

Thinking Anew—Transform Your Supply Chain Using Multi-Echelon Inventory Optimization

Multi-Echelon Thinking and Successes in the Supply Chain

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Today's business executives understand that their competitive advantage depends on their supply chains. Yet often they do not have adequate views or the technology to properly tune the chain, missing opportunities for gaining improved performance. Competing globally requires orchestration across the chain—changing local, autonomous thinking into thinking across the multiple echelons of the business.

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Introduction—Enlightened Thinking.....	1
Thinking Globally? Think Local.....	1
Thinking Strategically.....	4
Seeing and Thinking Across the Echelons.....	6
Thinking Customer.....	7
Thinking Collaboratively and Optimally Across the Chain.....	8
Thinking Resiliently.....	8
Thinking in a Continuous Improvement Mode—the Way Ahead.....	9
Conclusions: Not Just a Technology, but a Way of Thinking.....	9

Introduction—Enlightened Thinking

Supply chains don't get neatly designed—they happen over time. Depending on your company's industry, products, market challenges and risks, customers' demands, and company goals, you develop different approaches toward your supply chain, service, and inventory strategies.

Changes occur over time that impact efficiency. Volatile energy or commodity costs impact the cost of goods sold. Products proliferate driving up complexity and cost. Many well-intentioned but locally made decisions become ad hoc policies, and over time, get companies out of sync. Then it becomes important to take stock of where you are and create more chain-wide, multi-echeloned approaches, aligning and calibrating the business to achieve significant performance improvements.

Today's business executives understand they are competing via their supply chains. Yet many times, they do not have adequate views of the business or the techniques to tune the supply chain to improve performance outcomes. Organizations have not instilled supply chain thinking across the business, and often supply chain professionals are not included in C-Suite strategy discussions. Supply chain, inventory, production, and sourcing people are buried within the organization, the plants or in stove-piped organizations, when what is needed is a corporate-wide supply chain executive reporting to the top.¹ Individual managers look at each site from a cost perspective and each manager is rated on individual metrics, rather than a holistic view.

Therefore, alternatives may not be seen or evaluated in a harmonious way. Opportunities to increase sales and achieve higher levels of customer service are missed. Each internal organization focuses on its own contribution, rather than optimizing the goals of the company. We just are not doing as well as we could!

“MEIO impacts more than inventory. It enables a new way of thinking cross-functionally and across the whole supply chain.”

No doubt, companies look to inventory-reduction programs to improve their working capital position, freeing up cash to make new investments or to improve profit margins. Supply chain optimization can *do more* to enhance the competitiveness of the business. However, many companies are not completely sure where the best ideas and savings can come from. What is the best path forward?

In this article, we will discuss the road forward through Multi-Echelon Inventory Optimization (MEIO) technology and with it, a *multi-echeloned way of thinking*. We will look at how different companies approached and succeeded at using MEIO technology to enable significant and sustained positive impacts to the business.

We will examine the catalysts that drove companies to seek MEIO. We will discuss their choices as they pressed forward. What are the options, tactically (locally) or strategically (globally) for achieving stellar business success?

Thinking Globally? Think Local

We are living in a strategy era. Globalization and information technology that puts us in constant contact with global and local issues has catalyzed enterprises to think anew about their business strategies. That coupled with emerging markets, competition, and global risk has companies focused on supply chain transformation. This includes reworking the physical landscape—changing plants and distribution centers—rethinking the customers they serve, the products they sell, and the profit they might derive from these changes. In fact, companies who have forged ahead with optimization strategies and fine-tuned their supply chains have seen significant improvements in their cash position.² Increased cash, as we know, puts you in fine form to weather

¹ Often, appointing a corporate-wide vice president of supply chain is one of the big changes companies make as they implement a *multi-echelon* view.

² Large US companies, in fact, have stockpiled lots of cash in these so-called volatile times due to inventory and other optimizing efforts.

the ups and downs of volatility as well as enabling you to seize growth opportunities more quickly than your competitors.

Companies have different approaches to Multi-Echelon Inventory Optimization (MEIO) based on many business factors. More senior initiatives have taken a more strategic (cross-echelon) approach rather than a functional or tactical approach. Of course, both approaches are valid and have trade-offs in terms of the work involved as well as the political and cultural determination to see long-term programmatic outcomes.

