First Intel® IoT Market Ready Solutions in Industry 4.0, iProd.

¹⁰ Powering Better Performance and Customer Experience With the Internet of Engines, Rolls-Royce.

¹¹ A Cleaning Robot for Your Floors. A Membership by Your Side, iRobot.

¹² ChatGPT Wrote This Press Release – No It Didn't, But It Can Now Assist With Travel Planning in the Expedia App, Expedia.

¹³ NEW: ChatGPT Restaurant Recs, Powered by OpenTable, OpenTable.

¹⁴ Technology, Datapred.

¹⁵ **2022 Gartner Revenue Success Survey:** This online survey was conducted from November 2022 through December 2022 to understand key differences in the revenue tech stack, sales enablement approaches to behavioral change and collaboration skills of high performers and low performers. The survey was completed by an online sample of 194 C-suite respondents (chief sales officers, chief revenue officers, etc.), senior sales executives and other senior leaders across Asia/Pacific (9%), Western Europe (18%) and North America (73%). Qualifying respondents had roles focused on commercial operations/revenue operations, sales strategy, sales/revenue technology or specific geographic location with enterprise-wide annual revenue in 2021 of more than \$5 million or equivalent or business unit/region annual revenue in 2021 of more than \$25 million or equivalent. Industry segments included banking/financial services, business services, information technology, manufacturing and healthcare providers. 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.

¹⁶ **2022 Gartner B2B Seller Motivation Survey:** This survey was conducted online from December 2021 through January 2022 to assess the organizational practices driving seller performance and attrition. The online survey sampled 908 sellers across North America, Europe and Asia/Pacific. Qualifying respondents had to be B2B sellers at organizations with at least \$25 million in annual revenue, headcount of 50 quota-carrying sales reps and from any industry segment except education, government and retail. 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.

[Prepare for Machines as Customers or Risk Being Left Behind](#)

[Why Machine Customers May Be Better Than Human Customers](#)

[How the Emergence of Machine Customers Will Impact Your Supply Chain](#)

[Emerging Technologies and Trends Impact Radar: Customer Analytics for Customer Experience](#)

[Podcast: When Machines Become Customers](#)

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