Digital Supply Chain Control Towers: Selecting the Best Fit for Your Business Needs
Introduction

In the last few decades, the supply chain has radically transformed, becoming far more digitized, global, and networked. Today, order fulfillment involves efficient orchestration across multiple parties that leverage a multitude of systems and technologies. While the modern supply chain is capable of delivering on incredible and previously unimaginable promises, the newfound complexity has also exacerbated organizational silos and created a critical need for end-to-end, real-time visibility and control.

According to a 2017 Supply Chain Worldwide Survey by Geodis, most respondents prioritized visibility and transparency, as well as on-time, in-full (OTIF) deliveries and product availability as areas having the most potential for improvement. Yet, insight into and control across multi-party networks are sorely lacking, with only a paltry 6% of participants claiming to have full visibility within their supply chains. Fast forward to 2018 and you’ll find that not much had changed when a Deloitte Global CPO Study found that (again) just 6% of respondents had full transparency of their entire supply chain, while 65% had either no visibility or felt highly limited visibility. Such capabilities are paramount to consistently delivering OTIF, as well as running cost-effective operations.

Companies are focused on supply chain visibility, though progress remains sluggish. In a 2018 IDC supply chain survey, 87% of respondent companies said that they were engaged in efforts to improve visibility, but only 32% were focusing on true end-to-end visibility. While any visibility is better than none, the journey to full visibility remains aspirational for most companies.

Rising customer and consumer expectations are further challenging companies to deliver faster than ever before, in increasingly narrow time slots and at lower prices. Meeting these demands requires optimizing complex processes across a network, which is impossible if companies are not properly sharing data or if they can’t act on that data in a timely fashion.

Many solutions are not doing enough to eliminate enterprise or cross-network silos, and are therefore failing to help businesses take advantage of every opportunity for optimization, increased efficiency, and profitability.

In this white paper, we chart the evolution of the Control Tower as a means to embrace and extract value from this newfound supply chain complexity. We’ll investigate some of the most significant ways solutions vary and identify how best to select and implement the right one for your business needs.
What Is a Control Tower?

Despite how widely used the term is, software providers often mean different capabilities when referencing the solution. At its core, a supply chain Control Tower will connect disparate systems to provide a single version of the truth. Beyond this, every solution may vary – from the range and types of systems it is able to connect to how broad or granular the insight is to whether and how it connects multiple parties within a network and how much of the supply chain it spans. Moreover, many Control Towers offer little else beyond a visibility solution and don’t enable users to take corrective actions from within the system, which is a fundamental function of ‘control.’ Let’s dissect some of the most common options you’ll find on the market – though, keep in mind, they will all likely be listed simply as “Control Towers,” so it’s vital to understand all the possibilities out there, as well as all the limitations you’re likely to encounter.

- **Analytic Control Tower**
  The term “Control Tower” within the supply chain was borrowed from the Air Traffic Control Tower, which was designed to oversee all flights in a given airspace to ensure safety and efficiency. Similarly, companies employ supply chain Control Towers to move products efficiently and effectively. The role the solution plays in this endeavor and the level of its involvement can vary significantly.

  For instance, some Control Towers limit their involvement to data consolidation and visualization in order to aid planning. These provide businesses with a valuable overview of the supply chain according to a variety of metrics, such as line of business or product category. However, while businesses can start identifying issues with this type of solution, the visibility achieved is still passive. Analytic options offer no functionality to act on what is seen.

- **Operational Control Tower**
  Operational Control Towers offer an added layer of functionality. In addition to data consolidation and visibility, they enable exceptions management; they equip users to act on the information displayed in real-time. However, these too can vary widely based on the level and breadth of insight, automation, and nature of the actionability.
How Do You Select the Right Operational Control Tower?

Because the solution has come to be defined by a range of capabilities, knowing the breadth of what’s available is a good place to start. Once you have a sense of what’s possible, as well as the limitations of various solutions, you can better evaluate a software provider’s Control Tower against the current and future needs of your business.

A simple way to assess the value of such a solution is by considering its two fundamental component parts: Visibility and Control. You can’t ‘control’ what you can’t see, but you also gain little from a dashboard that indicates an array of problems without allowing you to immediately resolve the issue in the app or limits your action capabilities.