“Before we implemented Multi-Echelon Inventory Optimization each team was looking at their own share of cost and goals. This obviously did not drive the right kind of behavior.”

Often, there are business catalysts that drive the decision to engage in MEIO programs, for instance, a change in customer, product, or market. These types of MEIO programs are cross-functional in nature or within a specific division or business unit. So MEIO can be a middle-and-out, not just a top- down program.

Industry	Catalyst	Drivers	Inventory Challenges
Consumer Products: Consumables Food and Beverage	Omni-channel markets Changing retailer compliance Customer service levels New products introductions FDA/global safety mandates	Customer service Margin Short shelf-life Waste Working capital	Seasonal or event-driven inventory Promotional volume swings Maintaining high market/shelf presence; yet rapid turnover of fresh items Fine-tuning safety stock and replenishment strategies
Consumer Products: Apparel	Omni-channel Changing demographics Changes in retailer purchasing policies	Working capital Pricing and markdown Margin preservation Time-to-market Commodity constraints	One-time buy vs. replenishment planning Seasonal inventory Optimal mix
Consumer Products: Durable goods	Omni-channel Mergers & outsourcing Global sourcing Sustainability	Working capital Manufacturing costs Transportation costs Service costs	Postponement Transportation costs Lifetime service; parts inventory Lack of visibility across the process
Consumer Electronics	Competition Global sourcing Risk management CRO—Conflict minerals Sustainability	New product—NPI Market share Rapid product lifecycle	<i>First launch</i> inventory forecasts Channel inventory visibility Maintaining right mix/level Market presence
Chemicals	New plants Global sourcing Environment & safety	Return on asset Waste management Distribution costs	Inventory carrying costs Obsolescence Asset management
Pharmaceuticals	New product launch Patent cliff Risk management	Global product strategy Brand Profit	Lot sizing Availability Item level visibility Distribution level inventory Lack of visibility across the process
Medical Devices	New product introduction New regulations Connected care/Mobile	Effective distribution Product cycle times Information cycle times Competition	High/variable service levels Item tracking Service Lack of visibility in distribution channel
Energy	Global demand Government policy Environment & safety	Long-term availability Distribution costs Volatile regional prices	Seasonal demand Long supply chains and cycle times Asset Management

Table 1: Inventory Drivers and Issues

Table 1 presents some industries, catalysts and inventory challenges.³ Many businesses confront the same catalyzing forces today, such as omni-channel sales or global supply chain risks. Across many industries, these issues have forced managers to rethink their global strategies. Simply reacting to these challenges causes inventory build; the business must plan inventory policy strategically in anticipation.

Conversely, global firms often confront unique or local challenges in a particular geography or facility. The facility may need to support new product lines or customers. Other motivators can be more common, such as, “Can we make this facility perform better, or should we consider outsourcing or changing suppliers?”

The lack of prerequisites such as common data or the lack of knowledge to direct an enterprise-wide program leads companies to launch a pilot project in one place and see how it works. This drives a tactical (local) go-forward MEIO program versus a strategic (global) approach.

Case Study – Stanley Black & Decker

Goal: *A durable consumer products company wanted to improve service levels to customers, achieve peak manufacturing performance and assure best mix of inventory to maintain high velocity*

Industry Trend: *Multiple mergers and acquisitions in durable goods have many companies rationalizing their supply chains. Moving to global sourced components and offshoring manufacturing to not only take advantage of emerging consumer sectors as well as reduce manufacturing costs has these firms rethinking their supply chains, inventory strategies and their environment footprints (reducing manufacturing waste, part counts, packaging materials, and energy costs). Supply chain complexity in these markets continues to be high due the stratification of consumer markets between the high-end and discount sectors.*

Approach: *Global competition means service levels have to be high, and supply chain costs low to maintain profit. MEIO was applied at a local facility to pilot and then across the multi-stage supply chain to achieve goals. Inventory planning, supply chain and manufacturing worked together to create a durable process and set new target levels. Learning at one facility and expanding across the echelons allowed for consistently higher service levels. As confidence grew, teams have tested their assumptions and continued to fine tune safety stock targets and other activities that impact inventory and continue to improve results.*

Success at the tactical level has lead to the expansion of MEIO across the organization, and increased participation in strategic decision-making such as restructuring the business. Ultimately they improved service levels from 76% to a consistently high 90% while reducing inventory by 23%.

