

The Relevance of Digital Supply Chain

In a time when customers demand instant gratification and companies need to operate at the speed of “now,” digital supply chain is becoming companies’ key strategic driver of revenue. Supply chain digitization gives CIOs a huge opportunity to help their organizations. Imagine the disruption ServiceNow caused for IT functions—now consider how digitization can do the same for supply chain.

Today, companies are part of a trillion-dollar product economy. Given this number, it’s no surprise that executives involved in supply chain operations “influence around 60-70 percent of an organization’s expenses,” yet companies are losing millions and in some cases billions due to isolated operations.¹ What’s worse, only 2% of companies consider operations when putting together their digital strategy.² It’s clear that digital supply chain offers many advantages: CIOs can combine technology and business leadership to usher in strong digital transformation within organizations while saving millions in operating costs. In the process, CIOs may also improve their customer’s experience.

Disconnectedness—stemming from uncoordinated information networks and operational silos—is making it structurally impossible for companies to know what is happening in their supply chains, and therefore, impossible to move materials, allocate inventory, or track the movement of goods. In fact, supply chain researchers define supply chain management (SCM) “as the integration of activities through improved supply chain relationship to achieve *sustainable advantage*.”³ Yet companies lose nearly \$2 trillion a year in overstocks and stockouts—a figure that indicates unsustainability. In the pharmaceutical industry alone, drug shortages impacted around \$2 billion a year and caused 40% of surgery cancellations.

The power of digitization rests in virtually reconnecting all of the parts of your supply chain that became fragmented over the past few decades. In line with this goal, companies must build digital strategies that harness connectivity to create more responsive business models. It is expected that by 2025, over 20 billion devices will be connected—nearly three times the world population. Many analysts believe that transformative solutions need to address this change and place the customer experience first. Digitization is not a trend—it is the landscape of a new

¹ CIPS

² McKinsey

³ ResearchGate

reality that is disrupting traditional business protocols, yet the push toward digital supply chain has been relatively ignored.

Digital Transformation and IT

Organizations must also rethink their concept of digital transformation. Currently, digitization means moving ERP or planning to the cloud, eliminating paper-based processes, and looking at IoT. Companies do not consider the people aspect of operations where workers must connect with emails, phone calls, and spreadsheets—and the potential for error in these transactions is large.

Digital transformation has become a buzzword in technology, but the fundamental idea behind this concept is increasingly relevant and important: technology needs to stay ahead of customer demand. In an area where expectations are constantly rising, companies need to think not only about their current pain points, but to also consider the root cause of these pains and how technology can address them holistically. As MIT research scientist George Westerman says about consumer demand, “Customer expectations are far exceeding what you can really do...[which involves] a fundamental rethinking about what we do with technology in organizations.”⁴ Unfortunately businesses are pushing IT to implement short-term point-solutions at the expense of a real platform approach.

An investment in digital involves a forward-looking vision that completely embraces the new digital reality. Initiating a “new sales channel, launching a service app, or automating a few processes” will not be enough, according to a March 2017 McKinsey report on digital transformation.⁵ The organizations that will be the first-movers will have leading advantages over their competitors. As the McKinsey report explains, first-movers “are keenly aware that digital can give birth to entirely new business models that shake up sectors, leaving companies that fail to adapt struggling to survive (newspapers are a case in point).”⁶

What is Traditional Supply Chain Management?

The typical supply chain is manual and error-prone—most often due to factors outside of human control. Given that workers must email numerous manufacturers, call many suppliers, and coordinate numerous logistics while working with decision and data latency, problem

⁴ CIO

⁵ McKinsey

⁶ McKinsey

identification becomes akin to “finding a needle in the haystack.” Siloed data sources lead to outdated spreadsheets with wrong information, costing organizations millions.

Since workers manually enter data into spreadsheets, error often leads to wasted time and resources. In logistics alone, businesses from the U.K. waste about 3 hours per shipment requesting and funneling data between partners via phone or email.⁷ On average, advanced spreadsheet users spend 26 hours per week working in spreadsheets and up to 8 hours per week repeating efforts when data sources are updated, wasting on average \$63 billion per year in Europe.⁸

Some companies have gone further than others in their supply chain digitization efforts. Typically, organizations digitize their transaction and planning layers, data aggregation layers, and initiate systems that give visibility and analytics. While these tools provide technical and cross-functional workflows and end-to-end visibility of the supply chain network and its metrics, orchestration is missing.

What is Supply Chain Orchestration?

Most companies come up short on digitizing their entire supply chain system, either because of piecemeal efforts to digitize their systems, or due to the manual and error-prone activities that these systems require. Since orchestration provides multi-functional and multi-enterprise alerts and workflows, this layer sits on top of existing supply chain systems to provide a complete connection to existing data, planning, and visibility layers. Depending on how your organization configures the platform’s features, orchestration then automatically leverages its complete virtual connectivity to uncover opportunities and efficiencies (and of course inefficiencies) across organizations, ecosystems, and industries.

