

EBOOK

10 Expert Tips for Supply Chain Design Success

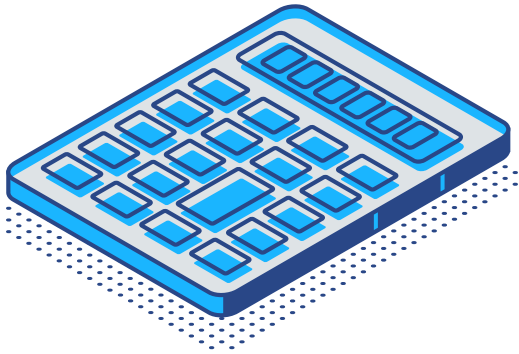
The requirements for success for global supply chains have changed dramatically. We share our quick and powerful advice to help you design a thriving, resilient and strategic supply chain.

miebach 
the supply chain engineers

 **coupa**



Where We Came From

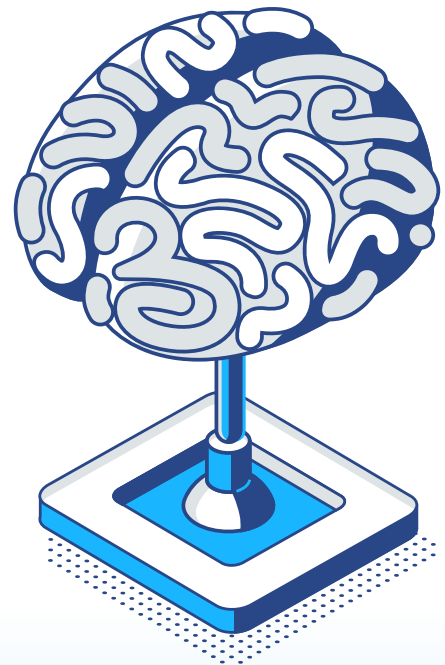


The practice of supply chain design is one that has evolved over time from being a strategic exercise often utilizing consultants to one that many leading supply chain organizations see as a competency to internalize. Even more so, the definition of supply chain design grew from the traditional distribution network optimization to incorporating solves for areas such as production and sourcing. Technology evolved and adapted with the needs of the industry creating an environment where digital twins can be built to solve a variety of both strategic and tactical questions across the supply chain.

Fast Forward to Now

Now we all find ourselves in an environment where volatility and unpredictability are the norm. In an economy where supply chains are interconnected and global, the butterfly effect theory has become reality. We have all felt the combined pains and crippling effect of the pandemic, transportation blockages like the Suez Canal, and material shortages have had on the on the supply chain. However, new advances in cloud and platform technologies can help companies across the maturity path of supply chain design move away from reactive firefighting to a place where prescriptive and predictive analytics can support the design, planning, and execution of the business no matter what the new normal brings.

Organizations that embraced the idea of supply chain design as a continuous process before disruption have found recovery to be a bit less bumpy than those which did not. Even more, AI, and supply chain digital twins have freed valuable work hours for teams to focus, test and evaluate scenarios toward strategic pursuits that will impact the bottom line more powerfully than the yearly adjustments based on historic information.





Balance of Trade and Risk

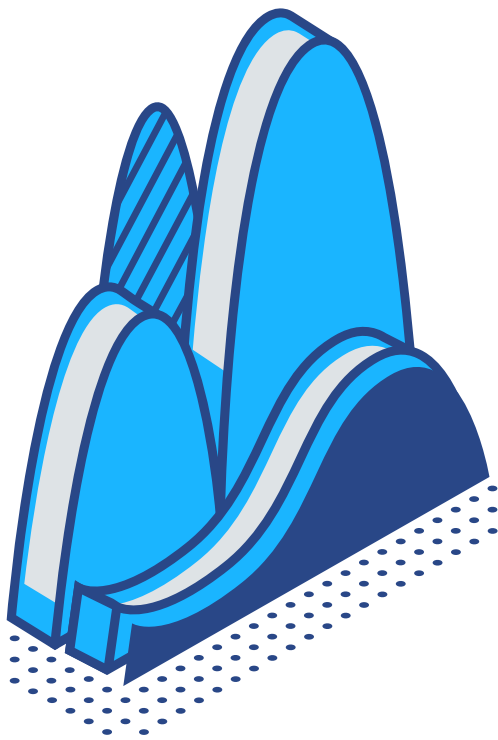
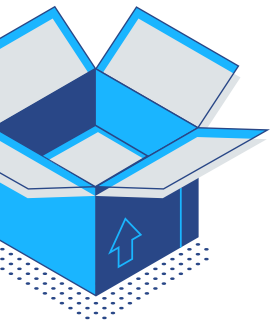
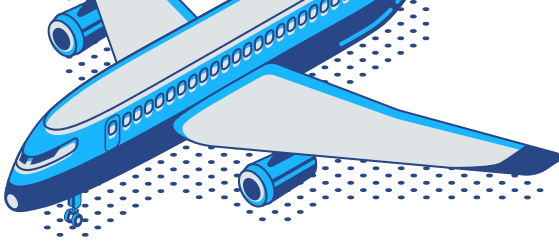
The competition for price, service and delivery has not dimmed. Necessarily, lean manufacturing principles, once the standard of cost cutting supply chain organizations are being reexamined, as essential parts and ingredients could not be quickly supplied to meet global demand. In many buying situations, working with a supplier based half-way around the world is riskier than selecting the manufacturer down the street. The pandemic of 2020 pushed a refocus to more regional supply chains that seek to balance the reliance on global hubs. Supply Chain Design can help look at the cost, service, and risk metrics associated with nearshoring strategies, setting up duplicative suppliers, and even enabling simulation to see the effect of a disaster, unplanned event, or increased volatility on the supply chain.

