# Winning in the Intelligence Age

## A Framework for Consumer Product Leaders to Navigate the AI Revolution

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Generative AI shifts the drivers of value from the tangible to the intangible. I present a three-part framework for evolving organizational intelligence—functional, platform, and strategic. As corporations move beyond industrial-age paradigms, success will increasingly depend on their ability to orchestrate intelligent networks of human and machine agents operating at unprecedented scale, scope, and speed.

## Are you prepared to lead?

The signs of an AI-driven transformation are unmistakable. By late 2024, Nvidia's ascent to a market capitalization exceeding $3 trillion and OpenAI's $150 billion private valuation signal more than just market enthusiasm—they reflect a fundamental shift in how value will likely be created and which companies are best positioned to capture it. This shift centers on one critical capability: organizational intelligence.

Yet, a paradox emerges. While AI capabilities advance at an unprecedented pace, most organizations remain tethered to industrial-age paradigms that constrain their ability to harness these transformative technologies. The challenge isn't solely technological—it's also organizational. Just as electricity's true potential wasn't realized until factories were fundamentally redesigned, AI's transformative impact requires reimagining how organizations operate.

This poses an existential question for today's leaders: Will your organization remain competitive in an era where advantage stems from 'economies of expertise' rather than 'economies of scale?' Although Gen AI has become a powerful driver of knowledge, early evidence suggests its impact will be more significant when it functions as an agent ('with reasoning capabilities to operate autonomously"), amplifying top-tier experts in specialized fields. Economies of expertise arise not by using AI to aim for a 10% improvement of selected human experts, but by 10x enhancement of the collective knowledge of the enterprise.

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## The Evolution of Organizational Intelligence

The narrative of economic progress over the last century has been about intelligence. From Thomas Edison's laboratory to Henry Ford's assembly line to Steve Jobs' digital revolution, breakthrough innovations have consistently emerged from the ability to capture, organize, and deploy intelligence in novel ways. The Industrial Age's genius lay not in mechanical innovation alone but in how leaders systematically encoded human expertise into repeatable processes and scalable systems.

Functional specialization, hierarchy, and standardization made modern organizations successful in the 20th century. This logic has turned P&G into a consumer goods behemoth and facilitated Unilever to optimize global supply chains across continents. The basic principle—R&D creates, manufacturing builds, marketing sells—became the orthodox approach to codifying specialized intelligence.

## Functional Intelligence Is the Foundation

Every company has one or a few distinctive functions that drive value, such as innovation, quality, manufacturing, and marketing. Intelligence within these functions, codified in personnel, procedures, practices, and relationships, is its core competency. AI offers opportunities to enhance this patchwork of expertise and drive more value.

For instance, the quality function could develop codified intelligence by going beyond inspecting finished products to connect supplier quality metrics, in-process measurements, packaging defects, customer complaints, and social media sentiment into a comprehensive 'knowledge graph.' This interconnected and continually updated 'quality graph,' supported by machine learning algorithms, could reveal patterns even experienced quality managers might miss.

The intelligence lies in constantly understanding the risk-return tradeoffs across different activities within the quality function. This helps managers grasp how their quality function supports business strategy today and could shape tomorrow's strategy and performance. In this view, the quality function isn't tasked with auditing adherence to pre-established controls; it connects previously isolated data points into a dynamic, evolving understanding of how quality impacts the entire value chain. It connects disparate strands of intelligence into a coherent driver of value creation and capture.

The quality function with its knowledge graph is not unique, merely illustrative. AI compels leaders of every function to develop its knowledge graph leading to intelligence models, such as:

- **Innovation intelligence models:** These are built on deep internal technical capabilities linked to external partners to supercharge new offerings.
- **Product design intelligence models:** These are based on a multidisciplinary understanding of user needs, differentiating them from competitors relying on industrial-age thinking.
- **Production intelligence models:** These represent process knowledge capable of real-time adaptation across production locations to meet dynamic customer demands.
- **Customer service intelligence models:** These are based on engagement patterns, which can predict and prevent issues likely to cause high customer churn.

