AI and machine learning

Designing a Successful Agentic AI System

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Summary.

Agentic AI systems can execute workflows, make decisions, and coordinate across departments. To realize its promise, companies must design workflows around outcomes and appoint *mission owners* who define the mission, steer both humans and AI agents, and own the outcome; unlock the data silos it needs to access and clarify the business logic underpinning it; and develop the leaders and guardrails that these intelligent systems require.

Companies have often responded to new technologies with process tweaks or bolt-on tools. Some companies adapted; others faltered, not for lack of innovation but because they failed to reorganize around it. Agentic AI raises the same challenge but with higher stakes. It demands cross-functional execution that breaks free from silos and outdated ways of working.

Based on our work building agentic AI systems for companies and advising them how to do so, we have seen that to unlock the value of agentic AI, companies must redesign not just how they think about their workforce but also how their organizations are structured to deliver outcomes. In this article, we share some key principles for implementing agentic AI systems that will increase the likelihood that they will deliver the sought-after value.

How Agentic AI Works

Agentic AI—systems of AI agents capable of autonomous planning, reasoning, and action—can execute workflows, make decisions, and coordinate across departments. Think of agentic AI as a team of digital colleagues. Some agents are specialists—a coding copilot that speeds up development, or a virtual assistant that plugs into a SaaS tool. Others act more like coordinators, stitching together the work of many specialists into a larger outcome. When orchestrated as a

system, these agents plan, reason, and act toward goals, adjusting as conditions change. Crucially, they can operate across fragmented applications and data sources without forcing everything into one central system. Guided by human supervision, agentic AI becomes an intelligent layer that links scattered processes and cuts through silos into a more seamless flow.

In doing so, agentic AI marks a significant evolution in intelligent automation. While traditional automation—including robotic process automation (RPA) and rules-based systems—is powerful for repetitive, rules-based tasks, it can't handle the back-and-forth interactions that most real workflows require. Every exception has to be hard-coded and the automation breaks when systems or processes change. Agentic AI, in contrast, is designed to execute decisions autonomously to achieve overarching objectives or outcomes. It's similar to how a generative AI chatbot like ChatGPT or Gemini takes the prompt entered by the user—the objective—and generates its response autonomously, not prescriptively. Built on the same kinds of large language models, agentic AI is similarly inherently outcomes, not task, oriented.

The implementation of agentic AI in HR operations by Hitachi Digital, a unit of Hitachi that focuses on providing digital and AI-driven solutions to clients pursuing digital transformations, illustrates how these systems work. (Hitachi Digital is a client of Ema, which sells an agentic AI software platform for carrying out enterprise workflows. Surojit cofounded Ema, and two of us, Linda and Vivian, serve it as advisors.) Every year, employees put over 90,000 questions about everything from travel policies and remote work to training and IT support to the company's HR team of 120 human responders. Answering these queries can be difficult, in part because of Hitachi's complex infrastructure of over 20 systems of record, including multiple disparate HR systems, various payroll providers, and different IT environments. Instead of migrating the entire company to one common system, Hitachi decided to build an agentic workflow. The goal of this agentic AI deployment was to function as a knowledge and case management system. "Skye," Hitachi's HR AI agent was designed to serve as a first responder to employee queries.

Here's the agentic AI workflow: An employee query to Skye triggers the agentic AI system, which sends the employee's specific request to an intent classifier agent. Its job is to route the query to the appropriate AI agent.

For example, the intent classifier agent sends a simple policy question like *"What are allowed expenses for traveling overseas?"* or *"Does this holiday count in paid time off?"* to a file search and respond agent, which provides immediate answers by examining the right knowledge base given the employee's position and organization. A document generation agent can create employee verification letters (which verify individuals' employment status) in seconds, with an option for human approval. When an employee files a request for vacation, the leave management agent uses the appropriate HR management system based on its understanding of the user's identity, completes the necessary forms, waits for the approval of the employee's manager, and reports back to the employee.

Questions that require information outside of HR are also addressable by this agentic AI system. An employee looking to get IT approval for downloading a piece of software is routed to an IT help desk agent, which files a ticket in the correct IT service-management-software system, waits for the response, and then responds to the employee. A payroll question is managed by the payroll agent. The orchestration across these agents turns what was once a maze of systems into a seamless experience for employees.

