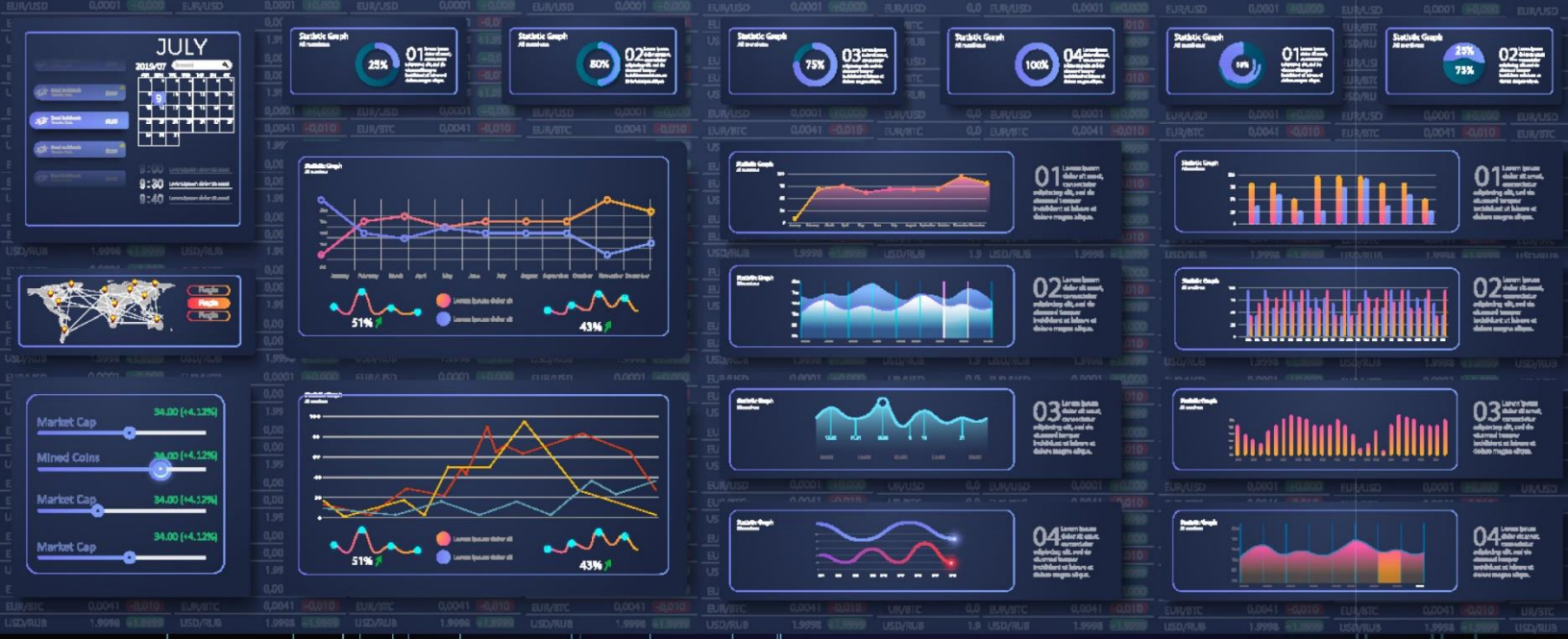

What Every Executive Needs to Know About

Control Towers

in Supply Chain Management

one

One Network Enterprises™

Adopting a Control Tower Strategy

… and how to ensure yours succeeds

Supply chain control towers can offer significant benefits to companies by extending visibility and control beyond the enterprise, and enabling advanced analytics, real-time collaboration, and sophisticated optimization. However, many control towers do not reach their full potential as they are built on antiquated foundations. Let's start with what companies are hoping to achieve with a control tower.

In speaking to executives and business leaders, the most common reasons for deploying a supply chain control tower are to:

- Make significant operating improvements
- Achieve the (seemingly) elusive end-to-end visibility for inbounds, outbounds, transportation, orders, shipments, and inventories
- Become more agile, and respond better to customer needs, market changes and incorporate technological innovations
- Improve on-time, in-full performance
- Realize cost reductions

While not unreasonable, most companies struggle to meet these objectives for reasons such as rising costs and lack of control, etc. However, when digging a bit deeper, the root of the problem often lies with current technology limitations, as, organizations are struggling with issues such as multiple information sources and a lack of integration across systems.

Each of these issues presents a huge problem, as organizations have a lot of supply chain-related data, but much of it is duplicated and can be contradictory. This leads to a lack of confidence in the information, because they have no single version of the truth. Worse, there is no solid basis for making decisions and optimizing the supply chain.

Companies want to solve these problems and update their systems, but they don't believe it's possible or practical. They know that they will still need to rely on many of the systems and they don't want to risk losing that functionality. Upgrading to new systems is also perceived to be costly and slow. For many companies, the fear of change management and the trauma of past upgrades holds them back.

