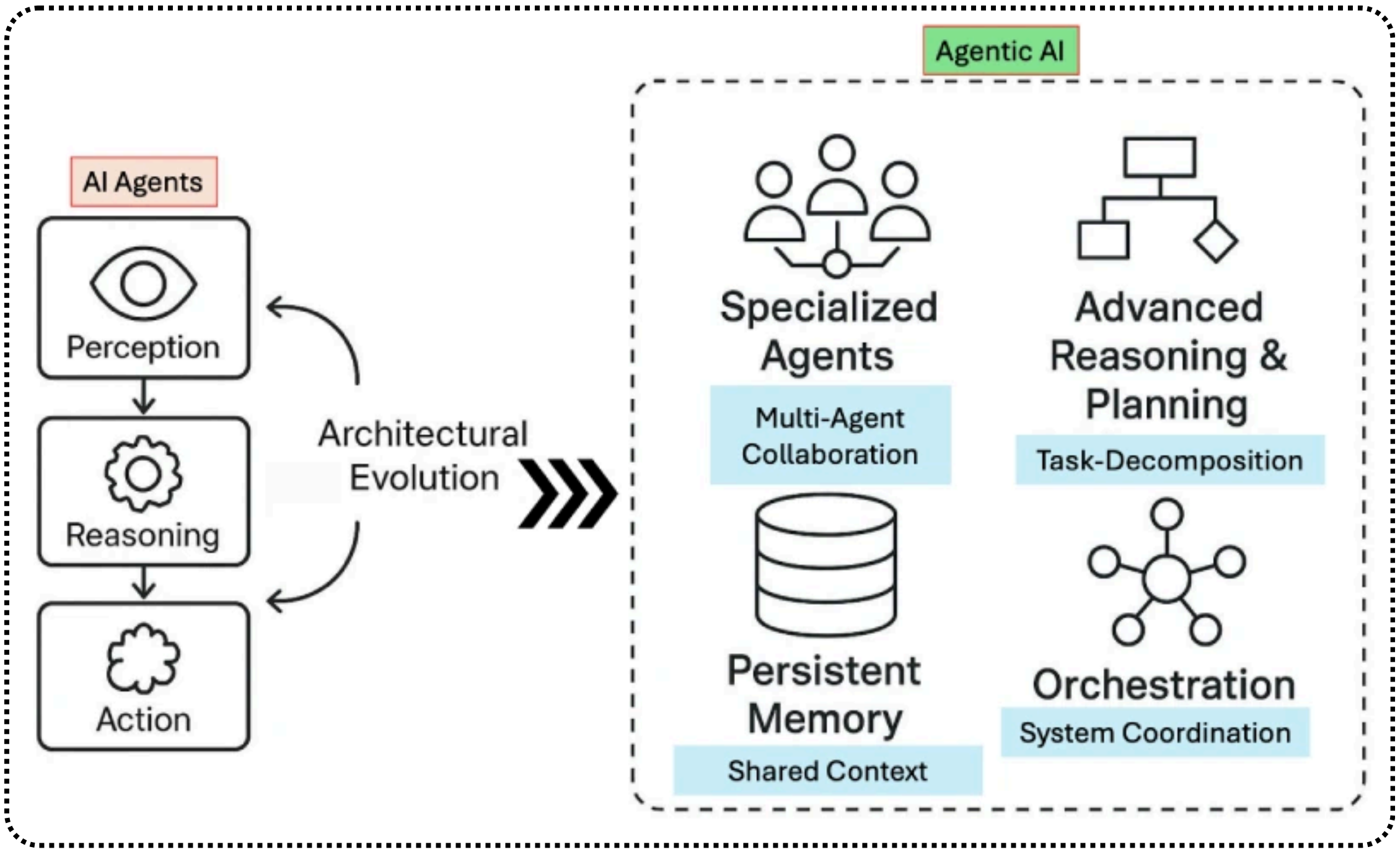
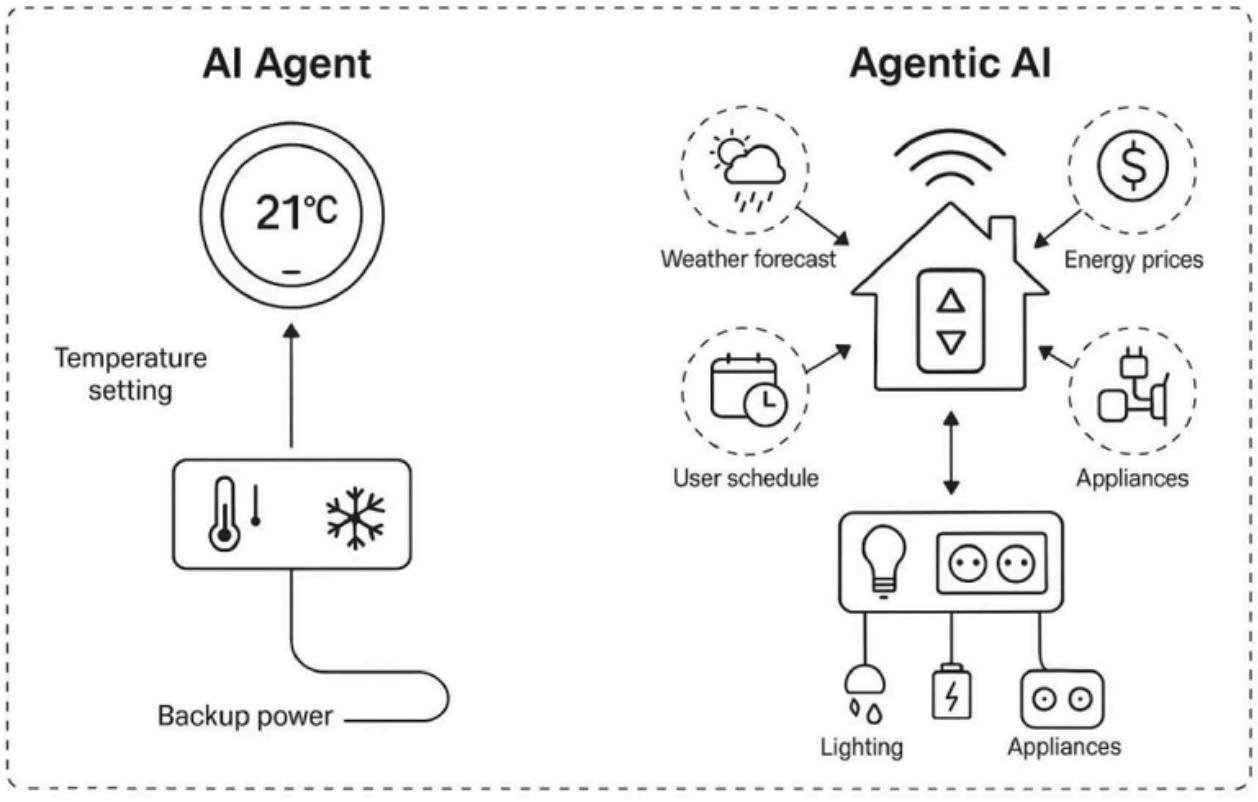
Analytics Vidhya

