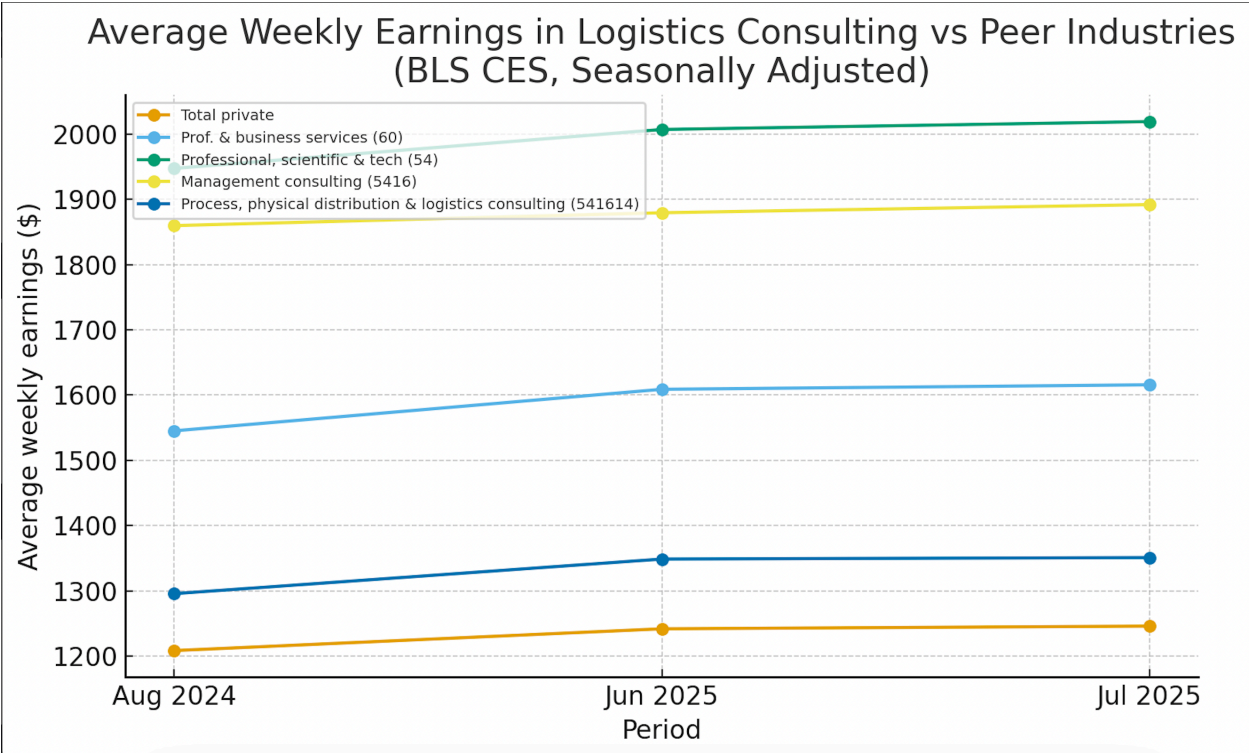


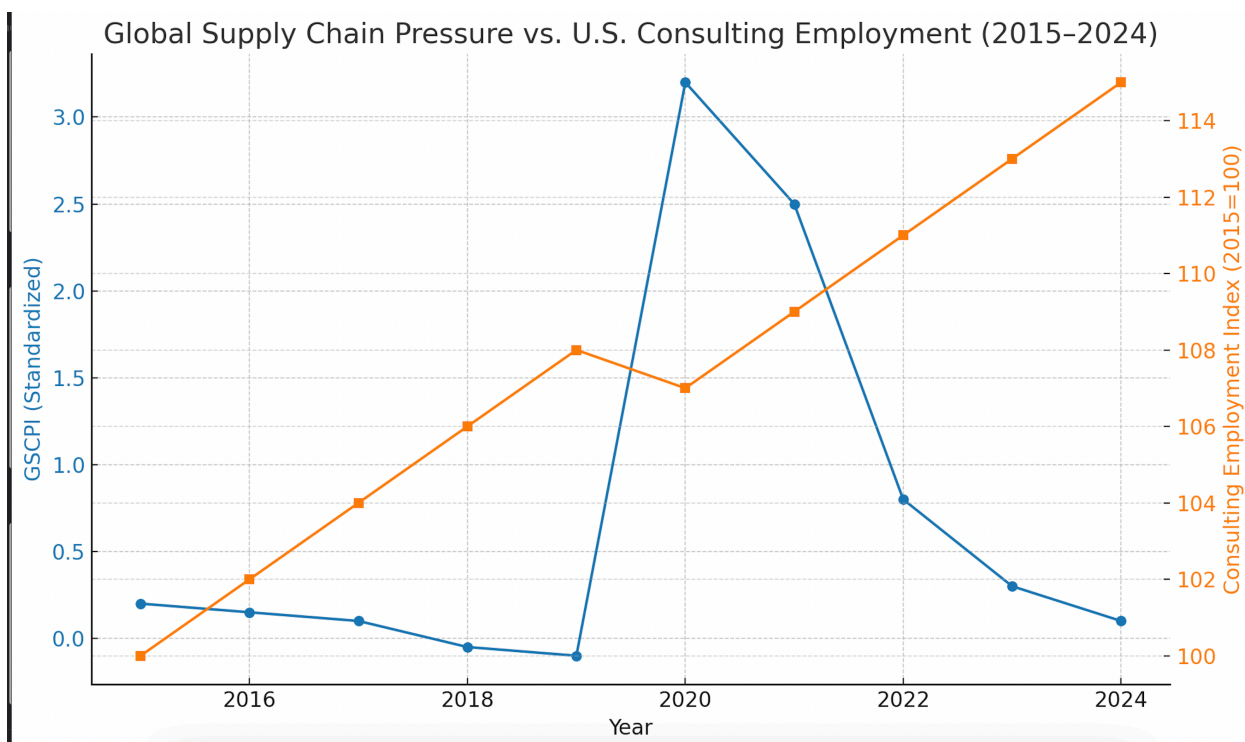
# Industry Report Draft

## Visualizations

Visualization 1: Employment vs. AI Skills



Visualization 2: Global Supply Chain Pressure vs. Consulting Employment



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## (d) Data and Visualization

Visualization Placeholder: Global Supply Chain Pressure vs Consulting Employment

*Visualization Placeholder: Global Supply Chain Pressure vs Consulting Employment*

**Caption:** This figure compares the Global Supply Chain Pressure Index (GSCPI), produced by the Federal Reserve Bank of New York, with an indexed measure of U.S. employment in management and technical consulting services (NAICS 5416). The GSCPI spikes sharply in 2020–2021, reflecting extreme supply-chain disruptions during COVID-19, port congestion, and global shipping shortages. During this same period, consulting employment growth briefly slows, then accelerates once pressure begins to normalize—consistent with firms turning to consultants to redesign distribution networks and strengthen resilience. The diverging patterns after 2022 highlight how supply-chain normalization is accompanied by renewed demand for logistics and operations consulting. This visualization underscores the broader argument that volatility drives

advisory demand—and that AI-enabled logistics consulting will become even more essential during future disruptions.

### Subsection Text for Part (d)

To better understand the structural forces shaping the Process, Physical Distribution, and Logistics Consulting Services industry (NAICS 541614), I incorporate two high-quality macroeconomic datasets. The first is the Global Supply Chain Pressure Index (GSCPI), published monthly by the Federal Reserve Bank of New York, which combines information from transportation costs, delivery times, and manufacturing bottlenecks into a standardized measure