

White Paper

S&OP EXECUTION: MAKING SUPPLY CHAIN PLANS WORK



An E2open White Paper

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Executive Summary

Manufacturing business models have changed. Static, linear supply chains serving vertically integrated manufacturers have been replaced by dynamic trading networks supporting increasingly outsourced, global businesses. With this change has come increased volatility—in supplies, in customer demand, and even in product lines, as life cycles shorten and margin windows narrow.

How can you plan in this chaotic environment? And, once plans are made, how can you most effectively implement them—plus respond intelligently when the playing field shifts? While the original sales and operations planning (S&OP) process is beyond the scope of this paper, this white paper will examine two different approaches to implementing those plans once they are formulated: the first is based on rapid re-planning in response to exceptions; and the second is grounded in collaborative execution by the extended network, including brand owners, contract manufacturers, suppliers, and other trading partners.

While the traditional re-planning approach has a certain intellectual appeal, this paper will demonstrate that it is also a common source of additional cost, noise, and latency. Moreover, it may underutilize one of your most important assets: the knowledge and creativity of your supply chain team. Finally, re-planning approaches assume a stability of process that often does not exist in the real world. By contrast, an approach built around a collaborative execution strategy enables your team to identify exceptions as they occur and work collaboratively with external partners to resolve disruptions before they impact your ability to execute the original plan.

Leading companies have developed a core competency in collaborative execution. This capability has enabled them to cut costs, even while boosting customer satisfaction.

The Best Laid Plans...

Planning can only take us so far in a highly volatile environment. We plan in an atmosphere of uncertainty, with data that is often incomplete and untimely. We then release those plans into a dynamic and unpredictable world that has already moved away from our embedded assumptions.

This white paper will explore the following questions: How do we execute supply chain plans once they are made? How do we respond to the exceptions that inevitably arise when our plans meet reality?

Rapid Re-Planning, Not-So-Rapid Execution

How do you know that there is a problem in your extended trading network? How quickly do you learn about it? In a typical case, the MRP run is done over the weekend. Monday morning, the requirements generated by the MRP are communicated to suppliers and other trading partners through a hodgepodge of manual efforts, including email, phone, fax, and spreadsheet.

This process can take the better part of a day or more—and it's already Tuesday in Shenzhen. Those suppliers must then make their own assessments of whether or not they can meet those requirements and communicate their conclusions back to their customers, costing yet another day. It is now late Wednesday, and the process of identifying and addressing exceptions has only just begun...

Some of these exceptions may originate in parts of the supply chain to which you have no visibility at all, such as the suppliers of your suppliers. You may find that a commitment you expected from a Tier 1 supplier has been torpedoed by a component shortage further up the supply chain, or that a critical shipment has been delayed by a port strike or a volcanic eruption.

Either way, you will not learn about the exception until your supplier indicates that your order cannot be filled—at which point it is too late to take action inside the lead-time window.

Making the Plans Work with Collaborative Execution

The collaborative execution approach offers a number of key advantages to the traditional “sense and re-plan” model, but it also requires a more sophisticated technology framework. Specifically, this approach relies on an integrated business network that provides visibility into inventory levels and partner activities, as well as a mechanism for collaborative problem solving. With these functionalities as a starting point, the brand owner is able to access and share real-time information with its trading partners, enabling it to collaboratively adjust plans as exceptions arise, and without the need for complete re-planning.

This approach integrates the brand owner with multiple tiers of trading partners via a connectivity layer, enabling the enterprise to distribute MRP results—and receive responses back—quickly and automatically.

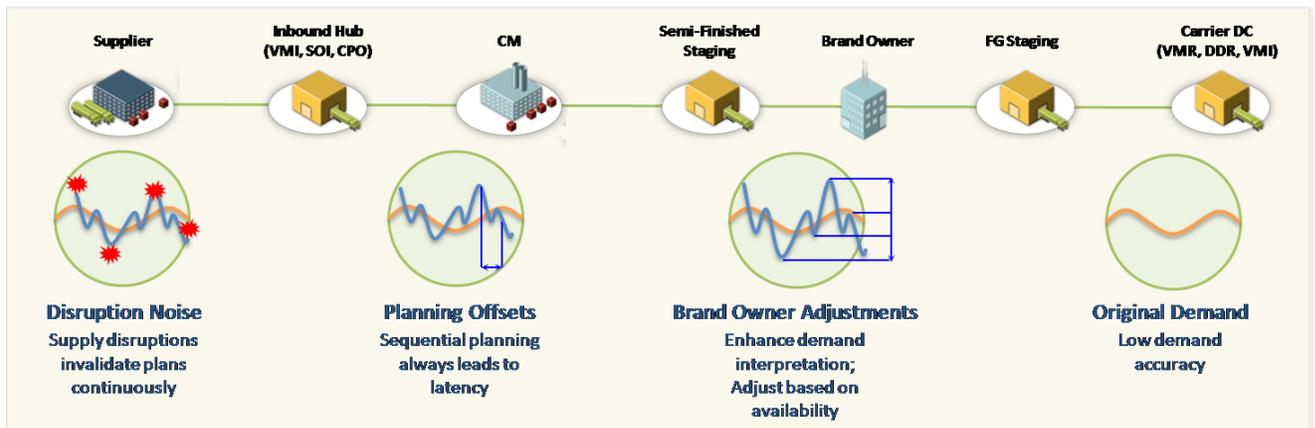
This means that by the end of the day Monday, the enterprise has received commitments from its suppliers, with exceptions highlighted.