Businesses limp along with aging and sub-optimal systems, and the result is they are forced to manage the problems and supply chain disruptions outside of the systems. Given this scenario, it's no wonder that operations are often slow, labor-intensive (with emails, phone calls, errors and error correction) and deliver poor performance.

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The Pros and Cons of Supply Chain Control Towers

In response to these problems, many companies choose to implement a control tower to provide greater visibility and some degree of control across the supply chain. However, when they do, the results are often disappointing, as the concept of enterprise control towers, while sounding great, have a false and inflated sense of value. Why?

In a nutshell, it's because their control tower strategy doesn't encompass their entire business network of suppliers, customers and transportation partners. In today's economy of globalized and outsourced business, an internal enterprise control tower limited to an organization's four walls will not work, because the control tower is only as good as the foundation it rests on. Enterprise control towers built on loosely coupled legacy systems introduce latency at the foundation. Much of the data in the supply chain is still locked in silos, and once the data is accessible and shared, is usually stale due to batch processing.

In this scenario, costs such as inventory in supply chain situations are pushed out to the weaker members of the value chain even though your business ends up paying for it indirectly anyway. This is why many control tower implementations, while good in theory, lead to disappointing or mediocre results.

Beyond the Enterprise: Network-Based Control Towers

As organizations seek to achieve even greater results, they have learned that control towers need to be able to deliver real-time data and be connected to multiple-parties using the same network. That way they have access to data from all parties and can synthesize it into a single version of the truth. The real-time data generated provides clear visibility, reliable decision-making and powerful optimization that considers all relevant factors in the supply chain.

With that foundation, these new network control towers provide powerful benefits such as:

- Visibility beyond four walls, connecting the trading partners, and providing that "elusive real-time visibility" that every business leader needs and wishes to have.
- Agility to respond to changing business needs or objectives.
- Rapid on-boarding and activation of partners on the network, thus creating the ecosystem and generating the value from day one.

And it gets better. All too often, control towers are misunderstood as advanced "visualizations and ad-hoc reporting" solutions which is not true. While that is a part of their function, it is only the beginning.

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Network control towers are capable of much more. For instance, we have seen the biggest gains from predictive analytics coupled with autonomous agents that detect issues early and solve logistics and transportation issues before they become major and costly problems. But to be able to use autonomous agents, you need to be able to represent insight across the total network, not just the operations within your four walls.

A network-based control tower transcends the walls that contain enterprise control towers and limit their results. A network control tower is more than a reporting dashboard, in that it spans enterprises and systems while covering supply, demand, inventory and logistics functions. It is "network informed," and able to optimize and execute while considering all variables and all constraints.

These modern networks also eliminate static, stale data and assumptions, instead running on real-time execution data. They use actual, dynamically computed lead times, not static assumptions as its autonomous agents use real-time transactional states to identify and fix issues as soon as they emerge.

Network-based control towers not only offer improved performance based on real-time, network-wide data, they are also easier and cheaper to deploy. They do not use complicated point-to-point connections like typical control towers, but exploit pre-existing network connections. Thus, companies can implement faster while realizing more value from the comprehensive visibility, optimization and collaboration that a network-based control tower provides.

In sum, a network control tower is a collaborative platform that engages your trading partners in decision making for better decisions, better optimization, better team work, and ultimately better results.

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Raising the Bar for All

How network control towers create value throughout the supply chain

Supply chain control towers have been around for a few years now, and enthusiasm for them remains high. In large part, because they deliver enormous value, and also because they are an ambitious and challenging undertaking not easily achieved in today's supply chains. This means that when enterprises successfully implement a control tower strategy to be comes an important differentiator in their market, and an important source of value to the business.

What is a Control Tower?

A control tower was originally conceived as a "war room," a physical location that brought together analysts along with data from multiple systems and trading partners. This provided visibility to the supply chain and a reliable and accurate source of data for making supply chain decisions. However, as the cloud has gained traction, control towers are increasingly cloud-based, virtual dashboards of consolidated data from across the supply chain.

Despite the interest and investment in control towers, complete visibility remains elusive for many companies. In a recent survey by Geodis of hundreds of executives, "visibility" ranked as the third most important challenge. Surprisingly, only 6 percent of those executives could claim to have achieved full end-to-end visibility, and most (62 percent) only had visibility to their immediate trading partners.

This creates a huge problem because, without visibility to the complete supply network, you can't plan or make supply chain decisions effectively. Imagine trying to play a game of chess when you can only see a quarter of the board. When there is ongoing systemic failure it's time to re-assess the assumptions underlying the approach.

Typically, control towers are built on loosely coupled legacy systems with point-to-point connections to key trading partners. Since these integrations are difficult to implement and maintain, they are often established with only a few important and immediate trading partners.