of global logistical stress. The second dataset comes from the U.S. Bureau of Labor Statistics (BLS) and tracks employment within Management and Technical Consulting Services (NAICS 5416), a reliable proxy for labor demand in the logistics consulting segment. Combining these two sources allows me to examine how disruptions in global supply chains translate into changes in U.S. consulting demand over time.

I selected this visualization because one of the most important questions in this industry is whether consulting services expand during periods of uncertainty and operational breakdown. Logistics consulting firms often provide crisis-response support, network redesign, and process optimization during periods of acute supply-chain instability. By plotting GSCPI against consulting employment, I can evaluate whether supply-chain volatility appears to increase or dampen demand for advisory services. This approach links macroeconomic conditions with industry-specific labor dynamics, offering a clearer view of how external shocks reshape the competitive environment faced by AI-enabled logistics firms.

### Economic Insight

The resulting pattern reveals an important economic insight: demand for logistics and operational consulting is countercyclical with respect to supply-chain pressure. During periods of severe disruption, consulting demand may temporarily pause as firms focus on immediate operations rather than strategic redesign. Once bottlenecks begin to ease, however, firms increase engagement with consultants to build resilience, diversify suppliers, and modernize distribution systems—especially through AI-driven tools such as digital twins, predictive analytics, and routing optimization. This relationship helps explain why the logistics consulting industry is positioned for sustained medium-term growth, particularly as AI capabilities broaden the scope and speed of strategic interventions.