Work Strategically, Not Harder

The right supply chain can help you get products to your customers faster, with greater service level, and at a lower cost. It can help you tap into new markets and stay ahead of the competition. In fact, many successful organizations see their supply chain as the secret weapon in their bid for market leadership and long-term business resilience.

“Getting buy-in across all stakeholders was critical. We achieved that alignment within the supply chain and with cross-functional business partners to accelerate our plan.”

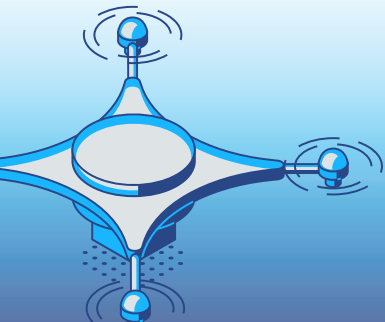
—GURU PUNDOOR,
VICE PRESIDENT OF
SUPPLY CHAIN STRATEGY,
PLANNING AND
EXECUTION, AMERICAN
EAGLE OUTFITTERS



Supply Chain Design: More than Great Technology

It is tempting for us to focus on the technology. But, as we have seen time and again in the customers we have worked with, it takes more than great software to be successful.

In this eBook we will share 10 supply chain design tips that can help you avoid common missteps and begin to position your supply chain as your greatest competitive advantage.





1 Bring Stakeholders Together Up Front

Supply chain design projects can have many stakeholders. Often it seems simpler to bring in the key stakeholders, and even more so the extended stakeholders in once a model has been built, data validated, and initial scenarios have been run.

However, it is vital to bring everyone together in a strategy workshop to identify the objectives of the project and get buy-in. This can be a key opportunity to do the question generation and prioritization mentioned below in tip #5. Holding this workshop before starting to gather data can save you significant rework in the long run and help ensure projects align with business goals. Even more, in times of crisis, the members of this core planning team are now collaborators rather than threatened functional owners and can pull together more quickly and comfortably because of earlier strategy agreement in calmer times.

In addition to reducing the risk, rework, or scope creep, this is fundamental step in change management. According to the widely accepted “Kotter 8 Step Process for Leading Change” the first 3 steps are:

1. **Create a sense of urgency.**
2. **Build a guiding coalition.**
3. **Form a strategic vision.**

Too often clients see the process of change management starting once the new strategy or solution is developed. We see the activity of supply chain design itself as an endeavor requiring sound a change management approach as it is the nexus event to launch the change of the business. Such a workshop is fundamental to managing the change coming as an output of the activity.



2 Define Specific Goals for Supply Chain Design Efforts

“We want to double our revenues in five years.”

This is the kind of goal that may get tossed out on the table at the beginning of your strategy session. But what does “doubling revenue in five years” look like?

There are a lot of ways to increase revenues, but there needs to be a clear agreement on drivers vs. outcomes. Revenue is a driver. It is driven by products, marketing, and good S&OP enabled by Supply Chain Design.

Modeling the type of supply chain you will need in the future requires that you ask questions and understand the revenue and sales plan to best address. Is there a plan to enter new markets?

Add new products lines, which may require new channel capabilities? Add channels? Expand existing channels? What are the constraints - what aspects of supply chain network structure or policies may not be changed? The answers to these questions inform the approach you will make.