> Leadership in every function calls for sustained attention to weaving scattered data and human expertise into unified intelligence that optimizes actions by humans and machines directly contributing to business performance.

Generative AI tools enable robust pattern recognition and prediction by connecting disparate multimodal (text, images, voice, sounds, video, etc.) data types. The shift begins when CxOs—leaders in every function—go beyond relying on siloed, narrow data records to tapping into connected data to create distinct knowledge graphs. The shift gains speed when intelligence is not reliant on the tacit knowledge of long-serving subject experts but encoded in ways that allow humans and machines to access, utilize, and refine such graphs to achieve ever-increasing performance levels. Knowledge graphs, previously limited to individual activities, now become interconnected to reveal insights relevant to the function as a whole.

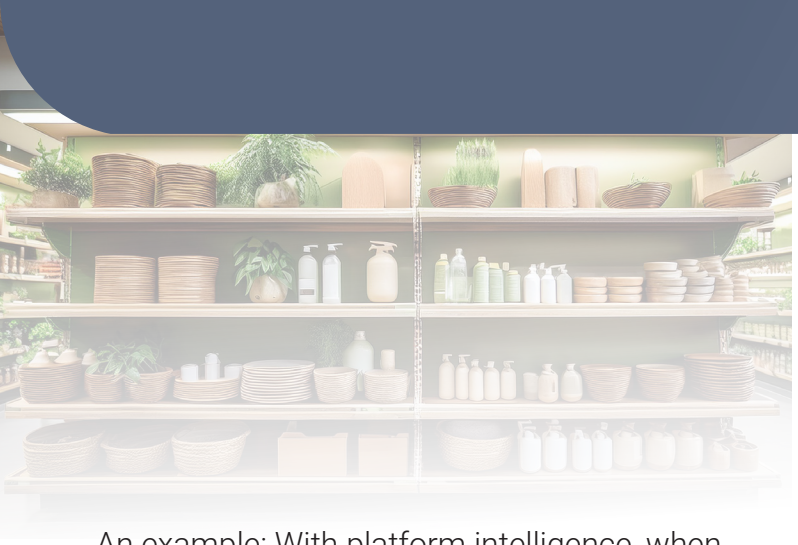
Functional intelligence is the start, not the end. Competitive advantages coded into functional competencies are less enduring than once thought. L'Oréal's shift toward personalized beauty illustrates why: when every consumer demands unique products and experiences, deep functional specialization and associated market segmentation become a liability rather than an asset. Mattel's transformation from manufacturing toys in physical forms to leveraging its intellectual property to offer multiple forms of consumer enjoyment (e.g., Barbie movie) is another example to compel companies to break free of deep functional specialization and think more about connected functional intelligence through cross-functional platforms.

## Platform Intelligence Breaks Down Traditional Boundaries

Platform intelligence represents the ability to sense, analyze, and respond to real-time market dynamics by connecting across functional boundaries. The knowledge graphs of platform pioneers show the way: Facebook's comprehensive social graph enables customized content that enhances engagement and satisfies advertisers, Netflix's movie graph drives content development and recommendation accuracy, while Shopify's shopping graph and Amazon's purchase graph powers predictive commerce at unprecedented scale and profit. Knowledge graphs, predicated on predictive and prescriptive analytics in real-time, help organizations move from 'data at rest' within functions to 'data in motion' in platforms.

Taking a page from digital companies, Walmart has evolved from its initial experiments with retail graphs to develop sophisticated multi-channel, multi-experience graphs of customer engagement. The company's focus on 'Adaptive Retail' reflects its belief in using technology to create a more seamless and personalized shopping journey and is showing promising results thus far.

> **Platform leaders must bridge functional divides, forging a unified intelligence from scattered data and insights to drive business performance.**



An example: With platform intelligence, when machine learning algorithms detect changing consumer preferences toward eco-friendly products, the alert doesn't only inform marketing. It could trigger a coordinated response such as:

- R&D receives predictive analytics about the possible availability of natural ingredients.
- Manufacturing simulates changes to production processes for new formulations.
- Supply chain teams initiate discussions with sustainable materials suppliers.
- Marketing develops targeted campaigns based on updated consumer sentiments.

