How do Business Leaders Respond to Supply Chain Disruptions in the Era of Data and AI?

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High-Value Supply Chains For Critical Materials and Components
- Total Value Chain: Strategy, Competitive Analysis, Investment Advisory
- Capital Projects: Supply Chain Planning
- Procurement Strategy: International Sourcing & Logistics

Value Delivered
- Supply Chain Security
- Supply Chain Resiliency
- Financial: 15% cost reduction, 25% ROI

History and Track Record
- Founded in 1998
- 500+ impactful client engagements
- 400+ publications
- Offices in USA, India, and UAE
E-commerce and Small Parcel Business Have Skyrocketed, Testing Supply Chain Management Capabilities of Merchants and 3PLs

Retail E-commerce Sales Worldwide, 2014-2026

Source: Statista
The Pandemic Created the Ultimate Conditions for Bullwhip in Global Supply Chains

• Perturbances / Over-corrections: Lockdowns, Factory shutdowns

• Promotions / Price Discounting : Work From Home

• Batching / Irregular Production: Stochastic lockdowns, curfews and travel bans

• Order Changes/ Changes in Order Patterns: Erroneous announcements about when it would end

• Exacerbating Factors
  • Global disruption / affecting all tiers of every supply chain
  • Long feedback loop

Source: USA Today
A Surge in Demand for Goods vs. Services Disrupted Supply Chains

Seismic Shift in Shares of U.S Consumption Wreak Havoc With Supply Chains
(Shares of U.S. Personal Consumption Expenditures for Goods vs. Services, Source: U.S. BEA

Big Data and AI/ML Are Developing to Address the Tsunami of Data Required

- COVID-19 boosted RPA and AI
- Shift away from transactional activities will continue, but expand to “smart” (cognitive) automation
- There will still be a need for strategic activities
- More importance towards collaborating with internal IT, external tech partners, and “managing algos”

Source: “Artificial Intelligence in Supplier Selection and Management.” ISM World 2021. David Steven Jacoby and Francois Charvet
An “Enterprise App Gap” is BeingFilled by Low-Code Solutions

Examples of ViziApps Low-Code Apps for Frontline Workers

WalMart Experience
- Rapid Prototype
- Fast Field Pilot (Tune UX & Workflow)
- Measure ROI
- Roll-out
- Build-out suite of Role Specific Apps
AI Algorithms Are Making Frontline Workers More Productive and Profitable

Data Sources
- SQL/NoSQL databases
- Business Systems (ERP’s, CRM’s)
- APIs
- Sensor Data (IoT; M2M)
- Transaction Databases
- SaaS Platforms
- Blockchain Data

Data Hubs
- Data Warehouse
- Data Lake
- Mirrored Data Sources

Analytics Reporting
- Analytic Tools
- BI Tools
- Reporting Tools
- Business Applications
- Operational Systems
- AI
- Machine Learning

Office Desktop Users
- Excel
- Word
- Powerpoint

Mobile-First Workflows Tailored to User Workday
- Upload Realtime Data for AI Algorithms
- Workflow Tuned by AI

Frontline Field Workers
- First Workflows Tailored to User Workday
- Upload Realtime Data for AI Algorithms
- Workflow Tuned by AI

Source: ViziApps
Investors Have Been Eager for Increased Supply Chain Visibility and Control

- Of cargo (venture funded startups including Minerva, Altana)
- Of potential future disruptions (Tive, Project44, SC control towers)

“Magic Quadrant” for Real-Time Transportation Visibility Platforms

Source: Magic Quadrant for Real-Time Transportation Visibility Platforms. 24 May 2022
Supply Chain Control Towers: the Ultimate Frontier of AI in SCM?

Benefits of AI in SCM

- Stability
- Resilience
- Supply Reliability
- Asset efficiency
- Cost savings

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