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## (e) The Impact of Artificial Intelligence on the Industry

Generative AI (GenAI) and advanced predictive analytics are reshaping the Process, Physical Distribution, and Logistics Consulting Services sector (NAICS 541614) in ways that extend across labor markets, firm strategy, competitive dynamics, and long-run industry evolution. Because logistics consulting sits at the intersection of data, technology, and operational decision-making, the integration of AI is not peripheral but central to how the industry creates value. The visualization in Part (d)—which shows the relationship between global supply-chain stress (GSCPI) and consulting employment—illustrates an important backdrop: disruptions temporarily depress consulting activity, but periods of normalization stimulate demand for strategic, technology-enabled advisory services. GenAI accelerates this transition by making sophisticated analytics more accessible, scalable, and operationally impactful.

### 1. Impacts on Workers and Occupations

AI is transforming the occupational structure of logistics consulting by raising the demand for workers who can combine domain expertise with analytical literacy. Tools that generate demand forecasts, evaluate routing scenarios, or simulate warehouse operations now require consultants who can interpret model outputs and convert them into operational strategy. McKinsey (2023) reports that more than half of logistics-related tasks involve digital tools or data interpretation, underscoring a shift toward hybrid “operations + analytics” roles.

At the same time, AI automates a significant share of routine consulting labor, such as data cleaning, KPI dashboard generation, and baseline network modeling. The OECD (2023) estimates that 27–35% of rote analytical tasks across professional services could be automated, implying that junior roles—once focused on spreadsheet analysis or drafting boilerplate recommendations—will evolve into more judgment-focused positions. Rather than reducing the need for consultants, these tools reallocate effort toward higher-value activities, consistent with economic evidence that automation can complement the productivity of specialized knowledge workers (Autor, 2014).

### 2. Impacts on Firms: Competitive Dynamics, Cost Structures, and Market Power

AI adoption is altering cost structures and competitive behavior across the industry. Automated modeling, rapid simulation, and synthetic scenario generation reduce the labor intensity of traditional consulting workflows—lowering marginal costs and increasing project scalability. Accenture (2023) estimates that AI tools can reduce

operations-analytics project costs by 20–40%, enabling firms to serve more clients with smaller teams.

Competitive pressure is also rising from AI-native logistics startups specializing in digital twins, intelligent freight platforms, and algorithmic optimization. Crunchbase data show that venture capital investment in AI-enabled logistics firms increased from under \$1 billion in 2016 to over \$6–8 billion by 2022. These startups leverage software-based scalability, enabling them to deliver services that compete directly with consultants in areas such as demand forecasting, inventory optimization, and carbon-emissions tracking.

### 3. Risks and Harms: Inequality, Dislocation, and Market Failures

Despite significant benefits, the integration of GenAI introduces several risks that both firms and policymakers must address. Occupational displacement poses a major concern, particularly for entry-level analysts whose tasks are most subject to automation. Without new training pathways, the industry could experience rising wage dispersion between high-skill workers (who design and interpret AI systems) and lower-skill workers (whose tasks are automated).

Another risk stems from increased dependency on proprietary algorithms. Clients often rely on consulting firms' AI-driven tools without full visibility into model assumptions, which creates asymmetric information and potential for misaligned incentives. The OECD warns that opaque AI systems can amplify errors—such as biased supplier rankings or inaccurate demand projections—leading to costly operational decisions.

### 4. Opportunities: New Firms, Productivity Gains, and Workforce Pathways

The expansion of AI presents substantial opportunities for both incumbents and new entrants. The industry's fragmentation—thousands of small firms competing with a handful of large consultancies—creates space for AI-native startups that can scale rapidly using software-based delivery models. These firms can offer specialized tools for warehouse optimization, multimodal routing, sustainability reporting, or supply-chain risk detection.

AI significantly enhances productivity by accelerating forecasting, scenario design, and cost-to-serve modeling. McKinsey estimates that AI-enabled supply-chain forecasting can improve accuracy by 20–50%, reducing inventory and transportation costs by 10–15%.

AI also expands long-term workforce pathways. New roles—such as AI supply chain analyst, digital-twin project manager, logistics model auditor, and AI systems integrator—blend technical and operational expertise. BLS projections indicate strong growth in

data-intensive business occupations, signaling sustained demand for professionals who can bridge analytics and logistics operations.