The business network also provides visibility into multiple tiers of the supply chain so that even Tier 2 and Tier 3 exceptions can be identified and resolved. Finally, the business network is able to aggregate and summarize information from multiple trading partners, putting it into an actionable context for faster, more seamless responses to exceptions.

The ability to access information from every part of the trading network, and the ability to view this information within a real-time context, are both critical aspects of the collaborative execution framework: first, to identify exceptions as they arise; and second, to inform the range of options available to resolve them.

Executing a Plan: A Week in the Life

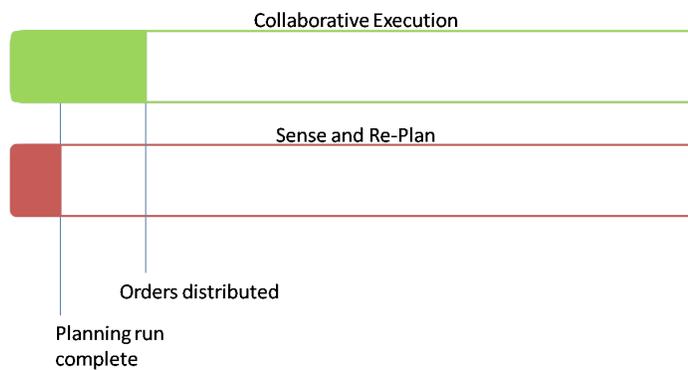
There is room to add confusion at every stage of the supply chain, from initial demand forecasts to unexpected supply disruptions. This confusion can be cumulative, amplifying at each step to produce the well-known “Bullwhip Effect” in the absence of visibility and clear lines of communication among trading partners. Add in the disruptive effects of some outside shock on either the supply or demand side, and the picture is even grimmer.



“A Week in the Life” of a supply chain professional, described in the following section, offers a dramatic demonstration of the downside of over-reliance on planning to the exclusion of execution.

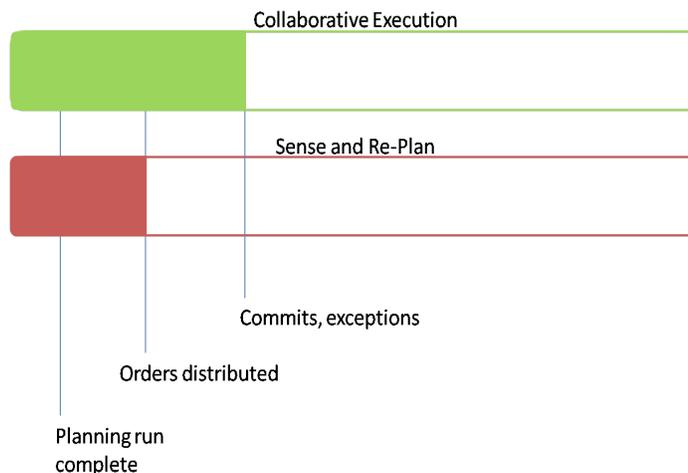
Sunday

Whether weekly or monthly, the brand owner typically conducts the periodic planning run over the weekend. This is the common base from which the different approaches to executing the plan begin. One immediate difference between the two approaches is seen in the distribution of the orders to suppliers: in a collaborative execution model, orders are distributed automatically across the network as soon as the planning run is complete; the more conventional “re-planning” approach does not begin until Monday morning, when orders are distributed to suppliers by email, phone, or fax.