Platform intelligence, supported by more extensive knowledge graphs, helps companies achieve new levels of cross-functional collaboration through data-driven trade-offs across functions. While functional excellence helps managers understand what happened and why, platform intelligence helps them anticipate what will happen and determine the best course of action across functions to deliver customer value.

## Strategic Intelligence is The Next Frontier

Strategic intelligence represents a discontinuous shift. It reimagines how organizations should be designed to sense, learn, respond, and adapt by combining human and machine intelligence in new ways. This goes beyond deploying an army of AI copilots or creating more sophisticated algorithms for platform efficiency. In the previous two types of intelligence, humans implicitly had the power to delegate what they considered to be low-value tasks to the machines. Strategic intelligence makes no such predefined hierarchy, allowing the two types of agents—biological and digital—to learn each other's strengths and organize accordingly.

Intelligence is not artificial but agentic: digital and biological agents are meshed in a network, amplifying each other. Instead of moving sequentially within industrial-era platforms overlaid on predefined functions, imagine networks of 'activity cells' where human experts and AI systems collaborate. Inside such cells, biological and digital agents work sequentially and in parallel, sharing insights, adjusting plans, and updating activities based on each other's findings. These cells collaborate and co-create with complete visibility into real-time data on consumer behavior, supply chain dynamics, competitor actions, and environmental impact, with the authority to act accordingly. Real-time data is the pulse of this new organizing logic.

**Is this scenario far-fetched based on what we know today? *No.***

**Is it commonplace today? *No.***

**Will some visionary companies architect this soon? *Yes.***

**Could such organizations unlock more value? *Yes.***

In the near future, humans working without digital agents will be like industrial factories without electricity or machines, early digital companies without internet access and web presence, or today's professionals without computing devices and real-time data. Traditional boundaries between human and machine capabilities dissolve; demarcations between scientific disciplines disappear.

Flexible networks of expertise form and reform around specific challenges and opportunities, combining human judgment, machine learning capabilities, and external expertise in fluid, dynamic ways. Every decision, success, or failure becomes an input for continuous learning, creating a dynamic capability that is increasingly difficult for competitors to replicate.

In this new paradigm, intelligence isn't located in individual humans, siloed functions, or hard coded into platforms. It emerges from self-organized networks of human and machine agents that autonomously reason, learn, and act. These networks operate not independently but interdependently, guided by clear objectives rather than rigid hierarchies. They can reconfigure themselves based on the problems they're trying to solve, unrestricted by traditional organizational boundaries or reporting relationships.

The role of human leadership—the C-Suite with fiduciary responsibilities—is to set the mandate, explain clear goals, define boundary conditions of risks and norms, and continually adapt them as necessary.

The contrast between industrial-age and intelligence-age leadership couldn't be starker. Traditional hierarchical structures give way to distributed intelligence networks. Function-based structures evolve into problem-based collaborations. Periodic planning cycles transform into continuous adaptation.

> **Leaders who integrate humans and machines into a coherent organizational intelligence architecture will redefine value creation at an unprecedented scale, scope, and speed.**

## Now is the Time to Accelerate

Why must today's business leaders take organizational intelligence seriously? And urgently?

Sam Altman, CEO of OpenAI, mused in a blog post on September 23, 2024: "It is possible that we will have superintelligence in a few thousand days (!); it may take longer, but I'm confident we'll get there." Dario Amodei, CEO of Anthropic, said in October 2024 that powerful AI models, which he prefers to describe as a "country of geniuses in a datacenter," will become available for individuals and companies to use before the end of this decade. Jensen Huang, CEO of Nvidia, sees his company in 2030 with 50,000 employees and 100 million AI agents.

