The Agentic Supply Chain Operating Model

Transform Multienterprise Supply Network Performance and Productivity



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Executive Summary

Every generation of supply chain transformation has been defined by a new way of performing work. Enterprise systems standardized business operations. Cloud technologies extended collaboration beyond the enterprise. Automation improved operational efficiency. Artificial intelligence enhanced analysis and decision support. Each advancement expanded the benefits of digitalization, yet the underlying operating model of the supply chain remained largely unchanged.

Despite decades of technology investment, operational work across the multienterprise supply network remains largely people-driven. Teams still monitor operations, investigate exceptions, gather information from disconnected sources, and coordinate work across enterprise systems, trading partners, and end-to-end business processes. As supply chains become more interconnected, dynamic, and unpredictable, this operating model has become increasingly difficult to scale.

The next era of supply chain transformation will not be defined by deploying artificial intelligence with isolated optimizations. It will be defined by fundamentally redesigning processes that enable agents to perform work across the multienterprise supply network.

The Agentic Supply Chain Operating Model is composed of an integrated set of Agentic Business Processes in which people and governed OPUS Agents work together to manage, coordinate, and continuously improve end-to-end supply chain business processes. Business transactions become the catalyst for intelligent work. Governed OPUS Agents continuously perform operational work within defined intent, objectives, tasks, decisions, and rules, while people provide judgment, governance, oversight, and continuous refinement. Together, they create an operating model capable of coordinating work across enterprise systems, trading partners, and the multienterprise supply network with greater speed, consistency, and scale than traditional approaches. This work follows a continuous agentic loop—Observe, Reason, Act, and Collaborate—through which humans and governed OPUS Agents respond to changing conditions, perform work, and improve outcomes over time.

Transforming the way we work fundamentally changes the economics of supply chain operations. Productivity increases, operating capacity becomes more elastic, customer service becomes more responsive, revenue opportunities are captured more quickly, supply continuity is strengthened, and operational learning becomes continuous rather than episodic. These outcomes are not the result of isolated technology initiatives—they are characteristics of the operating model itself.

This paper establishes the business case for the Agentic Supply Chain Operating Model and outlines the business and operational framework for the next major industrial revolution. Organizations that lead the next decade will be the first to leverage the financial advantages reaped from the transformation.



CONTINUE THE SERIES

Read **The Agentic Supply Chain Operating System** to explore the technology foundation that enables the Agentic Supply Chain Operating Model.

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FIGURE 1
The Evolution of Supply Chain Transformation



2020

AGENTIC AI
Agents Perform Work with Knowledge and Intelligence

Humans and governed AI agents collaborating in real-time to perform work across the intelligent network



2010

RPA
Robotic Process Automation

Automate repetitive tasks



2000

CLOUD PLATFORMS

Scalable digital infrastructure



1990

INTERNET TECHNOLOGIES

Connectivity expands across enterprises



1980

ENTERPRISE SYSTEMS

Foundation of structured data and processes

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The Five Foundations of the Agentic Supply Chain Operating Model

Five foundational capabilities transform the Agentic Supply Chain Operating Model across the multienterprise supply network. Rather than representing independent initiatives, these capabilities establish a single operating model that combines people, governed OPUS Agents, business transactions, enterprise systems, and trading partners into a continuously improving system of work. Together, these five foundations establish a new operating model for performing work across the multienterprise supply network.

FIGURE 2

Agentic Supply Chain Operating Model

People and governed OPUS Agents continuously perform work together across the multienterprise supply network.

01

Transform Financial Value

Productivity, cost, service, revenue, and continuity.

02

Agentic Business Processes

Coordinate people, agents, systems, and transactions.

03

Humans and Governed OPUS Agents

Governed intelligence paired with human judgment.

04

Digitalized Supply Networks

The shared operational foundation for coordinated execution.

05

Continuous Improvement

Operational knowledge compounds with every cycle.