So which approach is best? Throughout this article we provide examples of various companies’ choices, the catalyzing events, and the business drivers. What often is not stated is the cultural readiness and the power possessed by individuals who had the vision to press forward. All these factors drove the decisions about where to start.

³ These industry examples often apply to other industry categories. For example the ‘stack it high and watch it fly’ strategy in apparel with its known post-season excess and markdowns is also a characteristic of cell phones—both fast fashion. Medical devices and electronics are another example. Global complex supply chains with many build-to-order production strategies and variable forecasts may have long-lead-time supplies taxing inventory planners need their echelons to be highly responsive to minute changes in demand, yet they need to plan years out for follow-on product services.

Thinking Strategically

When executives recalibrate, they look at the business from the vantage point of their key metrics such as shareholder value, brand, and competition; then they place a call to action on the domains to respond to the goals. However, if they don't have the tools to provide a holistic view, the decisions in those domains get made in isolation.

“What makes MEIO so valuable, rather than spread sheets, is that you have visibility across all the business to not only understand and manage your inventory, but to make more strategic decisions.”

Many times the supply chain team is not asked to provide input into strategic decisions where their input could have an import contribution.⁴ For example:

- *Product and pricing strategies*—pricing and profit concerns are front page in today's markets. Companies are introducing new lines at different price points in an attempt to capture customers' diminishing disposable income.⁵ Instead of racing to the bottom on price and focusing merely on the traditional cost factors of a product, companies should turn to their supply chain teams and ask: can we produce this product with the same or better quality, but with more profit; how can we effectively create a new budget chain of stores or product line; what is the true cost of our discount/liquidation strategy; should we outsource aftermarket or manage it ourselves?
- *Business conditions*—changing markets, volatility, cash position, needing cash for new investments. Executives do turn to the supply chain team, but often their requests are fairly standard—cut costs, outsource a facility and/or reduce inventory. Many manufacturers will look at the short-term cost (focus on near-term shareholder value), but rarely do they ask about what will happen when the market improves.⁶ Can we respond?
- *Supplier selections*—often firms will select a supplier solely on cost, for example selecting a low-cost manufacturer in Asia. This creates an inbound time issue for the supply chain. Challenges can include port congestion on the West Coast, increases in supply chain costs due to expediting, turning to more expensive transportation modes, hedging and holding more inventory, an increase in duties, and risk mitigation costs. Alternate supplier strategies, such as use of Caribbean or NAFTA suppliers, can offset single-source reliance. But does it make sense?
- *Product strategies*—marketing may introduce new products with stellar visions of revenue. But will these products produce profits? Conversely, they may want to cancel certain products they perceive are not profitable without asking the question: if we remodeled the supply chain for that product, could we make it more profitable?⁷
- *Business agreements and policies*—within customer, supplier, or even leasing agreements are hidden cost drivers and constraints that increase cost.

Supply chain professionals can model their supply chains with MEIO to answer those questions and support those types of initiatives, challenging domain-centered thinking and drawing a cross-enterprise approach that supports both corporate goals and functional metrics. (Table 2 shows possible alignment between executive goals and the supply chain.)

⁴ With the right tools, such as MEIO, they could add a tremendous amount of value to strategic decision-making processes.

⁵ For instance, they introduce new luxury items and lines, new lines to capture young shoppers, etc.

⁶ A recent example is a major Fortune 100 manufacturer that sold off a supply plant, only later to find out it was a key link in their supply chain. When their orders tripled, they could not respond.

⁷ Adopting inventory strategies that are in sync with the product lifecycle are more nuanced than making stark choices. For example, companies may want to position inventory differently in different lifecycle stages. So they may be thinking about the inventory implications over time and create a strategy based on that.

