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ASMM-AI: A Maturity Model Of The Agentic Organization Based On ASM – Agentic System Management

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Abstract:
The emergence of agentic artificial intelligence is reshaping organizations not simply by adding new tools, but by transforming how work, decision-making, accountability and value creation are organized. Existing maturity models still describe organizational evolution mainly in terms of digitalization, AI adoption or readiness, and therefore remain insufficient for capturing the specific problem of governing artificial agency. This paper proposes an agentic organization maturity model grounded in ASM – Agentic System Management, developed by Oliviero Casale, Paola Rinaldi and Ivano Corradetti. The model conceptualizes maturity as a progressive organizational trajectory moving from exploratory use of agentic AI to a fully adaptive and value-oriented agentic organization, in which agents, people, data, platforms and governance mechanisms operate as interdependent parts of one organizational system. The paper is theoretical and synthesis-based. It integrates ASM with recent standards, governance frameworks, transformation reports and architecture guidance in order to define five maturity levels and five cross-cutting domains. Its main contribution lies in formalizing agentic maturity as an organizational construct, rather than as a simple measure of technology deployment.

Keywords: *agentic AI; agentic organization; maturity model; ASM; co-agency; governance; AI-first workflows*

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I. Introduction

Artificial intelligence can no longer be understood only as an extension of automation or as a set of digital tools supporting existing activities. The emergence of agentic systems—capable of perceiving contexts, formulating inferences, selecting tools, coordinating sequences of action and interacting with organizational environments—marks a deeper transformation that affects the structure of socio-technical systems themselves. In such a context, AI progressively ceases to be external to processes and becomes a distributed cognitive component embedded in workflows, operational routines and decision architectures.

This shift is increasingly recognized across the international literature. McKinsey describes the rise of the "agentic organization" as the next organizational paradigm of the AI era, in which humans and AI agents work together across increasingly complex workflows, from augmentation to end-to-end automation and AI-first systems. The World Economic Forum similarly argues that AI is moving from a support function to a core element of operating models, customer experience, resilient operations, R&D and workforce planning. Deloitte, EY and Accenture converge on the same diagnosis: the challenge is no longer whether organizations will adopt agentic AI, but whether they will redesign themselves quickly enough to capture its value at scale. (McKinsey, 2025a; World Economic Forum, 2026a; Deloitte South Asia, 2026; EY, 2025; Accenture, 2026a).

Within this broader debate, ASM – Agentic System Management provides a distinctive starting point because it interprets artificial intelligence not as a technological problem to be solved after deployment, but as an organizational governance problem from the outset. In ASM, artificial agency is meaningful only when embedded within explicit roles, limits, validation chains, portfolio logic, telemetry, supervision and improvement mechanisms. This means that the crucial issue is not the presence of agents as such, but the organizational capacity to govern autonomy, accountability, knowledge quality and value generation over time (Casale, Rinaldi, & Corradetti, 2026).

The present paper builds on this perspective and addresses a question that remains insufficiently explored: how can the maturity of an organization in governing agentic AI be described? Existing maturity frameworks focus on adoption, readiness, platform evolution, governance controls or compliance, but they rarely provide a unified view of how an organization progressively becomes agentic. This article therefore

proposes a maturity model of the agentic organization grounded in ASM and enriched through a synthesis of standards, governance frameworks, transformation reports and architecture guidance.

II. Conceptual And Normative Foundations

The theoretical foundation of the model lies in the distinction between the maturity of a specific AI system and the maturity of the organization that governs artificial agency. ASM is explicit on this point. It treats agency as instrumental autonomy rather than as a human-like form of intentionality, and defines co-agency as a designed organizational outcome rather than a spontaneous consequence of technology adoption. In this perspective, agentic AI becomes governable only when the organization builds the conditions under which autonomy can remain proportionate, observable, traceable and aligned with human responsibility.

