eBook:

Design Your Business to Thrive

Four Components of a Smart Supply Chain Modeling Platform

Building a sustainable supply chain modeling platform to help your business survive and thrive in a volatile global marketplace takes more than just great technology

© 2015 LLamasoft Inc. All Rights Reserved.
How does your supply chain adapt to changing market conditions?

Do you have hundreds—perhaps thousands—of what-if supply chain questions that you’re attempting to solve using spreadsheets or a mix of disparate software applications?

Or worse yet, perhaps those decisions are made based only on who has the loudest voice in the meeting?

How many millions of dollars are being wasted every year due to lack of sound, credible decision support for critical supply chain decisions?

What if you had a living, digital model of the end-to-end supply chain, enabling continuous improvement and innovation, and a single, enterprise-wide platform for decision support?
You can’t control market volatility, but you can build a supply chain design platform that enables a rapid and intelligent response.

Supply chain design is now a must-have capability for businesses to keep up with the pace of change and to sustain a competitive advantage by significantly improving in the areas of cost, service and risk. Leaders have created centers of excellence and put in place an integrated supply chain design platform and business processes to rapidly and accurately answer tough supply chain what-if questions and generate effective and clear recommendations for decision support.
The Four Components of a Smart Supply Chain Modeling Platform

Supply chain design enables businesses to visualize the existing structure and policies of the end-to-end supply chain, continuously optimize to identify a better future state and rapidly answer what-if questions to adapt to changing market conditions. A successful platform balances people, processes and technology within a supply chain design center of excellence (COE). Let’s examine these four essential components of a sustainable initiative that enables companies to use supply chain design as a competitive weapon.

1. **A Unified Optimization and Simulation Engine**
2. **Automated Model Building for Simplified Data Analytics and Documentation**
3. **Cloud-Based Model Solving and Collaboration**
4. **A Shared Service Center/Center of Excellence (COE) for Supply Chain Design**
A holistic supply chain design initiative enables businesses to continuously optimize the end-to-end supply chain, rapidly test new strategies and react to changing market conditions.
A Unified Optimization and Simulation Engine

For large businesses evaluating numerous alternate network configurations that affect site locations, inventory levels, production capacities, and transportation strategy, toggling between multiple optimization and simulation tools extends project timelines, breaks data integrity and makes accurate, cohesive modeling results extremely difficult to achieve.

LLamasoft’s all-in-one design engine with multiple integrated solvers can perform network, product flow, cost-to-serve, inventory, production, and transportation optimization as well as greenfield and demand analysis in a single user interface and data model. Integrated simulation enables businesses to predict the performance of the supply chain under real-world variability at transaction and SKU-level detail. By integrating these different analytical techniques into a unified application, the LLamasoft platform enables rapid iterations between optimization recommendations and simulation testing.
“Companies should adopt an iterative approach of simulation and optimization modeling to accurately represent a company’s business priorities and supply chain dynamics, and to generate the best course of action.”

FIRST COMPONENT Continued:

A Unified Optimization and Simulation Engine

The scenario manager further improves the analysis process by enabling users to quickly adjust multiple variables and create dozens of what-if scenarios and sensitivity analyses. These scenarios can be run locally or in the LLamasoft cloud (see element #3) for faster and parallel solving.

Having the power to generate and solve what-if scenarios quickly and easily has changed the way businesses look at supply chain design. Rather than evaluating individual solutions, businesses can now evaluate ranges of options and test them under real-world variability for better decision making.
The volume of data required to model the enormously complex supply chains of a large corporation is staggering. Also daunting is the task of gathering and cleansing data from numerous disparate enterprise software applications and making sure the data points required for an accurate modeling results are present.

Cloud-Based Reference Data Fills Modeling Gaps

The final analysis is only as good as the data put in, so make sure your modeling data is accurate and complete. LLamasoft offers reference and benchmarking data you may lack, such as transport costs, facility costs and transit time estimates. This can speed the modeling process and improve the accuracy of results. KPIs and metrics gleaned through project experience is available as well, to help analysts validate inputs and outputs for new models.
Automated Model Building for Simplified Data Analytics and Documentation

A Data Blending and Analytics Tool Speeds and Documents Data Blending and Cleansing

Now you have the right data, but how do you access it in all the places it resides without spending half your day on the phone with IT? Automated access to ERP and other enterprise data through a data analytics tool can significantly reduce the time required to gather, cleanse and blend disparate data and ready it for modeling use. With established connections to enterprise data sources, you can essentially create a “library” of models for repeatable use, which will enable those analysts with non-SQL backgrounds to get into the data and get busy.
THIRD COMPONENT:

Cloud-Based Model Solving and Collaboration

While desktop modeling was perfectly adequate for some time, the complexity and velocity of large enterprise supply chains are demanding a more powerful and collaborative solution for supply chain improvement and innovation.

By extending models to the cloud, businesses can expand the influence and relevance of design by more rapidly executing large, impactful projects; sharing collaborative models with stakeholders across the organization and centralizing all modeling data and analysis to enable continuous supply chain improvement and innovation.
Cloud Solving vs. Desktop Solving

Let’s say you wanted to run 20 scenarios with different assumptions on demand sourcing costs or fuel costs, and each scenario takes 10 minutes to solve.