3 Alignment and Upskilling

Unless your team's skills match the requirements of your project, you will not get world-class results, the key is that practice (and ongoing training) makes 'perfect'. Fortunately, the career of the supply chain designer is longer than a world-class athlete, so there is time to continually stretch to develop new skills. Steadily increasing model challenges in an environment focused on best outcomes instead of perfection is where talent is nurtured and truly becomes great. In other words, fail faster to strive for excellence.

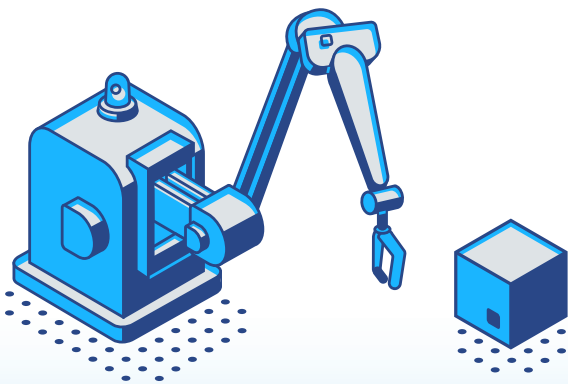
Match your project to your available skill sets and continue to develop and reward new skills on the team. This is also an area where this endeavor does not need to be done alone. Several Coupa supply chain partners, such as Miebach, focus a great deal of their practice on training and development of the Center of Excellence's (COE) resources. When an organization loses a world class supply chain designer a talented supply chain partner can fill the gap. In other cases, resources can augment the client's COE to supplement some skill set (be it project management, industry thought leadership, modeling strategy, etc.) for time or importance on critical projects when failing fast is not an option. These engagements are all done in a way to support upskilling the team by providing aid and knowledge transfer during the project. Some organizations have adopted a managed service model where an outside party is part of their organization serving as the supply chain design team.





4 Standardize Processes

Technology and platform applications have enabled organizations to move away from Excel as their supply chain decision making tool of choice. This greatly standardizes the inputs, algorithms, and detail of the scenario set-ups well beyond what is capable with the freedom Excel allows. However, one critical overlooked aspect when companies internalize this capability is the processes, governance, and RACI associated with the activity. This need for standardization is multiplied when tackling a variety of use cases for the platform, differing detailed of analysis, and as the team grows beyond one resource. As an organization matures with this capability, it is inherently important to have all the activities, decision making, and responsibilities standardized, aligned, and communicated in order to maximize the benefits of such an organization.



5 Prioritize the Questions

When it comes to supply chain design, there are often more questions than answers. The 80/20 Pareto Rule applies. Eighty percent of the value to the organization comes from 20 percent of the answers. Prioritizing the questions you model will allow you to keep your workload manageable by helping you focus on the highest value potential initiatives.

As you score possible projects, it can also be helpful to map them on a quadrant. This allows everyone to easily see which projects provide the greatest impact for the lowest possible effort. In the graphic below, the project in yellow is a likely high-priority candidate, since the savings are high, and the complexity is low.

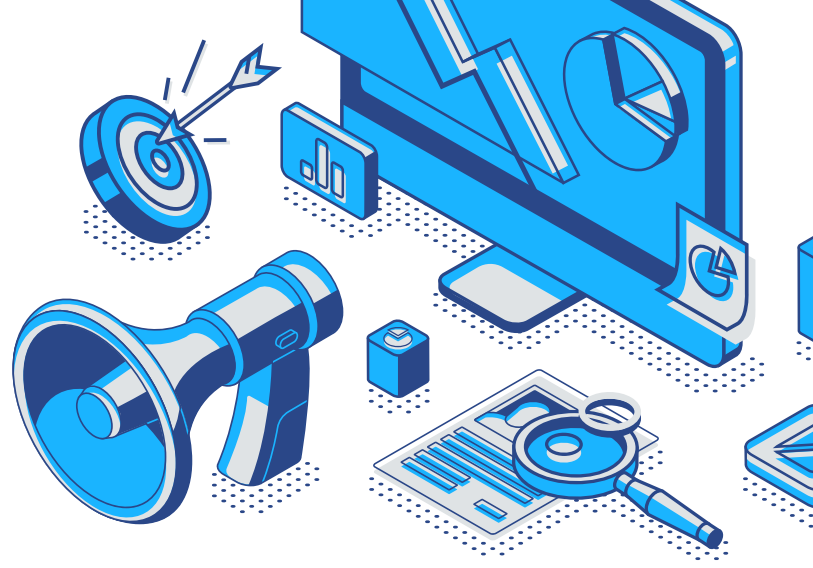
When launching a new supply chain design activity, it is typical for a business to want to maximize the number of questions answered out of the project. This on one hand can be positive in young supply chain design teams as there is an eagerness to prove value. However, this can become a quagmire when the quantity of questions results in a model so complex that it becomes a “black box”; difficult to distinguish the drivers of behavior as both inputs and scenarios change. Therefore, it is important to have a process in place at the onset of the project to triage the project questions. Then prioritizing those into primary, secondary, and tertiary order will help in a number of ways. First, this helps drive the decision on the design requirements of the models themselves. Second, this helps set realistic expectations on what the scope of the project will solve and avoid having to back-end to answers to questions the model was never set-up for. Finally, this enables the development of a long-term road map.