This perspective is consistent with a wider body of management system standards and governance frameworks. ISO 56000 and ISO 56001 frame innovation as a value-oriented organizational capability and make clear that maturity should be understood as the organization's ability to develop, maintain and improve systems in relation to its objectives and interested parties. ISO/IEC 42001 introduces a management system perspective for AI, emphasizing context, leadership, planning, risk and impact assessment, operation, performance evaluation and continual improvement. ISO/IEC 42005 extends this logic by structuring AI system impact assessment as an integrated and documented process, while ISO/IEC 42006 clarifies the requirements for audit and certification bodies, reinforcing the idea that AI governance must be demonstrable, auditable and organizationally embedded. ISO/IEC 22989 provides the shared terminology of the AI ecosystem, while ISO/IEC TR 24368 and ISO/IEC TR 20226 extend the picture toward ethical, societal and environmental concerns. ISO/IEC 27001, and in some sectors ISO/IEC 27019, remind us that information security, access control, auditability, continuity and resilience remain central when agents begin to interact autonomously with workflows, data and systems. Annex SL, finally, offers the harmonized structure that makes these management-system perspectives compatible and integrable.

Read together, these documents suggest that the governance of artificial agency cannot be reduced to model performance or technical readiness. It is an organizational condition involving context, leadership, architecture, controls, risk, data quality, documentation, culture and continuous improvement. ASM can therefore be understood not as an isolated conceptual proposal, but as a governance architecture capable of dialoguing with a much broader ecosystem of standards and regulatory references.

III. Existing Models And Frameworks

The current landscape already contains a rich but fragmented set of models and frameworks concerned with agentic AI. A first family of contributions focuses on organizational transformation. The World Economic Forum's white paper on Organizational Transformation in the Age of AI describes AI as a driver of redesign across customer experience, resilient operations, accelerated R&D, strategic planning and workforce planning, and argues that new operating models, leadership roles and orchestration capabilities are essential to adoption at scale. McKinsey similarly describes the "agentic organization" as a new operating paradigm built around AI-first workflows, end-to-end outcomes, and a reconfiguration of human roles toward oversight, orchestration and judgment. Deloitte South Asia's R.E.A.D.Y. framework reinforces this view by linking agentic AI to the redesign of work, workforce, leadership and learning systems (World Economic Forum, 2026a; McKinsey, 2025a; Deloitte South Asia, 2026).

A second family of models addresses the technical and architectural foundations of agentic adoption. Deloitte's work on API maturity argues that an agentic AI enterprise requires a layered architecture, enterprise data models, event-driven integration, observability and robust governance as the basic conditions for scaling autonomous agents. McKinsey's work on building the foundations for agentic AI at scale similarly stresses that high-impact workflows can only be "agentified" when supported by strong data foundations, data quality, data architecture and evolved operating models. These contributions are crucial because they show that organizational maturity cannot be separated from architectural maturity; yet they remain focused primarily on readiness conditions rather than on maturity as an organizational trajectory (Deloitte, 2026; McKinsey, 2026a).

A third family of frameworks concentrates on governance and readiness. The World Economic Forum's readiness framework for government proposes a function-based assessment of where agentic AI can create the greatest value in relation to complexity and institutional conditions. AIGN operationalizes trust for autonomous, self-improving and multi-agent systems through a governance architecture that emphasizes risk, compliance, impact mapping and stakeholder integration. The Singapore Model AI Governance Framework, although developed before the current wave of agentic systems, remains relevant for its treatment of internal governance structures, levels of human involvement, operations management and stakeholder communication. Finally, recent work on governance maturity for agent sprawl provides a valuable warning: without robust governance, redundant, conflicting or uncontrolled agents can proliferate across the enterprise, creating cost, risk and opacity (World Economic Forum, 2026b; AIGN, 2025; IMDA & PDPC, 2020; Acharya, 2026).

The problem is not the absence of frameworks but their fragmentation. Some describe transformation, some readiness, some trust and governance, some technical foundations, and some enterprise adoption dynamics. What is still missing is a maturity model that describes how an organization progressively becomes agentic by integrating strategy, architecture, governance, operations and culture around the governance of artificial agency. It is precisely this gap that the present model seeks to address.