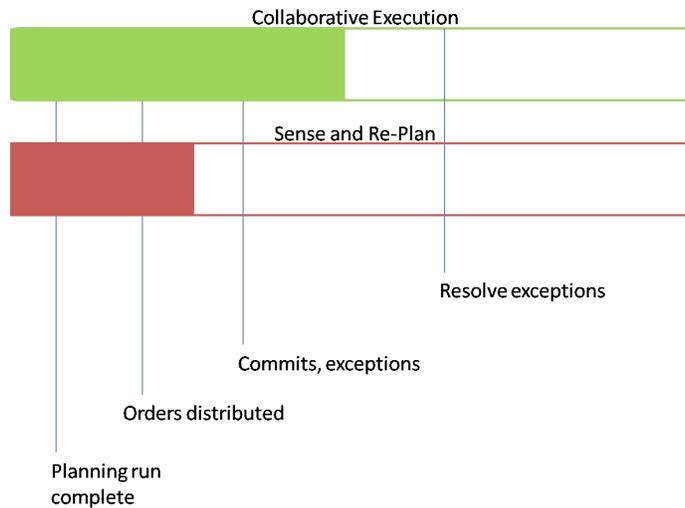
Monday

Come Monday morning, the brand owner leveraging the collaborative execution approach is already receiving commits on supplier orders. In those cases where suppliers are unable to commit to the order as placed, the exceptions are highlighted and ready to be addressed. For the brand owner tethered to a conventional, planning-based approach, the first step is to manually aggregate supplier responses, and then to manually identify exceptions. This method is not only slow and resource-intensive, it also introduces the possibility of incomplete or inaccurate data.



Tuesday

The gap between re-planning and collaborative execution grows as the week progresses. By Tuesday, the brand owner using collaborative execution has already begun resolving the exceptions highlighted by the system. By comparison, the brand owner relying on a re-planning approach is still struggling to identify exceptions manually.

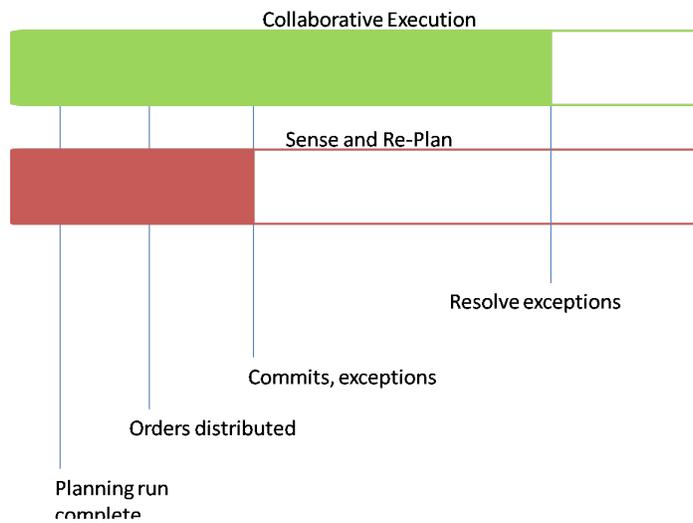


Wednesday

The following day, the collaborative execution user has resolved the majority of exceptions using a range of actions:

- Re-directing assets in motion
- Expediting
- Re-prioritizing orders
- Initiating transfers among contract manufacturers

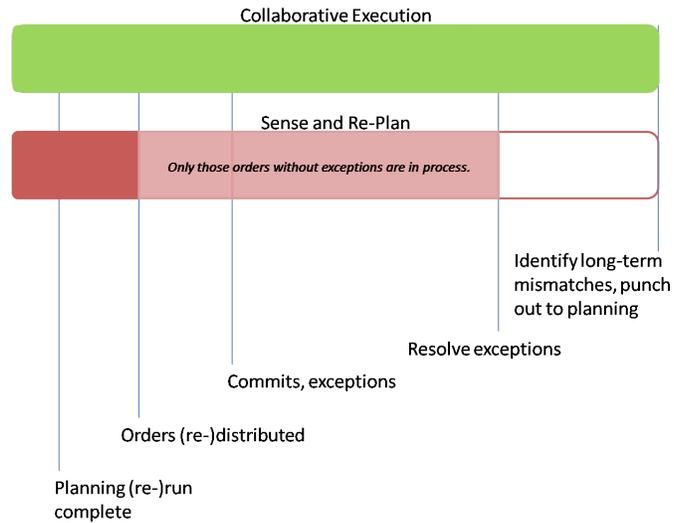
These different options are all enhanced by the visibility and control channels provided by the combination of technology and business logic that enables collaborative execution. In each case, the ability to see what resources are available across the supply chain and to collaborate with trading partners to get those resources where they need to go, is critical to success. By comparison, the “re-planner” is still wrapping up the process of examining supplier commitments and identifying exceptions.



