

softserve

AI AGENTS AND THE EVOLUTION OF MODERN BUSINESS

What AI agents really bring to business



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Just back from vacation to endless emails and a gargantuan to-do list? Imagine having a coworking assistant with internal company knowledge and access to your calendar to help you with it all. Welcome to the world of AI agents, tools that perform tasks on your behalf. In this post, we will explain what AI agents are and the value they bring to your business and team. We will share with you our practical use cases of AI agents we've implemented for our clients.

AI agents are large language model (LLM)-powered software that use tools to achieve user goals. The LLM gives an agent the ability to reason, plan, and retain memory, which is crucial to its key value: autonomy. A human defines the goal, and an agent determines how to accomplish it by selecting the right tools, breaking the task into smaller steps, and even collaborating with other agents when needed.

Benefits of Using AI Agents



Increased productivity

Agents can handle repetitive or multi-step tasks 24/7



Faster results

Quick deployment and fast learning



Smarter operations

Agents can self-improve and adapt to evolving business needs



Scalability

Businesses can run hundreds of agents in parallel, each tailored to a specific process

Industries benefiting from AI agents

Whether used for customer support, internal operations, or decision support, AI agents can speed up processes, cut costs, and unlock new levels of innovation.

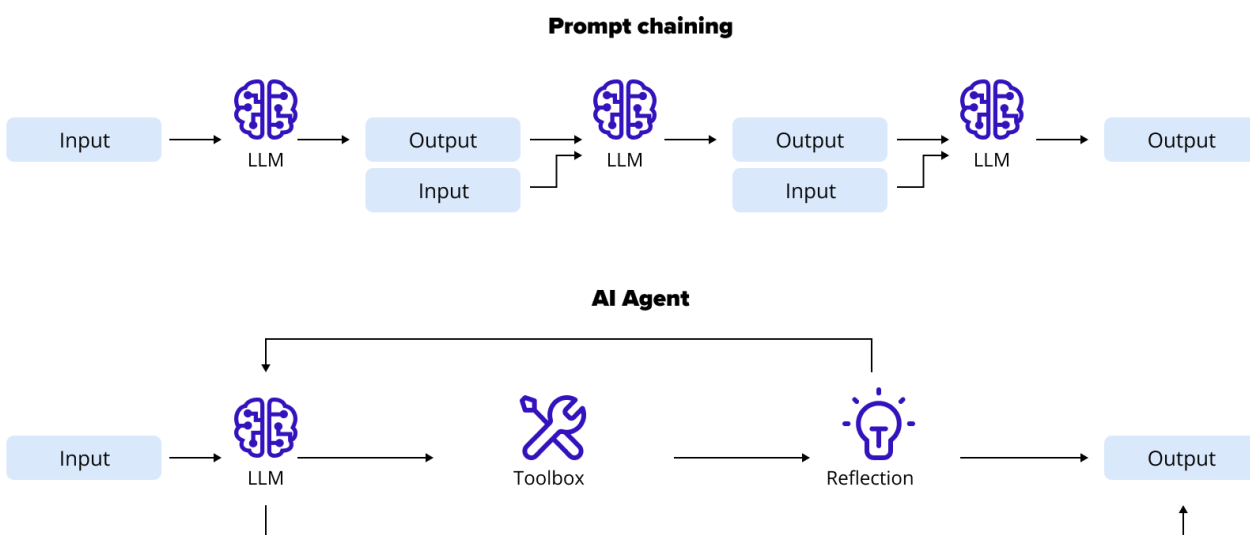
Industry	How Can AI Agents Help?	Use Case
 Retail	AI agents help customers find the right product based on preferences, purchase history, and reviews.	Sephora Virtual Artist – helps customers find the right product based on their preferences (e.g., skin tone, style).
 Marketing	AI agents draft content, product descriptions, and send targeted marketing messages tailored to specific audiences.	Salesforce Marketing Agents – identify marketing goals, develop marketing briefs, co-create campaigns.
 Manufacturing	AI agents support demand forecasting and suppliers' discovery. They can be used to alert people to issues with production.	Schaeffler AI solution triggers operators before issues in operations, helping them identify causes and come up with solutions.
 Healthcare	AI agents do real-time note transcription and medical record summarization to support medical staff.	Multi-Agent Team Care developed by Adrew Cho et. Al. is assisting medical professionals in under-resourced facilities.



From commands to coworkers: prompt chaining vs. AI agents

Prompt chaining involves breaking down a complex task into smaller, manageable steps, with each step guided by a specific prompt. The output from one prompt becomes the input for the next, creating a logical sequence that steers an LLM toward a final, detailed result. This sequential process provides a structured way to handle complicated requests.