IV. Methodological Approach

This paper adopts a conceptual and synthesis-based methodology. It does not attempt empirical validation through interviews, surveys or case studies. Instead, it develops a theory-informed organizational maturity model by reading ASM together with an extended documentary corpus that includes standards, governance frameworks, transformation reports, readiness frameworks and architecture guidance.

The methodological choice is deliberate. The aim is not to infer maturity statistically from current deployments, but to formalize a coherent conceptual model capable of supporting later empirical work. The framework is therefore derived through three steps. First, the core principles of ASM are taken as the primary theoretical base: responsibility, traceability, quality of information, proportionality of autonomy, epistemic coherence, adaptive capability and value orientation. Second, these principles are confronted with the broader literature on organizational transformation, governance, readiness and architecture. Third, the recurrent dimensions emerging across the corpus are translated into maturity domains and into a progressive trajectory describing how organizations evolve from exploratory use of agentic AI to an adaptive and value-oriented agentic organization.

V. The Agentic Organization Maturity Model

The proposed model describes agentic maturity as a five-level progression through which an organization moves from exploratory use of agentic AI to a fully adaptive configuration in which agents, people, data, platforms and governance mechanisms operate as interdependent parts of one value-oriented system. The model does not measure the amount of AI deployed. Rather, it measures the degree to which the organization as a whole has been transformed around the governance of artificial agency. Figure 1 illustrates this progression, structured along two increasing axes: agentic autonomy and organizational complexity.

The first axis captures the degree of autonomy granted to agents in executing activities, managing workflows, interacting with systems and initiating actions within defined boundaries. The second captures the organizational complexity that necessarily rises with such autonomy: more rules, more roles, more escalation mechanisms, more data dependencies, more observability, more coordination between human and artificial actors. This relationship is consistent with the proposition, increasingly visible in the literature, that AI systems create real value only when they are deeply integrated into workflows and operating models and when openness, transparency, control and modular infrastructure make that integration governable (McKinsey, 2025b; World Economic Forum, 2026a).

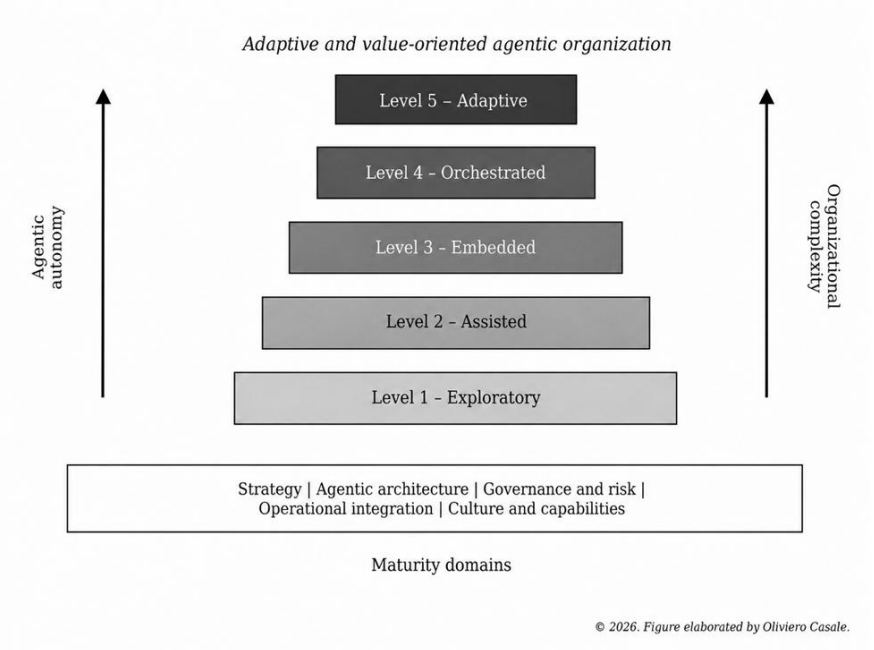

Figure 1. Agentic organization maturity model

Figure 1. The agentic organization maturity model. Maturity is represented as a progression across two increasing axes—agentic autonomy and organizational complexity—and articulated into five levels: Exploratory, Assisted, Embedded, Orchestrated and Adaptive. The model is assessed across five cross-cutting domains: strategy, agentic architecture, governance and risk, operational integration, and culture and capabilities.