FIVE FOUNDATIONS - ONE OPERATING MODEL

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01 Financial Value of the Agentic Supply Chain Operating Model Transformation

For decades, organizations have invested in technologies that improve the efficiency of existing work. The Agentic Supply Chain Operating Model changes the economics of supply chain operations by transforming the way we work. Rather than relying primarily on people to coordinate business transactions across enterprise systems, trading partners, and business processes, organizations establish an always-on, elastic workforce in which governed OPUS Agents continuously perform operational work alongside people. The agentic workforce expands and contracts with business demand, enabling organizations to scale operational capacity without proportional workforce growth. The result is not incremental improvement—it is a fundamentally different operating model for creating enterprise value.

Governed OPUS Agents continuously perform the operational, analytical, and repetitive work associated with business transactions, allowing organizations to process significantly greater operational volume while enabling people to focus on judgment, relationships, exception management, and strategic decision-making. Because this digital workforce scales with changing transaction volumes, organizations gain the flexibility to respond to seasonal demand, supply disruptions, new product introductions, and market volatility without proportional workforce growth, creating a more elastic and cost-effective operating model.

An agentic workforce can be reliably specialized, enabling organizations to optimize customer experiences and generate more business value. Specialized Agentic Business Processes can be configured for specific customers, products, geographies, partners, and service requirements, allowing operational execution to adapt without increasing organizational complexity. At the same time, governed OPUS Agents continuously identify changing business conditions, coordinate responses across the multienterprise supply network, and accelerate operational decisions that improve customer commitments, capture revenue opportunities, and reduce the impact of supply disruptions before they affect business performance.

These outcomes reinforce one another. Higher productivity reduces operating costs. Faster operational response improves customer service and revenue performance. Earlier identification of operational risk strengthens supply continuity and organizational resilience. Together, they establish a new economic model in which productivity, responsiveness, resilience, and continuous improvement become characteristics of the operating model itself rather than the outcome of isolated technology initiatives.

FIGURE 3

Transformation Creates Enterprise Value

A new operating model where people and governed OPUS Agents continuously perform operational work across the multienterprise supply network.



PRODUCTIVITY

50-100%

Governed OPUS Agents perform operational work at scale.



ELASTIC WORKFORCE

20-40%

Operational capacity scales with business conditions.



CUSTOMER SERVICE

30-50%

Specialized processes improve responsiveness.



REVENUE GROWTH

15-25%

Faster decisions capture opportunities sooner.



SUPPLY CONTINUITY

50-80%

Earlier risk identification strengthens resilience.

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02 Agentic Business Processes Transform the Operational Paradigm

For decades, supply chains have been organized around people coordinating work between enterprise systems, trading partners, and functional teams. Business transactions record what has happened, while people determine what should happen next. The Agentic Supply Chain Operating Model fundamentally changes this paradigm by introducing Agentic Business Processes that orchestrate business work continuously across people, governed OPUS Agents, enterprise systems, and trading partners. The Agentic Control Tower provides the intelligence, reasoning, and agentic orchestration capabilities that support this work.

In this operating model, business transactions become the catalyst for intelligent work. Each purchase order, shipment update, inventory movement, quality event, forecast, customer request, or other business event initiates work within an Agentic Business Process. Governed OPUS Agents evaluate operational context, perform work according to defined intent, objectives, tasks, decisions, rules, and standard operating procedures, and coordinate execution across multiple systems and organizations in real time rather than waiting for manual intervention.

Unlike traditional workflow automation, Agentic Business Processes are not limited to isolated tasks. They provide a shared operational environment where people and governed OPUS Agents collaborate throughout the lifecycle of a business process. Operational work, recommendations, decisions, approvals, ownership, exceptions, and outcomes remain visible within a shared operational context, creating transparency, governance, and accountability across participating organizations.