While one could easily dismiss such statements as unrealistic and utopian, they represent an aspirational vision, suggesting an achievable probable future, even if the timeline proves overly ambitious. The technical community will continue to debate whether we may or may not see artificial general intelligence (AGI) and artificial super intelligence (ASI). Still, most business leaders recognize that today's models offer immense possibilities to disrupt industrial-age business models. And these models are getting smarter at an exponential rate. In this post-industrial era, the winners will not be those with the most advanced AI systems but those who successfully reimagine their organizations to harness the combined power of human and machine intelligence. The time to act is now.

Let the technical community debate artificial versus human intelligence, compute versus memory, Large Language Models (LLMs) versus Small Language Models (SLMs), etc. Senior business leaders must explore ways of architecting new organizational forms that can think, learn, and adapt in ways neither humans nor machines could achieve alone. The table below summarizes the fundamental shifts in intelligence across critical dimensions.

## Shifts in Organizational Intelligence

| Dimensions | Functional Intelligence | Platform Intelligence | Strategic Intelligence |
|---|---|---|---|
| **Strategy** | Win with functional competency | Win with seamless processes and delivery | Win with fast adaptation and personalization |
| **Structure** | Vertical functional silos with deep expertise | Cross-functional processes | Emergent interconnected activity |
| **Governance** | Approval by human experts | Cross-functional coordination by peers | Autonomous decision and action cells |
| **Ecosystems** | Defined by transactional relationships | Coordinated within defined partner networks | Dynamic orchestration of multiple ecosystems |
| **Planning Horizon** | Annual cycle with quarterly reviews | Rolling forecasts with defined milestones | Continuous adaptation based on dynamic signals |
| **Role of Technology** | Automate routine, well-defined tasks with software | Integrate systems and processes across functions | Digital agents as collaborative team members |
| **Role of Humans** | Decision rights with functional expertise | Decision rights with process responsibility | Human agents as collaborative team members |
| **Role of Knowledge Graphs** | Reveal rules with real-time data to maximize functional efficiency. | Reveal rules with real-time data on an end-to-end basis for platform effectiveness. | Organizational rules that enable human and digital agents to collaborate to create and capture value. |
| **Speed of Response** | Daily to weekly | Hourly to daily | Minutes to hours |
| **Role of Data & Algorithms** | Descriptive and Diagnostics | Predictive and Prescriptive | Generative and Foundational |
| **Leadership Objectives** | Functional Excellence | Platform Effectiveness | Competitive Differentiation |
| **Impact Time Frame** | Yesterday | Today | Tomorrow |

## It's Time to Reflect

Will you be the pioneer of tomorrow's logic of intelligence or a prisoner of orthodox thinking? As you contemplate your organization's journey into the intelligence age, consider the following:

- Have you moved beyond the AI hype to form your reasoned views on its potential?
- Have you experienced next-generation AI capabilities first-hand rather than through presentations and prototypes?
- Have you challenged your leadership team's assumptions about how AI could disrupt your business foundations?
- Have you studied how pioneering companies are accelerating toward strategic intelligence?
- Have you launched meaningful experiments that explore the boundaries of human-AI collaboration?
- Have you envisioned how human and machine agents will collaborate in your organization by 2030?
- Have you mapped the ecosystemof partnerships needed to access complementary intelligence capabilities?

- Have you identified the critical skillsand mindset your organization needs to thrive in the intelligence age?
- Have you considered how decision rights and governance must evolve in human-AI collaborative networks?
- Have you examined how your organization's culture might enable or inhibit the shift to the intelligence age?
- Have you examined the risks of the status quo against the promise of AI?

For questions answered "no" or "not yet," reflect on what's holding you back and what you must do next.

**The age of intelligence demands leaders embrace technology to reinvent the corporation, not just observe it from afar.**

In 2011, Marc Andreessen wrote in the Wall Street Journal, "Why Software is Eating the World." In 2025, intelligence will eat the world, and leaders must act by connecting knowledge graphs and agentic architecture to define their distinct organizational intelligence, which is more than just technology.