Thursday

By Thursday, the collaborative execution team has resolved the majority of exceptions by re-routing inventory in-transit, securing parts from alternate suppliers, etc. Any refractory problems that represent longer-term imbalances have now been clearly identified; the user can then punch out to a preferred planning solution, secure in the knowledge that most of the orders driving the plan have been filled.

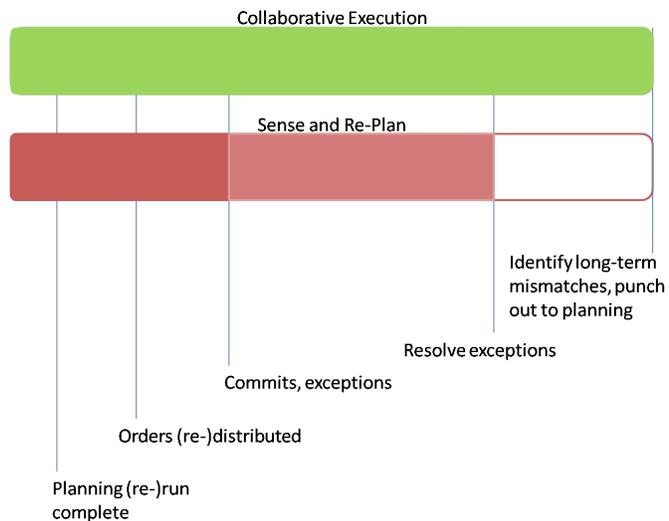
In contrast, the user of a planning-based system must now re-plan to determine the best way to utilize the materials that are actually available (based on limited visibility). The user has two options, neither of which is likely to yield optimal results: wait for the last, slowest response to come in; or re-plan with incomplete information. Even with fast, in-memory systems, the time needed to load data, make the planning run, and re-distribute orders to suppliers is a significant drag on customer satisfaction levels and costs. This re-planning step also introduces a significant amount of noise into the process, which continues to increase as it travels downstream, leaving lower-tier suppliers working from stale, inaccurate plans for days at a time. Furthermore, re-planning inevitably involves changes to existing supplier orders. Suppliers experiencing order changes on a regular basis are likely to disregard initial orders or create buffer stocks to accommodate unplanned adjustments from the brand owner. These higher inventory costs are then passed along to the buyers. As the work week nears its end, those orders with exceptions must begin the “planning” process all over again—exhausting still more time and money and continuing to expand inventory lead times.



Friday

By the end of the work week, the supply chain professional using a planning-based approach has resolved a few more of the exceptions to the plan (represented by the darker shade of pink on the progress bar) but is still iterating the “re-plan, communicate, resolve” loop—a loop that costs the brand owner one to two days for each iteration. For the business network user, exceptions have been resolved and resources are freed up for more strategic activities, such as performance management and continuous improvement initiatives.

The dramatic savings in time and improvements in customer satisfaction demonstrated above are the reason that leading companies have developed a core competency in collaborative execution.





Summary and Conclusion

The business world has changed. Instead of vertically integrated companies relying on relatively static, linear supply chains, the majority of manufacturers today are global firms that outsource much of their manufacturing and rely on trading partners outside the four walls of the enterprise. How can you plan successfully in today's complex, dynamic, supply chain environment? And, once you have made your plans, how can you execute them and deal with the inevitable exceptions that arise?

There are two divergent approaches to exception management: one based on planning, the other based on execution. Planning-based solutions seem like a natural extension of periodic planning processes. When something goes wrong, simply re-plan with newer, better information. Unfortunately, responding to exceptions by re-planning, even with a "rapid planning" or "rapid response" system, introduces additional cost, noise, and time into the supply chain.

In contrast, an approach based on collaborative execution enables you to resolve the majority of exceptions quickly and cost effectively, while reducing cost, noise, and latency. This approach represents a new kind of solution for a new kind of problem—one that requires expansion beyond the four walls of the enterprise in both viewpoint and technical capabilities. To learn more, [contact E2open today](#) or call 1-866-4-E2open.

About E2open

E2open (NASDAQ: EOPN) is a leading provider of cloud-based, on-demand software solutions enabling enterprises to procure, manufacture, sell, and distribute products more efficiently through collaborative execution across global trading networks. Enterprises use E2open solutions to gain visibility into and control over their trading networks through the real-time information, integrated business processes, and advanced analytics that E2open provides. E2open customers include Celestica, Cisco, Dell, HGST, IBM, L'Oréal, LSI, Motorola Solutions, Seagate, and Vodafone. E2open is headquartered in Foster City, California with operations worldwide. For more information, visit www.e2open.com.

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