Multiple specialized governed OPUS Agents operate simultaneously across planning, procurement, manufacturing, logistics, quality, compliance, and customer operations. Each contributes domain-specific expertise while coordinating through a shared Agentic Business Process, allowing organizations to execute work with greater speed, consistency, and scale than people-centric operating models can achieve.

By transforming business transactions into intelligent operational execution, Agentic Business Processes redefine the working model for performing work across the multienterprise supply network. The result is an operating model that continuously coordinates work across enterprise systems, trading partners, and people, enabling organizations to respond faster, operate more consistently, and continuously improve performance.

FIGURE 4

The Agentic Loop

Every cycle adds to agentic memory. Each transaction, decision, approval, exception, and outcome expands the operational memory people and OPUS Agents reason over.



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03 Humans and Agents Reason Together

The Agentic Supply Chain Operating Model is built on a simple principle: the future of supply chain operations is collaborative, not autonomous. While governed OPUS Agents continuously perform operational work across the multienterprise supply network, people remain responsible for business outcomes. Together, they create an operating model that combines the speed and scale of governed intelligence with the judgment, experience, and insight that only people can provide.

Governed OPUS Agents continuously monitor business transactions, gather information, analyze operational conditions, coordinate activities across enterprise systems and trading partners, and recommend or perform work within defined intent, objectives, tasks, decisions, rules, and guardrails. Every action remains transparent, traceable, and auditable, providing organizations with complete visibility into the agentic work performed while ensuring that governance is embedded directly within every Agentic Business Process.

People continue to perform the work that matters most. They create governed OPUS Agents, establish business objectives, define operating policies, and continuously refine their intent, objectives, tasks, decisions, rules, and standard operating procedures as business conditions evolve. Rather than replacing human expertise, governed OPUS Agents amplify it by reducing manual coordination and enabling people to focus on judgment, exception management, collaboration, and continuous improvement.

As organizations gain operational experience, this relationship becomes increasingly valuable. Governed OPUS Agents continuously improve the quality, speed, and consistency of operational execution, while people continuously strengthen the operating model by refining objectives, governance, and business processes. The result is a collaborative system in which human expertise and governed intelligence evolve together, creating an operating model capable of adapting to changing business conditions while maintaining trust, transparency, and accountability.

FIGURE 5

Humans and Governed OPUS Agents Reason Together



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04 Digitalized Supply Networks Unlock Value Creation

The Agentic Supply Chain Operating Model is fueled by digitalized business transactions and processes on a multienterprise supply network. Supply chains are inherently collaborative, requiring manufacturers, suppliers, contract manufacturers, logistics providers, distributors, healthcare providers, regulators, and enterprise systems to operate as a coordinated ecosystem. Yet operational work is often constrained by fragmented information, disconnected processes, and limited visibility across organizational boundaries. Digitalization transforms this fragmented environment into a shared information foundation where people and governed OPUS Agents perform work from the same real-time business context.

Digitalized business transactions generate the business process events that initiate operational work, while digitalized business processes create a common environment for coordinating execution across functions, organizations, and process stages. Secure integration with enterprise systems enables governed OPUS Agents to retrieve information, perform operational work, and update authoritative systems of record without disrupting existing business applications. At the same time, trusted, end-to-end integration of information across trading partners creates a shared operational view that enables both people and governed OPUS Agents to understand how decisions made in one part of the supply network affect the goals and metrics of related partners and processes.

The value of digitalization starts with visibility, which spawns agentic processes and results in real-time coordination across all functions and partners. When business transactions, enterprise systems, operational context, and partner information are continuously integrated, organizations can identify changing conditions earlier, coordinate responses more effectively, and perform work across the multienterprise supply network with greater speed, consistency, and resilience. Digitalization becomes the operational foundation that enables the Agentic Supply Chain Operating Model to function at enterprise scale.

FIGURE 6

Digitalized Supply Networks Enable Coordinated Execution

People and governed OPUS Agents perform work from one shared operational foundation.