Think about what you ultimately hope to achieve. The end-aim is never simply to collaborate better with your network or to move products more efficiently through the supply chain – these are both means to a greater end. As a business, you want to differentiate yourself from your competitors and drive customer satisfaction as profitably as possible. Keep that highest standard in mind as you appraise various Control Towers – look for those that will truly transform the way you do business.

The Depth of Visibility in the End-to-End Promise

Nearly every vendor boasts end-to-end visibility, but not every solution spans the entire supply chain. In fact, most “end-to-end” capabilities refer to the transportation side of fulfillment and tend to be offered as part of a Transportation Management System (TMS). While this is certainly a crucial component of order fulfillment, its limited scope also restricts opportunities for optimization and cost-savings. Additionally, any solution that only covers a branch of the supply chain inevitably perpetuates organizational silos between the remaining sectors.

To take advantage of every opportunity and eliminate silos across the multi-party network, the Control Tower should provide visibility into every step of an order’s lifecycle. This should include insight into all flows: inbound, outbound, and reverse logistics, as well as milestones beyond transportation, like those pertaining to distribution centers, third party warehouses, manufacturing, and repair. The greater the context a Control Tower offers, the more possibilities there are for informed and effective decision-making.

When alerts come in about potential problems, it’s vital to not only take immediate action, but to also consider how those actions will affect the rest of the supply chain. Businesses must weigh their on-time, in-full commitments against other goals, such as keeping inventory down or balancing costs versus customer service levels. If a Control Tower doesn’t provide a kind of bird’s-eye view of the supply chain, you’re at greater risk of acting in ways that negatively impact other areas of the supply chain.

Visibility should also occur on a granular level. In addition to the bird’s-eye view, businesses must be able to drill-down into the details of every customer order to execute optimally on every element. For example, a customer order may require two shipment orders which would best be fulfilled from two different locations. In turn, these two shipment orders may decompose to three additional orders that must each be sent to various parties to execute. Is the Control Tower able to view this entire series of events in all its scope and complexity?

Delivering consistent, cost-effective, and exceptional customer service requires following an order’s milestones across all processes, including manufacturing, warehousing, and any steps in transit and customs. This depth of visibility allows businesses to change and re-plan order flows as needed or recalibrate their execution when new and better opportunities arise.
The Pursuit of the Perfect Order

The ultimate aim behind better visibility and multi-party collaboration can often be traced to the pursuit of the so-called ‘perfect order.’ As we mentioned earlier, customer expectations are higher than ever. There’s a growing demand for faster lead times, more convenience, and complete transparency over the progress of an order. Customer satisfaction is integral to building loyalty and a competitive advantage. However, to sustain a business model that delivers on all those fronts requires controlling costs. In this sense, the perfect order is one that fulfills a customer’s exact requirements, on-time and in-full (OTIF) – profitably.

The “Visibility” aspect of a Control Tower gives businesses insight into their product flows, so they can be aware of how they’re doing, offer their customers transparency, and be alerted of any issues as they arise. How quickly, effectively, and thoroughly businesses can act on that information will determine how vastly they can improve their lead times and profitability.

Therefore, the level of “control” a solution provides can be measured by its degree of agility, flexibility, and span over the supply chain.

Agility

The point of receiving timely alerts is to take immediate and intelligent action. We’ve discussed how to ensure as much context as possible (which helps make more prosperous decisions). Now consider how quickly those changes can be implemented and what support is required. Can you follow up on exceptions directly within the app or do you have to log into another system? Timing is of the essence, and the more steps that have to be taken across systems, the more room you leave for error and missed opportunity. Is the system configurable, or do you have to rely on the software provider with certain change requests and updates? Your control tower should support a healthy amount of independent growth and evolution.

Flexibility

Control should also be possible on a granular level. Drilling down to the details of every order is crucial to acquiring transparency into every milestone, but can you also make cost-effective changes at each step of the process? Ideally, a system should grant you the ability to isolate and act on discrete elements of an order when issues arise – as in our earlier example in which a customer order decomposes into several shipment orders – without disrupting other shipments or executions that are going smoothly.

Because the supply chain is increasingly complex and global, it is far more vulnerable to disruption – be it environmental, political, or otherwise. Flexibility means having as many options at your disposal as possible to problem solve, change course, or adapt your plans when unexpected issues arise. Simply expediting an entire order cuts too deeply into already thin margins. To avoid taking excessive hits, planning and execution should be pliable processes that allow for feasible alternatives, like splitting orders and assigning new carriers only to those orders that require critical attention.

