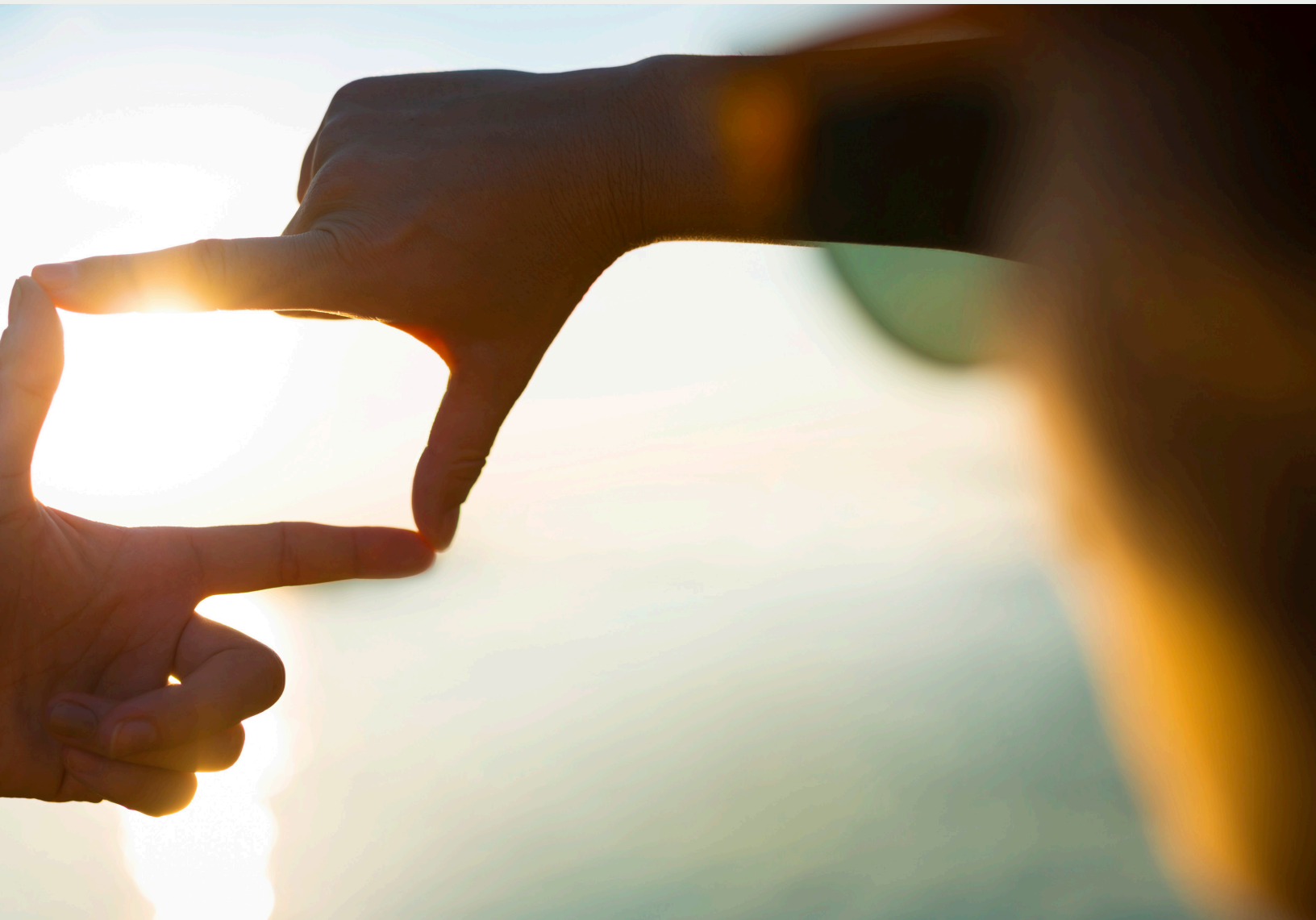
e2open®

WHITE PAPER

ACHIEVING END-TO-END VISIBILITY IN YOUR OUTSOURCED SUPPLY CHAIN

CONNECT, COLLABORATE AND EXECUTE ON REAL-TIME INFORMATION



KEY TAKEAWAYS

To run today's supply chains requires a new paradigm, one that extends what ERP has done for the company within its four walls to the new reality of the multi-enterprise supply chain. This new paradigm is called a **Supply Chain Operating Network**.