What is the Difference Between AI Agents and Agentic AI?



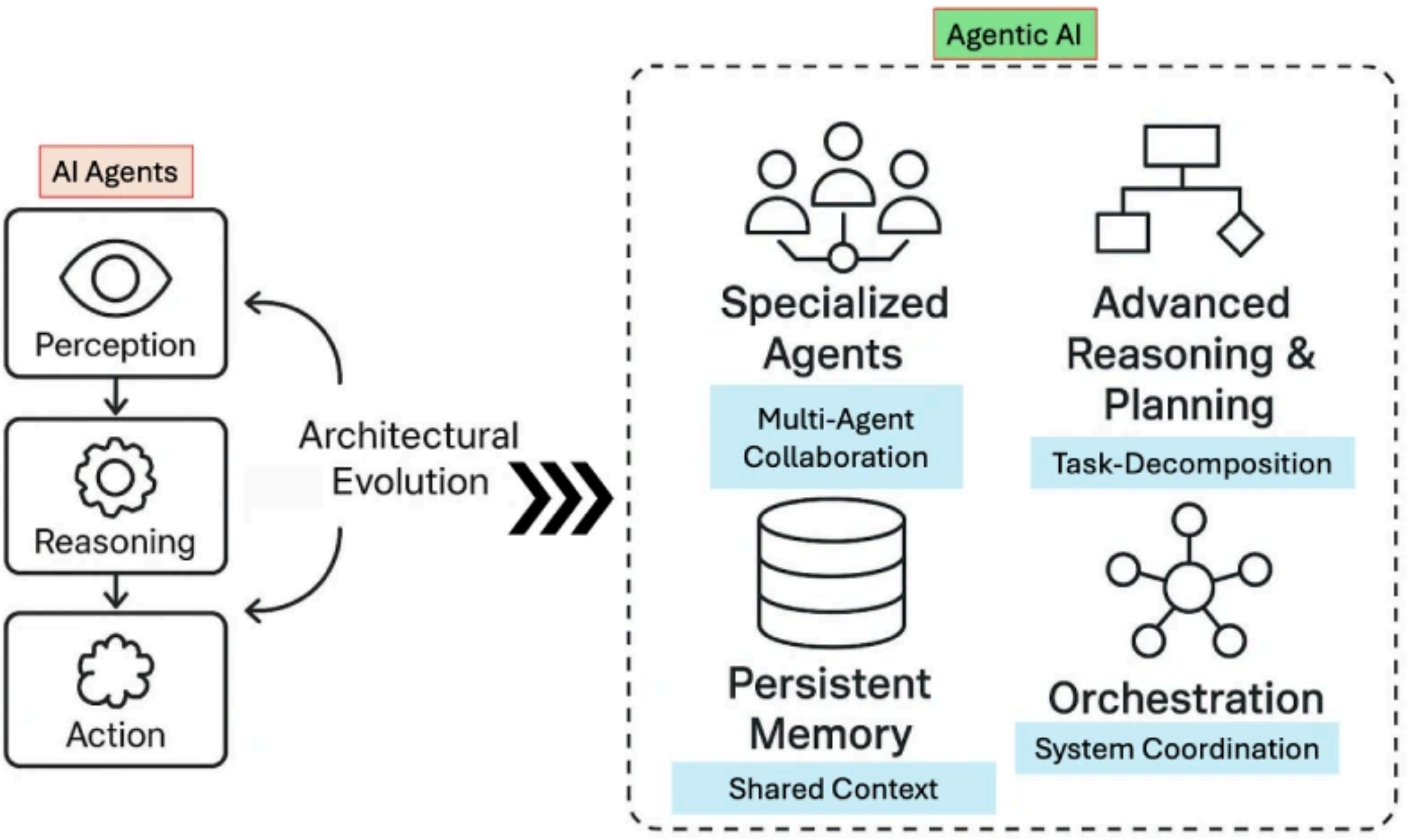


Conceptual Dimension	AI Agent	Agentic AI
Initiation Type	Prompt or goal-triggered with tool use	Goal-initiated or orchestrated task
Goal Flexibility	(Low) executes specific goal	(High) decomposes and adapts goals
Temporal Continuity	Short-term continuity within task	Persistent across workflow stages
Learning/Adaptation	(Might in future) Tool selection strategies may evolve	(Yes) Learns from outcomes
Memory Use	Optional memory or tool cache	Shared episodic/task memory
Coordination Strategy	Isolated task execution	Hierarchical or decentralized coordination
System Role	Tool-using task executor	Collaborative workflow orchestrator

Why Move from Agents to Agentic AI?

AI Agents work well but have their limitations. They're fine for answering customer questions or doing routine tasks, but they're not useful when the situation gets complicated. They can't multitask or accommodate shifting conditions.
This is where Agentic AI comes in.

With several specialized agents acting together, Agentic AI can handle intricate workflows. These agents talk to each other, divide tasks, and make decisions together. And with persistent memory, they can learn and make better decisions over time. Coordination between agents makes things go smoothly, even when they encounter surprise obstacles.



AI Agent vs Agentic AI

Now, let’s dive into the specifics of how these two terms differ across various factors like function, architecture, and coordination. We’ll also look at their respective strengths and challenges. Here’s a breakdown:

- **Scope and Complexity**: AI Agents are great for specific, defined tasks, but Agentic AI handles more complex, multi-faceted goals.

- **Core Purpose**: AI Agents have a single task to perform, whereas Agentic AI streamlines complicated processes with several agents cooperating.

- **Components of Architecture**: AI Agents are founded on LLMs, whereas Agentic AI has several LLMs and typically incorporates different systems. It also entails several agents cooperating with each other, whereas AI Agents usually operate independently.

- **Operational Process**: AI Agents operate by invoking tools for task execution, whereas Agentic AI uses inter-agent interaction and coordination over multiple steps.