Orchestration is also the missing piece that companies can use to connect their supply chain ecosystem, allowing for connectivity, speed, collaboration, and visibility. By connecting suppliers, logistics, and manufacturing, as well as track product availability and customer orders, orchestration allows organizations to address problems with speed and ease. Companies can proactively ensure material availability from suppliers, manage production and shipments, and balance control supply and demand variability both from the backend and on the customer front. As with customer-relation management (CRM) and human-capital management (HCM), SCM

⁷ Supply Chain Dive

⁸ Alteryx

has moved into the cloud—not a disparate cloud, but a global supply chain cloud that enables collaboration, visibility, and insights.⁹

Altogether, orchestration enables companies to bring current supply chain IT efforts together and empower organizations to proactively solve incidents before they snowball into disappointed customers, lost revenue, and wasted resources. With such a system, teams could discover and mitigate issues in a matter of hours, avoiding costly spot purchases, rushed production, and expedited deliveries that occur when chasing information through spreadsheets and telephone calls.

How Elementum Can Help

Elementum’s platform is a cloud-based, open platform with APIs and microservices. Given these features, Elementum has the ability to fit into an organization’s existing IT roadmap and vision. Most IT business leaders prefer that new investments into technology provide open platform features that move away “from legacy architectures, on-premises systems and waterfall development to API-driven microservices, the cloud and agile.”¹⁰ Indeed, Elementum complements existing investments to drive agile decisions and maximize value gain. Because of these qualities, Elementum ultimately provides freedom to organizations.

In many cases, the benefits of digital supply chain are clear for IT and organizations as a whole. For one company, digital operations have preserved over \$70 million in annual revenue. By digitizing with Elementum’s platform, companies can reduce end-to-end lead time and achieve a 40-50% reduction in process cycle time, saving tens of millions of dollars. The opportunity is ripe for CIOs to help their organizations in the area of supply chain while driving their technology roadmap.

The flexibility of Elementum’s Orchestration Platform™ stems from its ability to unify data for ecosystem visibility, predict problems and opportunities proactively, and drive multi-enterprise resolution through its Product Graph™. The Product Graph™ uses AI and ML to provides a unified view of how the global supply chain connects together. Elementum’s Orchestration Platform™ then leverages these deep network relationships in the Product Graph™ to enable AI and ML methods to provide descriptive and predictive insights and intelligence. The platform

⁹ McKinsey

¹⁰ CIO

allows companies to orchestrate their entire supply chain because it sits on top of data lakes and warehouses, ERPs, transaction systems, and planning tools.

Among IT audiences, it's a fairly common view that supply chain data can be messy and complicated—and typically only 60% accurate. But since this semi-structured data is made worse by human entry, machine learning can solve this data quality problem. Because this data often sits in isolated data lakes, organizations cannot use these analytics to move the needle in terms of accurate decisions. Elementum's platform normalizes operation's data to help organizations make more informed and accurate decisions utilizing an agile approach. And since 70% of data needed to solve problems often resides in systems outside of an organization's four walls, having manageable data ensures that all these external entities are connected and communicating.

There's proven value in this approach: for a food and beverage company, Elementum helped the organization increase their annual revenue by \$79 million; for a \$20 billion healthcare company—\$83 million in cash by reducing end-to-end lead time; and for a \$10 billion advanced materials company—\$8.1 million in cost savings by managing an external disaster. Since Elementum's orchestration layer uses existing IT systems, its platform allows organizations to discover frictions in the supply chain. The layer allows companies to collaborate cross-functionally to speed up incident resolution and empower planners with insights to optimize operations around product availability, avoiding stockouts, backlogs, or carrying costs.

Key Considerations

Fundamentally, orchestration is a multi-enterprise undertaking, requiring a greater level of collaboration and open data sharing across supply chains. This is a big shift in mentality, and it requires a high degree of trust in the security of the platform that manages this connectivity. With Elementum's platform, every request for data is routed through a single query service that enforces granular authentication and authorization policies. A robust graph query language enables dynamic scoping of resource access, which is based on established relationships. In other words, a company can manage which items of an order different partners can access. Elementum securely eliminates the data inconsistencies and inaccuracies that result from today's siloed systems.

Elementum's platform detects issues and provides a structured workflow for teams to collaborate, taking corrective action on problems before they impact operations and fulfillment. Since many global vendors and partners are already on the platform, the supply chain network provides tremendous benefits to all parties involved. It would take several years and cost over

\$100 million to build this type of complex supply chain orchestration platform. Even if organizations have already invested time and resources into other supply chain software, Elementum complements these investments and technologies by functioning as the control hub.

Opportunity can be a time for growth and efficiency but in order to seize this opportunity, CIOs must face maturity trade-offs: either invest early in their digital future or risk becoming followers to others. As a *Harvard Business Review* article explains, “By the time a late adopter has done all the necessary preparation, earlier adopters will have taken considerable market share—they’ll be able to operate at substantially lower costs with better performance.”¹¹ Embracing digital transformation can be a powerful and positive step—it’s an opportunity to make progress in an area that will allow companies to outperform their competitors.

¹¹ HBR