Executive Goals	Supply Chain Reponses
Growth	Service level achievement; supply-chain-wide visibility; evaluating cost/profit by customer
Shareholder Value	Reducing total supply-chain costs; improving availability and inventory turns
Time-to-Market	Lead time/cycle time reductions; risk management to reduce probability of delays
New Market Entry	Creating or refining the supply-chain network to provide responsiveness and presence to serve customers in that market. Creating surge or alternate capacity to meet demand.
Brand	Freshness, availability, fair trade sources
Competition	Improving agility/availability and customer service; reducing cycle times
Pricing	Reducing transportation, facility, taxes and duties, and supplier/raw material costs
Profit	Inventory policy—staging finished goods vs. raw or supplier-managed inventory Product design—use of common ingredients or parts coupled with postponement
Working Capital	Improving inventory turns; reducing cycle/transit times
Risk Management	Alternative sourcing and transportation strategies; fine-tuning safety stock, buffering key materials
Outsourcing	Supply chain network design based on: cycle times, total supply chain costs, and risks
Sustainability	Reducing environmental impact by: product simplification, optimizing the physical supply chain structure, and reducing inventory and waste

Table 2: Aligning the C-Suite Goals with the Language of Supply Chain

Much of this is front and center concern for supply chain managers. But often these capabilities are not expressed in C-Suite parlance, limiting significant opportunities for corporate improvement. Supply chain thinking needs to be embraced cross functionally. Supply chain professionals also need the tools to participate adequately in the roles they have been asked to fill in today’s highly competitive and global business world. And they need to step up and speak the language of the C-Suite executive who is driving these goals. Supply chain can lead the cross-functional, cross-domain dialogue and enable profoundly improved business results.

Case Study

Goal: A major chemical company was rethinking their global markets. After multiple M&As they had many assets, but their global markets were changing. They needed to build plants in order to be more responsive to their Chinese customers. They needed to find the cash from operations to fund this move. They also knew there was market demand which they could not fulfill and wanted to rethink their current product strategies to enter this additional market. And they needed to reduce—not increase—inventory across the company to fund these changes. Conflicting metrics and lack of visibility drove up expenses and reduced responsiveness.

Industry Trend: Typical in industries where plants are evaluated on their usage of assets, manufacturing often produced greater-than-needed inventory of many stocks. Sales and distribution felt that manufacturing’s production time was long, so they tended to over forecast.

Approach: The CEO challenged the entire cross-functional organizations to work together on these opportunities, seeing that these goals were all interrelated.

Here MEIO started from the top. Modeling the global business including demand variability, allowed both sides of the business to really look at the process. Uncharacteristic of the chemical industry they decide to produce smaller batch sizes. Though the cost of rapid turnover increased somewhat, the company’s overall level of inventory was reduced substantially, and they were able to respond to sales opportunities that were beyond them in the past, thus increasing sales. In addition, that goal to build in China was met by freeing up \$100M in working capital that was tied-up in inventory levels and transportation costs.

Seeing and Thinking Across the Echelons

MEIO provides the ability to visualize the echelons, enable broader thinking, and therefore, has the power to persuade participants to adopt new ideas. When you see the whole thing, it changes your perspective.⁸ No matter how good the procurement teams are, how good the demand planning team is, how good the factory scheduling teams are, they will always make independent decisions without understanding the impact they have on others. Multi-echelon views of the business can really enlighten people and not only give them data, but, very importantly, improve cross-functional behavior, creating constructive dialogue and team work!⁹



Lean programs are also drivers of MEIO programs. But the key to thinning down is increasing information availability, yet reducing the information cycle time in the supply chain. Lack of information causes inventory hedging and other asset hoarding, leading to increased costs.

Case Study

Goal: Responding to a new account—a big retailer who was having a major ecommerce push, a major consumer electronics firm needed to have both a specific website and a responsive manufacturing process for build-to-order consumer orders.

Industry Trend: Electronics has been consistently moving from a business-only customer base to one that is dominated by consumers. This has changed the whole end-to-end supply chain strategy for the industry.

Approach: This challenged their current build-to-stock weekly ordering/shipping processes. Using MEIO across distribution and manufacturing to position inventory so that orders could be promised instantly online and shipped within 8 hours, they ultimately developed a new, dedicated parallel manufacturing line to support the ecommerce business and ensure responsiveness as well as non-disruption of their BTS business.