Due to the significant effort involved, few connections are established. As a result, these enterprise control towers face an uphill battle. With periodic batch transfers of data between partners, visibility is "rearview" rather than real time, and thus of limited value. By the time you become aware of a problem, it is often too late to do much about it, as the window has closed on the cost-effective options.

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At root, the problem is that these control towers try to connect on a partner-by-partner basis. This limits their ability to achieve the comprehensive view of the supply chain that a control tower aspires to deliver. It also means that trading partners, e.g. suppliers, have to integrate or join multiple systems or portals, one for each customer they work with. They are effectively a second class "citizen" in the control tower hierarchy, contributing but not getting the value of the "hub" customer who controls the control tower.

The Importance of a Network-based Approach in Control Towers

A far more effective and successful method is to connect all trading partners to a common, real-time platform where partners connect once and share data over the network with all parties. After all, to achieve the greatest business value from a control tower strategy, an enterprise needs supply chain visibility across its full business network – suppliers, customers, and transportation partners – and every shipment in close-to real time.

A common platform can deliver on the elusive goal of end-to-end visibility simply and elegantly, and opens the door to other powerful applications, such as multiparty and integrated planning and execution apps; real time collaboration tools; and network-aware intelligent agents that can sense and respond to issues across the entire network.

What is required to bring an advanced network control tower to fruition? Here are some key elements that underlie an effective control tower:

Multiparty Master Data Management (MDM)–A key inhibiter of business efficiency is the quality of the data driving business decisions. A control tower cannot function effectively without consistent data across systems and parties. A control tower needs Multiparty MDM to cleanse and map data to harmonize it within and across enterprises, providing a clear and consistent definition of product items, sites, customers and more.

Permissibility Framework– With potentially tens of thousands of companies on a single network, ensuring each company's confidentiality and security is paramount. A strong permissibility framework enforces granular permissions, so that network participants only have access to the information relevant to their particular role and business.

Network Intelligent Agent Technology – Companies and multiparty networks generate huge amounts of data making it is impossible to analyze the data manually, glean insights, and act on all of it. Here, artificial intelligence is invaluable. In particular, intelligent agents can be used to continuously monitor and optimize the supply chain and modify and generate transactions in real-time across the multiparty, multitier network. Network optimization is much more

powerful as it considers all conditions and constraints across the network rather than sub-optimizing around a few nodes and/or making a decision based on inadequate data.

Open-Ended – A control tower should recognize the past while embracing the future. Many legacy systems are good at what they do and offer significant value. Replacing them is often costly and disruptive to the business processes supported by the legacy systems. In such cases, a control tower needs to integrate, synchronize and orchestrate the legacy systems. At the same time, technology is advancing rapidly, as we can see from the rapid rise of IoT, artificial intelligence and blockchain. As such, a control tower must be forward-looking and adaptable to incorporate new technologies quickly and easily. Blockchain is promising to improve visibility, transparency, trust, and security. A control tower needs to work seamlessly with blockchain networks and other technologies such as voice, as they emerge and reach maturity.

Value Ramp – Implementing a control tower should not be a "big bang" proposition. There should be a smooth onramp to maximum value. Companies should be able to start where they are and ramp up as value is gained with proven return on investment. An agile, ROI-driven implementation method is an effect way to ensure the project stays focused on delivering enduring and maximum business value.

In Summary

A network-based control tower on common platform provides a nerve center that extends visibility and control across the network. It eliminates blind spots, and greatly reduces risk and enhances compliance by bringing the full supply network under scrutiny. It can also coordinate systems and processes, analyze and course correct to keep your supply chain running smoothly. Further, and when problems arise that are outside the ability of agents to resolve, supply chain managers can collaborate with their partners across the network to resolve problems quickly and at the lowest cost.

We have come a long way from the idea of a control tower as a "war room," a cloistered haven for the chosen few to analyze and plot. On the contrary, when built on a solid real-time network foundation, a control tower can be so much more. It can be a platform for total visibility and collaborative planning and execution across all trading partners. It can run network-aware solutions and intelligent agents that see the whole "chessboard." Every company can have its own control tower, without being subordinate to the strongest trading partner. More importantly, these modern control towers can power a new age of agile, intelligent, and super-efficient supply chains that provide benefits to all involved.

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About One Network Enterprises

One Network is the intelligent business platform for autonomous supply chain management. Powered by NEO, One Network's machine learning and intelligent agent technology, this multi-party digital platform delivers rapid results at a fraction of the cost of legacy solutions. The platform includes modular, adaptable industry solutions for multi-party business that help companies lower costs, improve service levels and run more efficiently, with less waste. One Network also offers a PaaS solution and developer tools that allow organizations to design, build and run multi-party applications. Leading global organizations have joined One Network, helping to transform industries like Retail, Food Services, Consumer Goods, Automotive, Health Care, Public Sector, Defense and Logistics. Headquartered in Dallas, One Network also has offices in Japan, Europe, and India. For more information, please visit www.onenetwork.com.

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