VI. Levels Of Maturity

Level 1 – Exploratory. At the exploratory level, organizations are observing, discussing or experimenting with agentic AI through limited, often uncoordinated initiatives that are not yet connected to an explicit enterprise strategy. Adoption may be driven by curiosity, competitive pressure or fear of missing out, but it does not yet transform processes. In this phase, AI remains external to the organization's ordinary functioning. Experiments may involve chatbots, copilots, generative tools, prototypes or demonstration agents, but they lack clear case selection criteria, ownership, value metrics, dedicated governance and operational integration. The organization is testing agentic AI, but it has not yet built the conditions to learn from those tests systematically. This level is fully consistent with the widespread finding that many enterprises remain in pilot or experimentation mode even when AI use is already broad (McKinsey, 2025c; OECD/BCG/INSEAD, 2025).

Level 2 – Assisted. The assisted level describes organizations in which AI begins to support individual or functional activities. Tools are used to enhance productivity, generate content, synthesize information, assist decisions or automate micro-tasks. However, workflows remain fundamentally unchanged: AI is layered onto existing work rather than redesigning it. At this level, the organization is AI-assisted but not yet agentic. Value is often local, distributed and difficult to measure systemically. AI acts as support, not as a structural component of operating processes. This distinction matters because recent contributions repeatedly show that the real jump in value does not come from adding AI to existing work, but from redesigning work around the capacity of agents to act, coordinate and contribute to complex workflows (McKinsey, 2025b; World Economic Forum, 2026a; Microsoft, 2025).

Level 3 – Embedded. The embedded level marks the transition from assistance to incorporation. Agents are no longer merely lateral tools used by individuals or isolated functions, but begin to enter specific organizational processes. The organization identifies workflows where agentic autonomy can generate measurable operational value—such as customer service, compliance, IT operations, supply chain, marketing, document management or decision support. Yet integration remains partial. Agents typically operate in circumscribed domains, often with data, rules and architectures that are not yet fully interoperable. The main risk at this stage is fragmentation: many local successes may exist, but they are not yet connected to a coherent enterprise operating model. Embedded maturity therefore requires a first architectural leap: more reliable data, controlled access, stable APIs, better observability, stronger information quality and the ability to incorporate agent outputs into operational processes with traceability and accountability (Deloitte, 2026; McKinsey, 2026a; EY, 2025).

Level 4 – Orchestrated. The orchestrated level describes organizations in which agents are not only embedded in discrete processes, but coordinated across end-to-end workflows. Orchestration becomes the key word. The organization develops the capacity to connect people, agents, data, systems, platforms and controls within one coherent logic, preventing adoption from resulting in disorder, duplication or loss of control. At this level, multi-agent systems, specialized agents, escalation mechanisms, automated controls, audit trails, observability, identity management, access policies and distributed governance begin to appear. Agents may collaborate with one another, invoke tools, consult data, update systems and propose or trigger actions, but always within explicit and verifiable boundaries. The organization starts functioning as a network of agentic workflows supervised by humans, with defined responsibilities and embedded controls. This shift is crucial because autonomy, if not coordinated, can create systemic risks such as agent sprawl, shadow agents, uncontrolled permissions and degraded observability (AIGN, 2025; Acharya, 2026).

Level 5 – Adaptive. The adaptive level represents full maturity. The organization becomes capable of learning, reconfiguring and creating value through a continuous system of interaction between people and agents. At this point, agentic AI is neither a set of tools nor a collection of use cases, but a constitutive component of the operating model. The adaptive organization is characterized by AI-first workflows, human-agent teams, real-time governance, continuous monitoring, learning culture, the ability to update rules and processes through feedback, and an explicit orientation toward outcomes. Humans do not disappear from the decision process; instead, they increasingly take on roles of direction, supervision, judgment, responsibility and exception handling. Agents execute, coordinate, monitor and learn within defined limits, contributing to the organization's ability to respond quickly to dynamic contexts. At this level, autonomy and control are not opposites but co-designed conditions. The organization is agentic because it can delegate increasing portions of activity to agents; it is adaptive because it can continuously reshape processes, controls and capabilities; and it is value-oriented because every agentic choice is assessed in relation to operational, economic, strategic and

organizational outcomes. In this sense, the model approaches the idea of antifragility: not merely resisting disturbance, but using deviations and feedback as drivers of improvement (Casale et al., 2024; World Economic Forum, 2025).