AI agents take this concept further by operating autonomously to achieve a goal. An agent might use prompt chaining as part of its reasoning process, but it can also access external tools, store information in its memory, and make decisions without needing human intervention for each step. While prompt chaining is a method for directing a model's output, an AI agent is a more independent system that uses techniques like this to complete objectives on its own.



Aspect	Prompt Chaining	AI Agent
Core functionality	Sequences of prompts to guide an LLM through a process	System that plans and executes tasks toward a goal
Autonomy	Executes predefined steps manually, waits for user input at each stage	Sets its own subgoals and executes them with minimal human intervention
Memory	Short-term memory	Long-term memory
Learning Capability	Static – behavior changes only if prompt chain is edited	Adaptive – learns from outcomes and improves performance
Tool usage	Limited or none	Dynamically selects and uses tools (e.g., APIs, browsers, databases)

The AI agent boom: why it's happening now

The current interest in AI agents is not the result of a single event, but rather the convergence of several key technological and market developments. A combination of more capable language models, new development frameworks, and growing business adoption has created the ideal conditions for agentic AI to expand.

- 1 Mature LLMs** – Advanced models like GPT-4o, Claude, and Gemini appeared. These models can now plan, reflect, and adapt — key traits needed for agentic behavior.
- 2 Agentic Frameworks and Tools** – Open-source and commercial frameworks make it easier to build advanced agents that can interact with APIs, tools, and even other agents in coordinated workflows.
- 3 Cultural Readiness** – Companies adapt AI across industries — the market is ready for more innovation.

Relationship between LLM agents and agentic AI

LLM-powered agents are like robots in an agentic AI factory. LLM-powered agents function as fundamental components within the larger framework of agentic AI. While agentic AI represents the overall approach to creating autonomous systems, LLM agents are the specific, language-model-driven engines that execute tasks within that system.

LLM Agents vs Agentic AI



LLM Agent is like a robot in an Agentic AI Factory.

LLM Agent

- Built on LLMs
- Uses tools/APIs
- Executes tasks
- Follows a goal



Agentic AI

- Multi-agent collaboration
- Long-term memory
- Goal decomposition
- Learning & adaptation
- Planning & self-reflection



See tangible results with agentic AI

Companies are already using agentic AI to implement functional automation that provides measurable outcomes. These applications go beyond theoretical concepts to solve specific business problems. The following examples demonstrate how agentic AI is already being used to improve processes and deliver value in real-world scenarios.

Use Case	Problem Solved	Impact/Outcome
Virtual assistant	AI agents interact with clients in real-time in a personalized manner.	Increases user engagement, enhances user experience, reduces operational costs.
Shopping assistant	An AI assistant uses client history and preferences to suggest appropriate items.	Improves preference identification, higher recommendation accuracy.
UI generation	AI agents parse Figma designs and generate reusable frontend components and code.	Speeds design-to-code pipeline, reduces manual dev time, improves UI consistency.
Software development agents	Software development agents make project plans, create subtasks, code the solution, and deploy it, taking care of every aspect of the software development lifecycle.	Enables faster software delivery timelines, lowers development costs, and reduces human error.
Virtual data engineer	A virtual data engineer translates natural language input into SQL queries and provides automatic data visualizations.	Makes data access easy even for non-technical staff, reduces the need for BI tools.
Intelligent video monitoring	AI agents use the AGNTCY framework to enable modular orchestration of real-time video monitoring. They can dynamically adapt to different types of questions about video content.	Enables proactive insights and improves surveillance analysis efficiency.



Be aware of agentic AI challenges

While the potential of agentic AI is significant, its practical application comes with important considerations and challenges. Adopting this technology requires a clear understanding of its limitations and a commitment to responsible implementation. Acknowledging these factors is key to navigating the path toward effective and safe use of AI agents.



Human oversight is essential

AI agents are capable of performing tasks optimally, but they need a clear goal and human supervision. They are powerful assistants but not human replacements.



Agents are not employees

Agents are helpful in handling repetitive workflows. But we need to remember that critical thinking, ethics, and context awareness are still human responsibilities.



Security and trust are crucial

While AI agents offer great capabilities, they also introduce new risks around data exposure or system integrity. Trust in AI systems starts with responsible and secure deployment.



Plan your implementation

AI agents are best viewed as assistants rather than replacements for human workers. Their capacity to handle tasks can significantly improve operational efficiency and lower costs. By automating routine workflows, they free up employees to concentrate on strategic initiatives, creative problem-solving, and other areas where human judgment is essential. Organizations that successfully integrate agentic AI will do so with a clear strategy that balances the benefits of automation with the need for security and human oversight.

A thoughtful approach to adoption ensures that these tools are implemented responsibly. In the end, businesses that learn to use AI agents effectively to complement their human workforce will be better positioned to adapt and maintain a competitive edge.



Curious how agentic AI can empower your team?

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