INTRODUCTION

Companies are increasingly relying on a global network of suppliers, contract manufacturers, logistics providers, and other partners to design, assemble, ship, sell, and repair their products. The trend to outsource activities that used to be performed in-house started in the high tech industry a few decades ago. Dell is probably the most well-known example of this transformation. Other industries followed suit, attracted by both the ability to focus on their core competencies and the cost benefits of using specialized outsourcing partners. Today, for example, most semiconductor companies are fabless, i.e., they design and market their chips but the manufacturing is performed in billion dollar "fabs" located in Asia. The same happened in the consumer goods industry: brand owners rely on co-packers, not only for small series where building dedicated plants is not cost-effective, but increasingly for mainstream packaging and other manufacturing operations. It is a similar story in other industries as well. There is hardly a large company today that is not leveraging the benefits of outsourcing to some degree for manufacturing, assembly, logistics, or other operations.

Outsourcing has clearly paid off, with companies being able to offload non-core activities to specialized companies that could perform the work at a lower cost and, in many cases, do a better job at it. With globalization, the cost benefits of outsourcing became even more substantial as work could now be performed by offshore companies in lower wage countries.

It is important to note that outsourcing is about more than just reducing costs: It is tightly linked to the emergence of new business models. In the aerospace industry for example, companies used to be very vertically integrated. Airbus and Boeing have both changed this setup and are increasingly relying on a worldwide network of partners that take over significant parts of the design and

manufacturing. Some of these partners are true systems integrators, who assemble large parts of the planes – such as the cockpit – with the parts coming from multiple suppliers. The aircraft manufacturers can now focus on the final assembly. On the distribution side, new fulfillment models are also emerging, such as "drop-ship." What all these innovations have in common is the need for tight collaboration among multiple business partners, often globally distributed, and all independent companies.

THE CHALLENGE OF OUTSOURCING

As the number of partners in the supply chain increases, so does the level of information exchange and coordination required among all the partners. This is no simple task. To make things even more challenging, companies across all industries are facing three trends that make running supply chains more difficult:

- **Product proliferation:** The significant rise in the number of products (SKUs) is mostly due to an increased level of product innovation, but is also driven by the increased degree of customization offered to customers, the need to exploit every single market niche and the expansion into new geographies. In consumer markets, customer demand and market trends are shifting faster than ever, often driven by social media. As a result, it is not unusual for a consumer goods company to replace one third of its products every year.

- **Shorter cycle times:** Some call it the "Amazon effect" but expectations of super-fast service is not limited to the consumer market. Also, enterprise customers expect not only rapid deliveries but also quick order confirmations or answers to order changes.

- **High productivity pressure:** As costs have been driven out of supply chains for years, there is not much "fat" left in the system. Companies now run lean operations with minimal inventories, just-in-time deliveries, etc. which do not leave any margin for error or last minute changes.

As a result of this additional complexity and cycle-time compression, the need for end-to-end visibility and tight coordination among supply chain partners is all the more important.

TRADITIONAL SYSTEMS AND PROCESSES ARE STUCK

Unfortunately, ERP systems and other business applications that companies have deployed for decades to help them run their business are of little help in today's modern supply chain. These tools were designed to be the system of record and the process orchestrator for everything that happens within the four walls of the company. Yet, more and more is happening outside the four walls of the corporation and therefore outside the scope of ERP systems. The problem often starts with international subsidiaries or recent acquisitions, which are usually not in the "single instance."

So how do you run an outsourced supply chain, when your ERP system has no data model to store inventory held at outside locations or the manufacturing capacity information of your contract manufacturers? How do you manage workflows that involve exchanging information back and forth with outside parties across multiple tiers of the supply chain?