From there, project prioritization moves clockwise around the quadrant with those in the lower left-hand quadrant often not making it onto the project roadmap. Advanced organization leveraging AI and ML techniques can use these technologies to provide insights that can accelerate movement to the upper quadrant.



“The key is not to prioritize what’s on your schedule, but to schedule your priorities.”

—STEPHEN COVEY,
AUTHOR OF 7 HABITS OF
HIGHLY EFFECTIVE PEOPLE



6 Make Sure You Have the Right Data

The 80/20 rule applies to data, too. Eighty percent of the value is going to come from twenty percent of the data. Unfortunately, the other eighty percent of less valuable data is often outdated or just plain wrong.

Before you start collecting data, ask yourself these key questions:

- **Is the data accurate?**
- **Is it current?**
- **Is this data directly related to the questions we are trying to answer?**
- **If not, is it valuable enough to offset the cost and effort to collect it?**
- **Is it worth recalibrating the current project timeline?**

Many of the organizations we work with start with a data clean-up effort. In the meantime, they still get value from their supply chain design by prioritizing those projects for which they already have current, accurate data. This is especially true when the design team is comprised of less experienced, analytical focused people or people new to the organization. In the absence of experience, too often analysts and modelers rely on the data as a crutch, as they are unable to rely on past experience or knowledge of the business in order to cut through the noise that some of the data causes. This is also an additional benefit of prioritizing questions, as it will help guide the discussion as to which data is required in order to answer which questions. Even more, this can help avoid 'analysis paralysis' which can be a high risk in less experienced or less mature supply chain design organizations. Bringing in thought leadership from an outside consultancy to help coach and guide through the initial, foundational, steps of a project can help immature or inexperienced organizations.



7 Make Sure You Have Clean Data

Data is so important that it needs two tips! Adopting a supply chain design platform with integrated data management helps cleanse and blend data for future analyses. Design is a long-term competency; devote time to getting clean and accurate data, which is a key ingredient for success in subsequent projects. This is always a challenge when organizations are utilizing a firm for an initial supply chain design project or executing this for the first time on their own. Typically, systems of records were not developed to capture parts of the data critical to design activity. It can take years of working with legacy systems and creating data lakes from which to pull the required data. This should not be an obstacle to this activity but rather just a problem to solve. As explored above in tip #6, a clear list of questions can help identify which data is critical to have accurate versus those less risky that can utilize intelligent assumptions. Frequently data that lacks integrity are not the ones which will move the needle for the end result. Outside expertise can help with industry benchmarks, market intelligence and other aspects to both develop those intelligent assumptions and plan for sensitivity analysis to stress test assumptions after narrowing down the alternatives in the project plan.

In fact, Coupa has found that investing in a solid Distributed Data Management (DDM) effort or in-house data warehouse can reduce weeks from successive projects and may pay immediate dividends in saved work hours. Miebach has seen that immature supply chain design groups often spend between 40%-60% of the project time on data collection, validation, and baseline modeling. Investing in technology and knowledge is critical to cut the aforementioned weeks, or even months, off of the time from question to answer.

“Miebach has seen that immature supply chain design groups often spend between 40%-60% of the project time on data collection, validation, and baseline modeling.”