END-TO-END REAL-TIME INFORMATION FLOWS

BUSINESS TRANSACTIONS
Digitalized events that initiate operational work.

BUSINESS PROCESSES
A common environment for coordinating execution.

ENTERPRISE INTEGRATION
Secure retrieval of information from and updates to systems of record.

SUPPLY NETWORK DIGITAL TWIN
A trusted end-to-end operational view across partners.

THE RESULT

- **Changing conditions identified earlier.**
- **Responses coordinated across participants.**
- **Work performed with speed, consistency, and resilience.**

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05 Continuous Improvement Using Agentic Memory and Human Insights

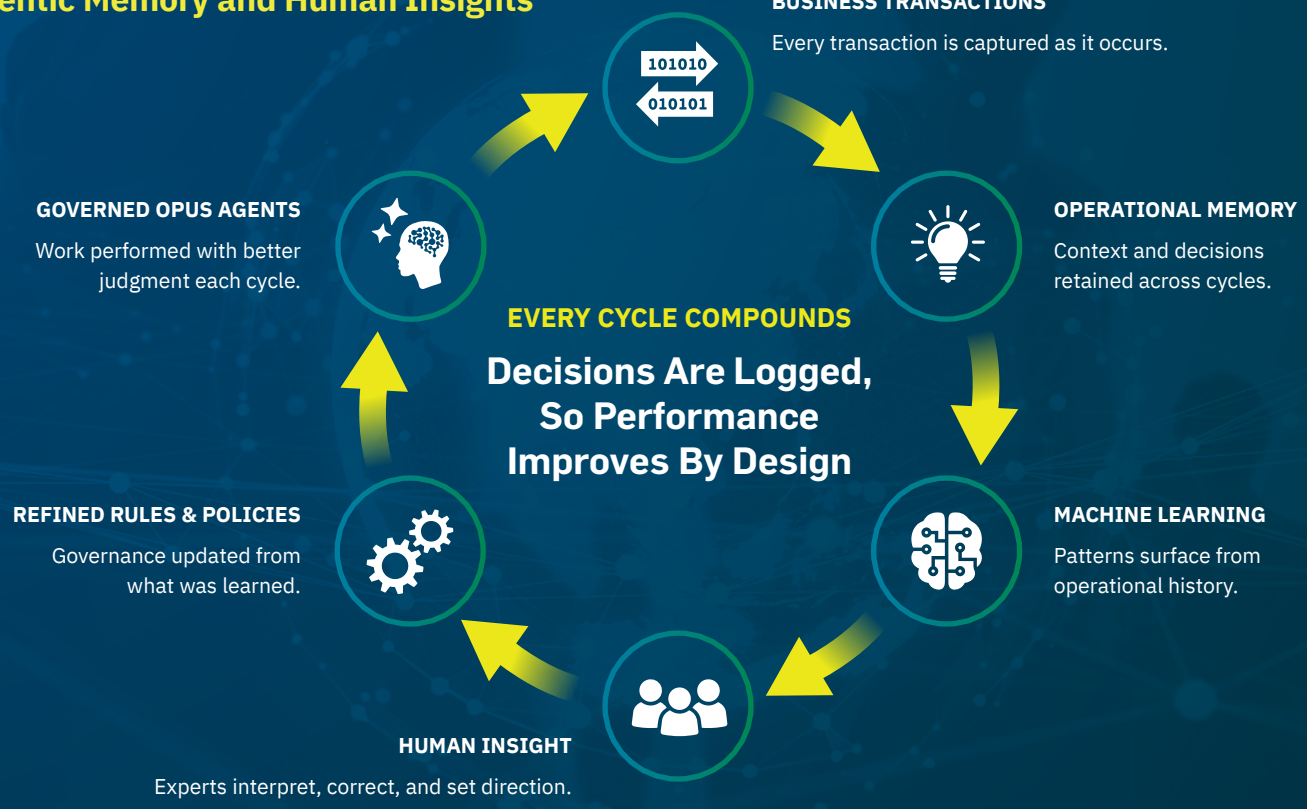
Traditional operating models improve through periodic transformation initiatives. Teams analyze historical performance, identify opportunities for improvement, redesign processes, and implement change through discrete projects. The Agentic Supply Chain Operating Model embeds continuous improvement directly into operational execution. Every business transaction, operational decision, recommendation, approval, exception, and business outcome contributes to an expanding body of operational memory used for continuously improving the intelligence of the work performed.