VII. Maturity Domains

The progression across the five levels is assessed through five cross-cutting domains. Strategy concerns the degree to which agentic AI is linked to the organization's strategic direction. At lower levels, experimentation is driven by curiosity, imitation or isolated opportunity. At higher levels, agentic AI is explicitly tied to value priorities, competitive advantage, productivity, resilience and innovation. Agentic architecture concerns the maturity of the technical and data infrastructure: models, agents, APIs, orchestration systems, identity and permissions, telemetry, knowledge structures, interoperability and modular design. Governance and risk concerns the ability to control agentic autonomy through policy, accountability, escalation, auditability, access control, monitoring, incident handling and decision traceability. Operational integration refers to the degree to which agentic AI is actually embedded in real processes. At lower levels adoption is decoupled from ordinary work; at higher levels it reshapes end-to-end processes, roles and coordination modes. Culture and capabilities concerns skills, mindsets, trust and the organizational ability to work with agents. A mature agentic organization requires that people are not merely users of AI tools but supervisors, orchestrators, workflow designers, interpreters of outputs and owners of decision quality.

VIII. Discussion

The model proposed here can be read as a trajectory from episodic adoption to systemic organizational capability. At the exploratory level, the organization experiments without transforming itself. At the assisted level, AI augments human work without changing the deep structure of processes. At the embedded level, agents begin to enter selected workflows. At the orchestrated level, people, agents and systems are coordinated across governed end-to-end processes. At the adaptive level, the organization becomes a mature agentic system capable of learning, reconfiguring and generating value through stable collaboration between human and artificial intelligence.

This trajectory allows several strands of the current literature to be recomposed. Transformation frameworks emphasize operating-model redesign; readiness frameworks emphasize sequencing and prioritization; architecture frameworks emphasize the preconditions of scale; governance frameworks emphasize trust, control and accountability. The proposed maturity model integrates all these elements, but does so from the perspective opened by ASM, where agentic portfolios, process governance, information quality, proportional autonomy, improvement and value orientation remain central. This is what distinguishes the present model from a simple technology adoption scale or a pure governance maturity framework.

The model also clarifies that agentic maturity is not a simple automation scale. The real endpoint is not a machine replacing the human organization, but an organization capable of combining computational autonomy, human judgment, institutional control and value orientation. The more autonomy grows, the more architecture, governance, culture and operational integration must mature in response. Maturity therefore belongs to the organization, not to the agent alone.

IX. Conclusion

This paper has proposed a maturity model of the agentic organization grounded in ASM – Agentic System Management. Its central claim is that organizations do not become agentic merely by deploying AI agents, copilots or chatbots, but by progressively redesigning strategy, architecture, workflows, data, roles and governance around the collaboration between human and artificial agents.

The value of the model lies in making visible the trajectory through which this transformation occurs. By distinguishing five levels—Exploratory, Assisted, Embedded, Orchestrated and Adaptive—and by assessing them across five domains—strategy, agentic architecture, governance and risk, operational integration, culture and capabilities—the model offers a way to describe organizational maturity not as technological accumulation but as the capacity to govern artificial agency coherently over time.

In a context where AI is widespread but often still weakly integrated into operating models, the ability to govern artificial agency becomes one of the decisive questions of organizational design. The maturity model proposed here does not replace ASM; it extends it by making its organizational implications progressively observable. In this sense, the future of the agentic organization does not depend simply on more capable agents, but on whether organizations can redesign themselves around autonomy, accountability, information quality and value.

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