How Agentic AI moves from Tasks to Outcomes

For Hitachi Digital, the ability to access information across the many divisions of the organization and different technologies in and of itself is a major win. Even better, by allowing payroll or IT to build its own agents that can automatically resolve issues reframes success as outcomes achieved rather than tasks completed or tickets closed.

Consider the most widely used implementation of generative AI: chatbots for customer service. Most companies have thousands or more transcripts of these customer interactions. Agentic AI does more than solve one customer complaint at a time. It can review all conversations, detect recurring issues, and act to eliminate them. If a particular carrier is consistently late, the system can flag the pattern, route to alternatives, and monitor performance. If a configuration bug in the tracking software is causing errors, agents can escalate a fix: e.g., initiating a change request, drafting the necessary code, testing it, and sending the result for human approval. What begins as faster fixes evolves into a quality-assurance, product-feedback backbone that anticipates problems before they surface, strengthening the entire customer experience.

This progression—from quick fixes to prevention to systemic reliability—shows the promise of agentic AI. Achieving it requires rethinking how organizations are structured and led so that agents can be orchestrated around outcomes, not just tasks. We've found that there are three essential imperatives.

1. Design around outcomes and appoint accountable mission owners.

The organizational structure of most enterprises still is based on internal functional structures, not customer needs. Marketing answers to brand. Data answers to IT. Billing answers to finance. But customers don't experience companies this way. For customers, the best outcome isn't faster fixes; it's fewer problems. They expect companies to anticipate issues, resolve them at the root, and continuously innovate so the experience works seamlessly (or even delightfully) across functions. This requires a new kind of thinking. To design around outcomes with agentic AI, every major journey needs a *mission owner*: someone who defines the mission, steers both humans and AI agents, and owns the outcome. Sometimes it's a product manager or *journey*

owner responsible for overseeing and optimizing the complete customer (or user) experience; other times, it requires naming someone with cross-functional authority and visibility.

At Ema, there is no recruiter in the traditional sense. Instead, a mission owner for productive hires is accountable for the full journey—sourcing, IT setup, compliance, training, team introductions, and early performance reviews—until a new hire is fully contributing. AI agents handle and escalate tasks along the way, while success is measured by a crisp KPI: "time to first commit," or how quickly engineers deliver real code.

At NTT DATA, a global IT and business services company that is part of the NTT Group and is a customer of Ema, Edoardo Tealdi, vice president of AI transformation, received a clear mandate from leadership to explore how generative AI and agentic AI could grow North American business. Instead of pursuing obvious applications like chatbots, his team and he chose as their mission applying agentic AI to the process for responding to requests for proposal (RFPs). A manual, repetitive, and time-intensive process, responding to RFPs is one of the most critical steps in the sales journey to convert qualified leads into customers. The team estimated that 70% of the time and cost could be eliminated by AI agents gathering information from various repositories within the company and the internet. Once the agentic AI system was deployed, a task that previously took weeks and required 20 people was replaced with AI agents that drafted complex 300-plus-page proposals in minutes. The human team refined sections collaboratively, but the AI agents handled the laborious tasks. Aligned around these outcomes, the combined AI and human agent effort at NTT DATA improved efficiency more than three-fold.

2. Unlock data silos and clarify the business logic.

Many companies assume that AI requires pristine, centralized data. It doesn't. AI agents can operate across existing—often siloed—systems without needing a single source of truth. That is, using AI agents obviates the need for organizations to do the difficult work of centralizing, standardizing, and consolidating multiple systems into a single reference data set.

For multi-agent applications to work reliably and at scale, organizations must still invest in making data interoperable at the semantic (i.e., meaning and context) and operational levels (i.e., the ability of diverse systems, applications, and devices to seamlessly and securely access, exchange, and use data to support day-to-day business processes). But unified common data dictionaries (a centralized, standardized repository of metadata that defines data elements, their meaning, relationships, and usage across different systems or an entire organization) and common data models are not required. Freed from these constraints, agentic AI offers new hope for leaders of organizations trapped in stifling legacy structures and organizational silos.

AI agents can manage data silos provided they are armed with a clearly defined shared business logic and the right contextual data through application programming interfaces (APIs) and metadata. As a result of having those things, Hitachi's intent classifier agent knows precisely where to route each kind of query, and the IT help desk agent knows which IT service-management-software API to call. In short, to implement agentic AI, businesses need to codify how work is performed: how decisions are made, what good looks like, and how customers and employees move through core journeys. Once defined, agentic AI can take established workflows and adapt for variations. The more complex the workflows, the greater its value.