“If new and better opportunities present themselves, the platform you’re using should be able to accommodate alterations.”
Similarly, if new and better opportunities present themselves, the platform you’re using should be able to accommodate alterations. Even a well-executed flow is not always the ideal one; what may have seemed a good choice during the planning stage may become a suboptimal one later if conditions evolve. A solution designed to handle modern pressures should be equipped to continuously recalibrate and alert you to new possibilities toward greater efficiency and cost-savings.

**End-to-End Control**

Just as end-to-end visibility is vital to providing context, so is end-to-end control over all inbound, outbound, and after-market flows to optimize every order. An end-to-end Control Tower can converge historically isolated flows and processes like reverse logistics, spare parts management, and repairs, allowing users to immediately take advantage of every order splitting and consolidation opportunity, as well as dynamically source inventory across the network. If your business is global or may one day expand, can the Control Tower you’re considering handle international workflows? Is the solution multi-leg and multi-modal? Asking these questions ahead of time is a vital component of future-proofing your investment.

**Factoring Implementation & Integration**

Consider the cost and time a full integration with existing systems will take and how disruptive it will be. Factor in challenges with legacy systems and choose a solution that can easily accommodate current and future technologies. Also check that the Control Tower connects via a many-to-many or multi-party network. Those that have a one-to-many connection limit the quality of collaboration. The provider you choose should offer multi-party support for different customers and business units and be able to set up new partners with real-time visibility and control relatively easily.

Further, with the ever-increasing data sources available from third parties, such as newsfeeds that inform real-time activity in multiple geographies, the platform you select must be able to consume this information easily to aid in-context decision making and help you maneuver around the various delays and incidents that arise.

The right partner will take the time to understand your overall business strategy and offer potential ways to retain as well as expand your customer base. To future-proof your investment, select a platform that is designed from the ground up to help you scale.
Conclusion

Digitization and shifting customer expectations have greatly increased supply chain complexity. To handle the growing demands and pressures of the industry, businesses are building multi-enterprise – and often global – networks, which complicate matters as much as they promise incredible opportunity. Therefore, the best solutions are those that not only simplify processes, but also leverage every possible opportunity toward optimization to better serve customers while controlling costs.

In this regard, not all Control Towers are created equal, and while many will help you achieve those previously mentioned short-term goals, like better collaboration or improved efficiency, not all are truly focused on end-to-end optimization to catch all cost leakages and eliminate as many silos as possible. Taking advantage of every possible opportunity requires having visibility and control over your entire supply chain – that means beyond transportation and including after-market flows – otherwise, you miss out on crucial insights and untapped possibilities.

Visibility alone is simply not enough. The data must be contextual and occurring in real-time, so your decisions are not only informed, but have maximal impact. Further, a solution doesn’t actually offer "control" unless you can act directly within the application. Having to log in elsewhere wastes time and perpetuates silos and errors.

Finally, a large part of today’s supply chain complexity is the pressure to consistently deliver the perfect order in an imperfect and inconsistent world. As the saying goes: “The best laid plans often go awry.” The type of control a solution offers is key. It must be flexible and agile enough to allow you to quickly adapt to change and refine the order execution as you go. Even if everything goes according to plan, conditions regularly change, and new opportunities may present themselves. To be competitive and drive differentiation, it’s not enough to simply make your network collaborations better or flows more efficient; both must be routinely optimized to maintain consistently perfect orders under unpredictable circumstances.

Everyone is vying for the perfect order, but not everyone is making the most of their networks. There is extraordinary – and largely untapped – potential in achieving true end-to-end supply chain visibility and real-time control across the multi-enterprise business network. So many processes remain unnecessarily divided and siloed – from order to flow type – leaving a remarkable blind spot in the contextual insights business draw from when decision-making and significant gaps in the resources they utilize when problem-solving. A modern Control Tower should be embracing today’s complex supply chain by drawing data from every branch of the ecosystem and empowering users to leverage every one of their resources at every possible stage of every order’s lifecycle. A modern Control Tower should be about more than managing exceptions – it should be about seeking and maximizing opportunities and getting creative and innovative with those you partner with.