8 Draw the Line Between Alternatives and Sensitivities

In any supply chain project, you are going to be evaluating a number of alternatives. These are the “what if” questions from which you begin. For example:

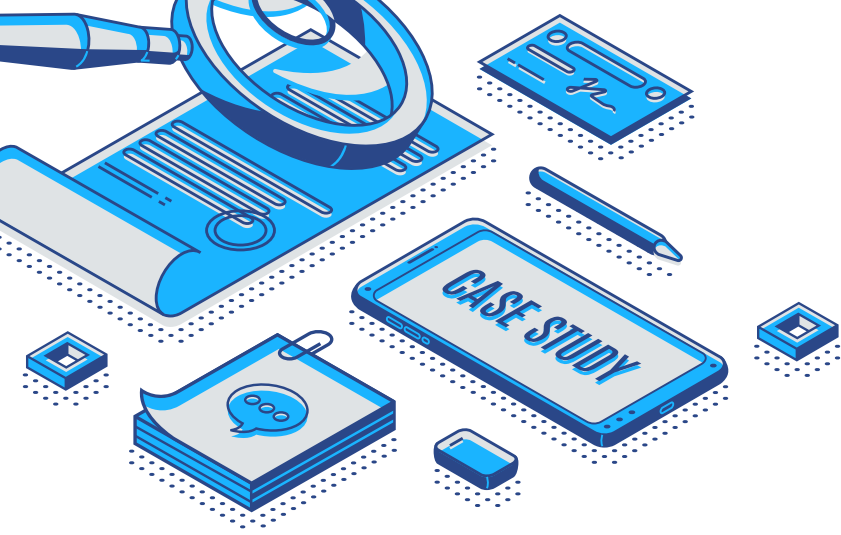
- What happens if we remove a layer in our distribution model?
- What happens if we open a distribution center in Europe?
- What happens if we ship by rail instead of by truck?

Within each of these alternatives you will need to make certain assumptions about elements such as demand, costs, etc. To ensure your model is robust, you also need to understand the sensitivities of each of your alternatives.

In optimization, the result is the mathematically correct answer, but not necessarily the one you can implement. As a result, the sensitivities are critically important to understand the trigger points for one recommendation over another within the math. To get to the implementable answer, you need to test out assumptions and key variables, to make sure that the design is robust enough to be implemented. This is especially true as we know that future growth plans are often just on a revenue level and not pallets in trucks, assumptions must be made with data, and how interconnected supply chains have become.

As Colin Powell said, “No battle plan survives contact with the enemy.” The same is true with the business plan: channel mix will change, forecasted labor cost increases will be off, and unknown unknowns will creep up on even the most agile and dynamic organizations. It is imperative to stress-test the recommended solution in order to develop a recommendation that is not focused on just one solve for one set of criteria. If you have a digital twin of your supply chain in place, you can safely explore your design options to see how they may perform in the real world.

“In optimization the result is the mathematically correct answer, but not necessarily the one you can implement.”



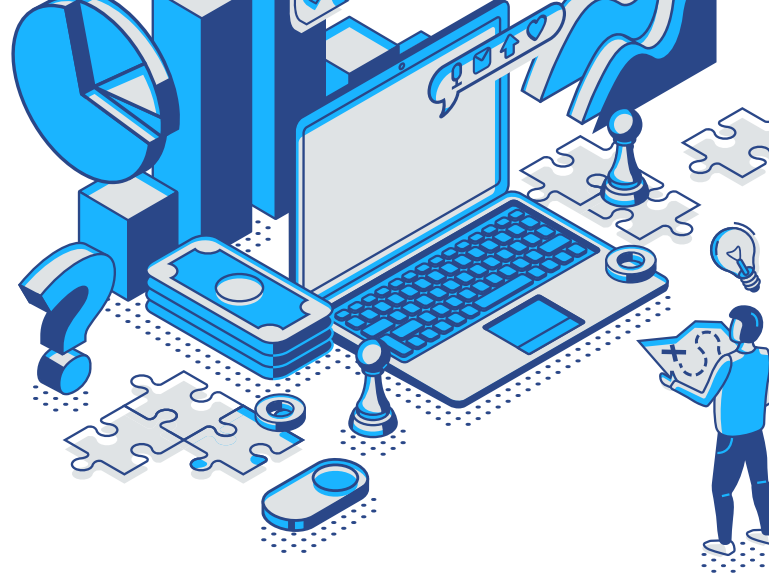
9 Execute Facility Capacity Studies

For many organizations one of the primary inputs into any modeling activity is the current network node capacity. One of the fundamental questions facing companies is understanding if the economics are better to expand existing site(s) or place new nodes in the network. It can be easy for a strategic team to just set capacity at the current level, assume a certain percentage of increase, or develop some other assumption not aligned with the engineering or operations teams. This is an area that technology can help solve by supporting different scenarios with different capacities, as the math behind those assumptions can be incredibly complex.