Take Bigblue, a fast-growing European logistics company that handles millions of shipments for its direct-to-consumer e-commerce customers. The order-fulfillment platform uses agentic AI to deliver a differentiated customer outcome: responsive and accurate resolution of complex shipping issues. To deploy agentic AI, Bigblue, a client of Ema, began with a deceptively simple starting point: *"Where is my order?,"* the process of finding an item that could be delayed at a warehouse, in transit, or missing. AI agents were trained to check relevant systems, engage the right internal or external stakeholders, keep customers updated (with empathy), and resolve issues autonomously whether by reordering items, giving the customer a refund or credit, or escalating the issue to the third-party carrier in question.

Diving deeply into one narrow use case at the outset offered powerful lessons that informed the rest of the AI rollout for which Bigblue mapped workflows for the logistics of its more than 50 third-party carriers, more than 500 e-commerce and retail brands, and numerous warehouses. By defining customer journeys across these stakeholders, it translated the complex logistics of fulfillment, multi-carrier shipping, and issue resolution into a structured set of natural language instructions and actions that AI agents could execute autonomously. Drawing on data from support tickets, standard operating procedures, APIs, and internal systems, these agents handle 70% of eligible tickets without human intervention at lower cost, speedier resolution, and higher customer satisfaction.

Mapping workflows for agentic AI deployment often reveals weaknesses in existing data and knowledge management. For example, key data is outdated or missing because the necessary knowledge and valuable meta-level information resides only in the minds of specific individuals and not in universally accessible repositories. A disciplined approach to make data accurate and to create an up-to-date knowledge foundation serves not only to improve the performance of agentic AI; it also strengthens information reliability across the entire organization.

3. Develop the leaders and guardrails that intelligent systems require.

These structural shifts won't succeed without leaders who can effectively action a strong change-management strategy and steward the agentic AI transformation purposefully.

To start, organizations need agentic AI literacy at every level so employees understand their digital teammates, how they reason, and when supervision is required. Just as importantly, leaders need to address fears and misconceptions.

Hitachi Digital's chief human resources officer, Amee Desjourdy, started her function's journey by sharing demos of agentic AI with her teams, differentiating it from chatbots, and helping to demystify the technology. She involved employees in the development and adoption process from the outset. She sought ideas from her 300-person HR team on potential agentic AI use cases and received over 100 suggestions. Later, employees were a part of the evaluation process for vendor selection as well.

Throughout the deployment, managers emphasized that agentic AI would allow HR employees to shift from routine tasks to more sophisticated meaningful work, engage in broader generalist roles, and improve overall accuracy and performance. Their goals were to help employees see digital agents as teammates and prepare the institution to scale with purpose—to achieve sustainable, intentional business growth by anchoring all expansion decisions in the company's core mission and values.

To build trust and to steward responsibly, governance must also be built into the design of these systems, with the right sets of guardrails. Before leading agentic AI deployments, NTT DATA's Tealdi helped establish the company's generative AI governance system. He has applied the same lessons to agentic AI: create clear process flows for automation and analytics; work with IT, legal, and security teams to define approval criteria; embed policy constraints into agent behavior; establish clear escalation paths that outline how problems are elevated through the organizations hierarchy; and perform real-time monitoring with auditable logic and traceable logs to track agent performance.

Finally, these structural shifts won't succeed unless leaders grow comfortable delegating to systems they cannot fully script. For them to feel this way, they have to feel assured that every agentic workflow encodes leadership values—what outcomes it prioritizes, how it handles exceptions, and whose needs it serves.

Stewardship of agentic AI at scale requires this distribution of responsibility: system stewards with clear controls, IT professionals who manage security and data handling, and frontline teams empowered to intervene when outcomes diverge from intent. Done well, this balance of autonomy and oversight makes stewardship an enabler of scale, not a brake on progress.

Getting Started

For those intrigued by agentic AI but uncertain where to start, we suggest beginning with a high-friction customer journey where outcomes matter but handoffs slow things down. Reframe it as a mission. Assign a mission owner with authority to align teams, access cross-functional data, and deploy agents. Define the desired outcomes for the human-agent system, map workflows, and clarify business logic at every step. The data need not be perfect but should be accessible and timely enough for AI agents to act. Apply strong governance principles and monitor in real time.

The stakes are high. The organizations that take these first missions seriously and successfully restructure around outcomes won't just unlock better customer experiences, faster cycle times, and new forms of value; they will write the playbook for the operating model of the future.