- With your desktop, you would be waiting 200 minutes before you can review your results and compare the different scenarios.
- With cloud solving, you’ll have 20 virtual solvers ready to roll and run them all in parallel, so you have all your results in 10 minutes or less.

Plus, you can access, solve and share those models from any browser or device—even from your neighborhood coffee shop.
Cloud-Based Model Solving and Collaboration

Cloud-based modeling enables:

- **Collaboration:**
  Include planners and other stakeholders in the design process

- **Knowledge Management:**
  Centralize modeling data and analysis

- **Scalability:**
  Run up to 100 scenarios simultaneously

- **Mobility:**
  Access to models, solve status and analysis from any device or browser
FOURTH COMPONENT:

A Shared Service Center/Center of Excellence (COE) for Supply Chain Design

Supply chain design should be able to see across the entire business to optimize the true end-to-end supply chain and not just a specific business unit or business function. Shared service centers or supply chain design centers of excellence can pool talent and technology to provide analysis capabilities to the entire organization. This organizational structure can help the group avoid the pitfalls of local bias or politics and remain focused on data-driven business solutions.

There are a number of important practices that can help businesses nurture COE growth and effectiveness and keep modeling processes and deliverables consistent. Here are a few examples:

A supply chain design COE creates and tests different potential supply chain initiatives to identify new, optimal network designs.
FOURTH COMPONENT Continued:

Establish a Consistent Method for Identifying and Prioritizing Design Initiatives

An excellent exercise for any business considering a move toward a supply chain design COE or in the early stages of development is prioritization of modeling initiatives. Executive sponsor(s) as well as representative department heads and analysts should participate. Each initiative is mapped onto the matrix according to relative business benefit and relative ease of implementation.

This process is in itself an extremely effective way of promoting valuable interaction and focused discussion among the team. The mapping process removes some of the subjectivity normally present in these decisions and requires input from the entire group. A view of potential projects will quickly take shape and become a starting point for either COE justification or a prioritized COE project plan.
Go After Quick Wins

Even though supply chain design can identify major breakthroughs in cost savings or service, some recommendations can be disruptive and time-consuming to implement (open four new DCs, rationalize 200 products, etc.). In order to establish early credibility for an emerging COE, many companies will identify quick-win projects that are much easier to implement and still deliver significant cost benefits (*product flow-path, inventory right-sizing, DC-to-customer assignments*). Be sure to consider business goals and priorities when identifying projects, and don’t be afraid to advertise the successes around the company! Quick multi-million dollar wins can gain executive attention and establish early credibility for the supply chain designers, and are often used to justify further investment in staff and technology.
FOURTH COMPONENT Continued:

Pursue Design Mastery within the Team

Now that you’ve got a team of bright, talented analysts dedicated to supply chain design, be sure to invest in their growth and development. In addition to giving them powerful and easy-to-learn design technology, build a roadmap for supply chain design mastery for each analyst. Identify the milestones and requirements—and benefits—for each step in their progression from new hire to program leader. Establish a process for onboarding, project shadowing and technology training. Amid the analytical and technical skills, don’t forget the importance of learning and practicing skills such as presenting to a group, project management and influencing others.
TYING IT ALL TOGETHER:

Support and Guidance from the Supply Chain Design Community

LLamasoft is dedicated to helping businesses at all stages of supply chain design development to survive and thrive—whether they are just getting started on a quick-win project or seeking ways to expand the modeling initiative to a global service center. Partnering with LLamasoft ensures you’ll have not only software and technical support, but also a growing community of supply chain design practitioners to guide you and collaborate with you as you progress.

Training and Coaching

Customers frequently want to do their own modeling, but they need guidance to be fully successful. LLamasoft offers project coaching performed by design experts experienced in delivery approach, data analysis and technical guidance that goes well beyond standard technical support.

Customer Success and Best Practices

The customer success team helps guide companies along their journey of building and sustaining a supply chain design team. The team works with customers to understand their needs, assist them in establishing their strategic project roadmap, and educate them on establishing supply chain design teams and the best use of the LLamasoft modeling platform.

A Growing Supply Chain Design Community—You!

Joining a growing network of LLamasoft practitioners provides a strong peer network of businesses like yours learning to leverage their supply chain for competitive advantage. The LLamasoft community is made up of driven, ambitious individuals who seek to design a better future with stronger, more efficient supply chains.
Points to Remember

Supply chain design is now a must-have capability for businesses to keep up with the pace of change and sustain a competitive advantage. Leading businesses have established centers of excellence and put in place an integrated supply chain design platform and business processes to rapidly and accurately answer tough supply chain what-if questions and generate effective and clear recommendations for decision support. Businesses that adopt a holistic supply chain modeling practice have the ability to:

- Quickly and easily build models to visualize and analyze the current network
- Continuously test what-if scenarios using current and future network and demand
- Quickly validate potential network changes against real-world variability
- React rapidly to unplanned supply chain events
Would you like to learn more about success in supply chain design?

Download eBook

Ten Tips for Elevating Supply Chain Design from a Project to a Differentiating Business Process

Contact LLamasoft

866-598-9831
sales@llamasoft.com