Taxonomy Summary of AI Agent Paradigms

Conceptual Dimension	AI Agent	Agentic AI
Initiation Type	Prompt or goal-triggered with tool use	Goal-initiated or orchestrated task
Goal Flexibility	(Low) executes specific goal	(High) decomposes and adapts goals
Temporal Continuity	Short-term continuity within task	Persistent across workflow stages
Learning/Adaptation	(Might in future) Tool selection strategies may evolve	(Yes) Learns from outcomes
Memory Use	Optional memory or tool cache	Shared episodic/task memory
Coordination Strategy	Isolated task execution	Hierarchical or decentralized coordination
System Role	Tool-using task executor	Collaborative workflow orchestrator

Core Function and Goal

Feature	AI Agent	Agentic AI
Primary Goal	Execute a specific task using external tools	Automate complex workflow or achieve high-level goals
Core Function	Task execution with external interaction	Workflow orchestration and goal achievement

Architectural Components

Component	AI Agent	Agentic AI
Core Engine	LLM	Multiple LLMs (potentially diverse)
Prompts	Yes (task guidance)	Yes (system goal and agent tasks)
Tools/APIs	Yes (essential)	Yes (available to constituent agents)
Multiple Agents	No	Yes (essential; collaborative)
Orchestration	No	Yes (implicit or explicit)

Operational Mechanism

Mechanism	AI Agent	Agentic AI
Primary Driver	Tool calling for task execution	Inter-agent communication and collaboration
Interaction Mode	User → Agent → Tool	User → System → Agents
Workflow Handling	Single task execution	Multi-step workflow coordination
Information Flow	Input → Tool → Output	Input → Agent1 → Agent2 → … → Output

Scope and Complexity

Aspect	AI Agent	Agentic AI
Task Scope	Single, specific, defined task	Complex, multi-faceted goal or workflow
Complexity	Medium (integrates tools)	High (multi-agent coordination)
Example (Video)	Tavily Search Agent	YouTube-to-Blog Conversion System

Interaction and Autonomy

Feature	AI Agent	Agentic AI
Autonomy Level	Medium (uses tools autonomously)	High (manages entire process)
External Interaction	Via specific tools or APIs	Through multiple agents/tools
Internal Interaction	N/A	High (inter-agent)
Decision Making	Tool usage decisions	Goal decomposition and assignment

For more information, kindly visit this article