Where most mature organizations differ themselves—or rely on a firm with engineering capability—is to work with the sites to understand today's throughput (both in storage AND picking) as well as understanding the Capex and OpEx to expand by utilizing the current technology in the site, or by increasing the automation level. This bottom-up math can be fed into the model and through post-modeling analytics you can understand how holistic and realistic the overall solution is.

“The thinking that got us to where we are is not the thinking that will get us to where we want to be.”

—ALBERT EINSTEIN



10 Create a Roadmap

Success is not a destination. It is a journey, and you cannot get everywhere at once.

All successful supply chain design projects require planning. How will you get from where you are today to where you want to go? What are the checkpoints you will use to ensure you are still on the right path? What kind of equipment and skills will you need to acquire along the way? These decisions should begin with assessing your current supply chain design maturity level and building a roadmap to get you where you want to be to meet company goals.

	AD HOC	BASIC	ADVANCED & DEMOCRATIZED	EXECUTIVE DRIVEN END-TO-END DECISIONS	CLOSED LOOP WITH EXTERNAL COLLABORATION
PEOPLE	One smart analyst with no clear sponsorship	Design organization in place, outcomes not broadly democratized	Democratized, broad stakeholders with an executive sponsor	Regular participation from business	External partners collaborate in the end-to-end design
PROCESS	Reactive analysis to happenings in the business	Driven by requests, run with little scenario planning	Proactive and dynamic with scenarios accessible online	Policies with dynamic node, mode, and flow decisions with value tracking	Closed loop with design changes triggered by deviation in KPIs
TECHNOLOGY	Excel-driven, no rigorous algorithmic approaches	Increased competence in optimization and AI, with offline recommendations	Defined governance & standards with an end-to-end data model and technology interfaces	Mature end-to-end digital twin in place	External value chain participation within the digital twin
STRATEGY	Disconnected from planning & execution	Some adoption of the recommendations offline	Some integration to planning & execution systems	Executive decision-making based on design principles	Continuous design with strategic, tactical, and operational horizons

10 Create a Roadmap, cont.

It is not possible to do everything at once. Keep in mind that a good idea does not become a bad one because it does not make the priority cut. Keep a future project board to ensure the next project is ready when resources free up.

If you are like many of the organizations we work with, you will find you learn as much from the milestones along the way in your roadmap as you do from your final results. These “rest stops” on your journey are a great time to meet with stakeholders and reassess the project’s progress and the validity of the original plan.

It is critical to remember that your roadmap includes not only the project but also the implementation as part of the overall project cycle, as it allows the design team to have accountability and take credit for the benefits. Choosing the right partner to help you along your journey can expedite how efficiently you reach your milestones.

This is where the heavy lifting of designing the long-term journey of the internal COE and identifying how to execute the proposed solution is critical. Almost every organization has a different take on topics such as:

- **Where does the Supply Chain Design (SCD) COE sit in the organization?**
- **How involved is the SCD COE in the execution?**
- **How big should the COE be with internal vs external resources?**
- **Will speed of execution be driven by internal bandwidth or will an outside partner be utilized?**
- **What skill sets are missing from the complete project lifecycle (SCD modelers, facility design experts, 3PL tending knowledge, etc.)**

We love helping businesses design better Supply Chains—let us help you build your roadmap for success.



About Coupa Supply Chain Design and Planning

Leveraging the latest digital enablers, new forms of data, and AI, Coupa Supply Chain Design and Planning, powered by LLamasoft, is delivering the next generation of supply chain design and planning capabilities that empower you to respond to rapid change.

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About Miebach

Miebach Consulting is a leading global supply chain advisory and engineering firm. We support organizations on the design, development, and delivery both across and within their supply chains. Our four business units: digital enablement, supply chain transformation, engineering, and operational excellence contain focused Subject Matter Experts which deliver value through supporting step chain improvements across a variety of industries.

As Coupa's larger partner specialized in the Supply Chain Design & Planning field, Miebach has become an industry-recognized name across use cases in the sourcing, production, distribution, transportation, planning, and inventory areas. Not only do we deploy the product in our engagements, but we also support clients in the standing up, design, and continuous improvement of their Centers of Excellence. Additionally, we see an increasing use of our expertise to provide bandwidth support, staff augmentation, and managed services leveraging the Coupa platform.

As the first partner to deliver custom applications in the Coupa Supply Chain Design & Planning platform, we can add value to any client, no matter the level of maturity in the platform.

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