Companies have been forced to be creative and have implemented simple visibility solutions and some basic supplier collaboration, usually on the

order execution (POs mostly) and/or demand forecasting side. Certain industries have leveraged EDI-type electronic data exchange approaches but a large number of companies still rely on exchanging Excel files with their trading partners. The limitations of such approaches are numerous:

- **Mostly single-tier visibility:** When the process is manual, companies focus on a limited scope of information to be exchanged and on selected, key trading partners. As a result, companies still suffer from limited visibility, rarely far beyond the first tier of their supply chain.

- **Incomplete collaboration support:** Simple inter-company workflows such as exchanging forecasts and POs are perhaps sufficient for a simple, arms-length relationship with a supplier but are not enough to enable the closer business relationships required for today's outsourcing models. For example, when working with an outsourcing partner that acts as a system integrator, a much higher degree of collaboration is required. Typically, the OEM has to deal not only with the system integrator but also coordinate with the key suppliers that will ship parts for the subassemblies to the integrator. Such multi-tier processes also require multiple data points to be exchanged in a coordinated fashion across all actors, including, for example, consignment stock information, assembly plans, but also quality and traceability information. The same applies to the consumer goods and pharmaceutical industries when they deal with their outsourcing partners, co-packers and CMOs respectively.

- **Limited support for traceability:** In many industries, product safety, quality, and traceability are important business and legal requirements. The challenge is how to ensure compliance when external parties are involved – not only suppliers but also contract manufacturers or co-packers, when critical manufacturing activities have been outsourced to them. This requires tracking product quality across the multi-tier, multi-enterprise supply chain all the way to the co-packers' or CMO's operations. Quality and traceability need to be built into processes and tools.

- **Slow and sequential:** Last but not least, Excel and other mostly manual processes are too slow. By the time the information propagates from one level of the supply chain to the next, it is most likely already dated. By the time the new information has been analyzed and a new plan has been generated based on this updated information, it is already obsolete – and so is the plan that has just been updated. This information lag gets worse as the number of tiers and partners involved increases.

TODAY'S MODERN SUPPLY CHAIN REQUIRES A NEW PARADIGM

Many companies recognize that to run today's supply chains requires them to extend what ERP has done for the company within its four walls to the new reality of the multi-enterprise supply chain. So how do companies successfully manage such outsourced supply chains today?

Here are the lessons from the leaders:

- **Connect and collaborate electronically:** The modern approach is to leverage the cloud to connect electronically to outsourcing partners. With the software-as-a-service (SaaS) model, there is no need to force partners to install, run, and maintain specific software applications. A wide range of connectivity options are available, depending on the partner's technological maturity. Furthermore, to support the outsourcing scenarios that require multiple actors to work in sync, these should not be point-to-point connections but a true, multi-tier network. Beyond the connectivity, a collaboration platform is needed to support the business interactions between the different trading partners, routing in both directions the information as required by the business – like an ERP system but for the entire supply chain. Without such a platform, it is almost impossible to enable the level of real-time visibility and coordination among all supply chain partners that is needed.

- **Get closer to the demand:** Demand forecasts are only an educated guess of what the future demand will be. More ambitious companies are now using such a network to capture vast amounts of information to then feed into sophisticated sensing and planning solutions to better predict true demand. In the consumer goods industry, this means going all the way to point-of-sale (POS) data or even using signals like weather forecasts, housing starts or marketing spend – any data relevant to the business. In the enterprise world, companies are looking at the Internet of Things to help them better anticipate demand. This improved demand picture is then propagated through the cloud-based network to all parties.

- **Control the quality:** For companies operating in regulated industries (such as the food or pharmaceutical industry) or where critical manufacturing operations are outsourced (such as semiconductor manufacturing), companies are also adding visibility into their partners' manufacturing operations. It is critical to track product quality across the multi-tier, multi-enterprise supply chain – and that includes external outsourced manufacturing operations. For this, they connect to the outside plants' manufacturing execution systems (MES) to capture relevant manufacturing data at all stages of production. This provides the contracting company very granular factory transaction visibility to track material flows, processing steps, and associated parameters such as yields or test results.