This operational memory enables organizations to understand not only what happened, but why it happened and how similar situations should be addressed in the future. As operational knowledge accumulates, reinforcement learning identifies patterns, predicts changing conditions, and generates insights that improve the reasoning performed by both people and governed OPUS Agents. Predictions improve decisions based on feedback from human expertise and agentic learning loops. Business leaders, assisted by governed OPUS Agents, evaluate predictions and continuously refine objectives, decision rules, governance policies, and standard operating procedures. Governed OPUS Agents also assist people in creating, refining, and improving other governed OPUS Agents, enabling the operating model itself to evolve as organizational knowledge expands and business priorities change.

The result is an operating model that becomes progressively more capable with every business transaction. Governed OPUS Agents continuously improve operational execution while people, assisted by governed OPUS Agents, continuously create, refine, and improve how governed OPUS Agents perform work. Transformation is no longer a periodic initiative—it becomes an inherent capability of the operating model, enabling organizations to become progressively more intelligent, resilient, and effective over time.

FIGURE 7

Continuous Improvement Using Agentic Memory and Human Insights



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The Pinnacle of Supply Chain Transformation

Every major advancement in supply chain management expanded the flow of information across the enterprise and multienterprise functions and networks. Enterprise systems standardized business operations across functions. Internet technologies extended digital connectivity across enterprises. Cloud platforms provided the scalable infrastructure needed to operate across distributed organizations. Robotic Process Automation provided basic automation with a rigid set of steps. Together, these advancements established the foundation for the next generation of supply chain transformation—Agentic AI & Agentic Supply Chain Operating Model, where people and governed OPUS Agents collaborate in real time to perform, coordinate, and continuously improve operational work across the multienterprise supply network.

The Agentic Supply Chain Operating Model integrates all the capabilities to enable a revolutionary transformation. Rather than improving individual technologies, it redefines the supply chain management paradigm. Business transactions become the catalyst for intelligent work. Agentic Business Processes orchestrate execution across the multienterprise supply network. Governed OPUS Agents continuously perform operational work while people provide judgment, governance, and continuous improvement. Together, they establish an operating model that is more responsive, more resilient, and capable of continuously adapting to changing business conditions.

The implications extend well beyond operational efficiency. Organizations that redesign their operating model will establish structural advantages that become increasingly difficult to replicate. Early adopters will increase operational productivity by 50–100%, scale operational capacity by 20–40% without proportional workforce growth, improve customer responsiveness by 30–50%, accelerate revenue opportunities by 15–25%, and strengthen supply continuity by reducing the operational impact of disruption by 50–80%. As these organizations continuously improve their agentic business processes, they will compound these advantages over time through operational learning, creating a widening competitive gap that becomes increasingly difficult for others to overcome. Competitive advantages will enable leaders to grow their business, pursue new markets, acquire companies, invest in innovation, establish a new financial model, and rapidly grow shareholder value.

This paper establishes the business case for the Agentic Supply Chain Operating Model. The companion paper, The Agentic Supply Chain Operating System, provides the technology foundation for this operating model through multienterprise integration, operational intelligence, governance, and the no-code, low-code OPUS Platform.

The organizations that will lead in their markets will be the first to transform and continuously improve their agentic business processes across the multienterprise supply network.

Contact TraceLink to learn how the Agentic Accelerator Program can help your organization move from agentic strategy to measurable business value.

CONTACT US

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