- **Detect issues automatically:** Exchanging information in real-time across multiple supply chain partners without the tools to process that information is like trying to drink from a fire hydrant. Leading companies have deployed automated tools and applications to help understand and tie together the information being exchanged and then detecting the exceptions that need to be handled. A key capability is to harmonize and connect the different data being exchanged – for example converting a supplier's part number into the one used by manufacturing. This critical capability breaks the data silos of the different partner systems, helping create a "virtual single instance" of supply chain data for all companies. Processing the information, placing it into context, and raising alerts when required must all be automated, as there is too much information to handle manually. Applications that not only show exceptions but also provide visibility into the root causes are particularly useful.

CORIANT

Company: Industry-leading supplier of dynamic metro-to-core transport solutions

Challenge: Minimize inventory liability in an outsourced environment

Solution: E2open Supply Planning Solutions

Results: Proactively manage inventory liability to get ahead of unplanned excess and obsolete costs, reduce expedite charges, improve on-time delivery, and better control over supplier responsiveness

AVON

Company: Leading global beauty company

Challenge: Efficiently manage inventory in a highly complex business and improve supplier collaboration across global locations

Solution: E2open Supplier Collaboration and Supply Planning Solutions

Results: Global visibility of material availability and constraints across its supply chain, reduced risk, increased service levels, and lower inventory

- **Re-plan across the network:** Key for a company to respond to changes in the demand and supply picture is the ability to integrate all the up-to-date supply chain data in a complete end-to-end plan. Traditional planning systems lack fast problem resolution, scenario, and decision support capabilities to manage trade-offs and iterate through multiple alternative what-if scenarios. Leading companies are using state-of-the-art planning applications that give them rapid decision support with what-if scenario capabilities. These tools allow planners to evaluate the impact of this new information – be it a supply disruption or an unexpected order – and easily compare alternative plans to select the best option to be shared with all supply chain partners impacted.

SOLUTION: A SUPPLY CHAIN OPERATING NETWORK

A cloud-based network to enable end-to-end visibility and collaboration among supply chain partners combined with dedicated decision-support applications that leverage the data in this network helps companies better sense and respond to changes. This is increasingly being referred to as a Supply Chain Operating Network. It is quite different from procurement networks that are online marketplaces where companies can browse product catalogues and buy products – mostly indirect items and some services – like an Amazon for indirect procurement. In comparison, Supply Chain Operating Networks focus on direct materials and all the more evolved collaborative workflows related to running an outsourced supply chain.

SEAGATE

Company: Worldwide leader in the design, manufacture, and marketing of hard disk drives

Challenge: Create a more responsive supply chain by integrating business processes across divisions, geographies and trading partners

Solution: E2open Supply Collaboration Solutions

Results: End-to-end order and inventory visibility throughout its supply chain, improved inventory turns, and better synchronization with trading partners

Early adopters who are leveraging such solutions for running their outsourced supply chains see a range of benefits:

- **Shared, single version of the truth that all supply chains partners view and can act upon**
- **Always up-to-date, supporting the "always-on" economy**
- **All actors (OEM, outsourcing partners, but also suppliers) can fulfill their roles and responsibilities, making their own decisions but in full alignment with the others**

Running an outsourced supply chain requires a higher degree of coordination and alignment across all supply chain partners that only a Supply Chain Operating Network can provide. It is therefore not a surprise that companies that have been at the forefront of outsourcing are also the ones that have embraced Supply Chain Operating Networks.

ABOUT E2OPEN

Founded in 2000, E2open provides the largest and most comprehensive Supply Chain Operating Network, including a broad suite of collaborative supply chain solutions. Leading global enterprises rely on E2open to provide greater end-to-end visibility, more accurate data and insights, and real-time business process orchestration across complex, multi-tier trading partner networks. For more information, visit **e2open.com**.

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