Focusing on the drivers and desired outcomes rather than inventory levels, per se, can produce profound and sustaining change. In fact, inventory levels are highly variable by product, over the lifespan of that product, and are affected by changing conditions of the target market.

Instead, the thinking should be directed towards: what do we need to do to position resources—facilities and inventory—to meet our goals? What changes might we make in the business—from product conception through the end of the life of the product—that will allow us to grow, yet preserve working capital? Often, just by reorienting the question a bit, businesses can arrive at some different and more sustaining outcomes to their strategy.

⁸ A key capability of MEIO technologies is the *visuality*, which provides interactive modeling capability.

⁹ For example, the current focus on S &OP, which is a more day-to-day, week-to-week, cross-functional business activity, can be more productively supported.

Case Study

Goal: Reduce time-to-market and design and manufacturing costs

Industry Trend: Overall cost in the electronics industry has been drastically reduced through major changes in design; leveraging common parts across product sets; as well as outsourcing components to specialized manufacturers in storage, semi-conductors, boards, etc.

Approach: This major electronics firm started at a strategic level with MEIO. The focus initially was to change some of their engineering and design practices and build their modules on standard backplane (boards), which not only reduced engineering and manufacturing costs by almost \$1B per year, but allowed the creation of a postponement strategy by the use of these common parts. This gave them the foundation to forge ahead with a major inventory-reduction program that liquidated millions of dollars of excess parts which would no longer be needed to support manufacturing.

The following year they worked plant by plant to evaluate their requirements at each echelon. They were able to reduce their operating inventory levels to support demand and free up \$430M in working capital.

Through data-driven decision making, the multi-echelon inventory optimization program allows companies to evaluate many factors across their decision domains, seeding technology and thinking to improve cross-domain interaction, resulting in better performance.

Thinking Customer

We still have a distance to go in terms of integrating with customers and leveraging data based on interactions with the market. B2B or B2C forecasting accuracy has been challenged a great deal in the last few years due to the explosion of promotions, social media and the number of omni-channel customers. Here is where MEIO thinking can really help the business:

- *Perfect Order*—Less than stellar service levels, poor fill rates, or late orders drive companies to *up their game* with Perfect Order initiatives. MEIO serves the role of evaluating production, sourcing, and inventory-stocking policies to improve service levels that support the various customer agreements and commitments. This can inform business decisions and service level agreements such as same-day versus two-day delivery, for example.
- *Understand the impact of forecast uncertainty on the business*—Rather than relying on standard safety stock or production policies, create a nuanced, specific approach based on markets, customers, products, and channels. Significant savings as well as improvements in service levels result from this approach.
- *Customer service cost drivers*—Often, costs are incurred due to customer service agreements that were not clearly evaluated for their impact on the supply chain. Many of the demands placed on companies by these agreements have an impact on profitability. It's a good first step toward initiating change by demonstrating the impact on cost. Then, in addition, by working collaboratively between supply chain, sales, and customers, new methods can be created that meet the customers' goals, but are less taxing on the supply chain.¹⁰

¹⁰ This also holds true for agreements with suppliers. What do you need? What are you willing to pay?

Case Study - Celanese

Goal: A global chemical company had to develop responsive and cost-affordable global sourcing strategy to meet customer-service goals.

Industry Trend: Like many industries, chemical has 'staged operations.' Products can be bulk liquid or powders or can be packaged in various sizes. Chemicals are expensive to ship and they are governed by many regulatory processes.

The Approach: The challenge is to determine the best mix of products and how much of what kind of inventory to hold in locations to best meet demand, yet manage costs. Included in this type of analysis is not just inventory, but transportation costs and times, as well as customer demand. Do you deliver bulk or finished goods to the destination market?

Through a global MEIO program, they achieved: –Initial 20% reduction in inventory –Additional 17% over next 3 years –Maintained higher customer service goals while carrying significantly less inventory. MEIO is now a key component of monthly S&OP process and modeling multiple scenarios.

Thinking Collaboratively and Optimally Across the Chain

As organizations mature in their use of MEIO, they are able to leverage these capabilities and begin to work collaboratively, not only within the enterprise, but across the chain. Most often when we think of supply chain collaboration, we think about forecasting: producing a *really good* forecast and sharing it with others. This is seen as the key to better performance. And of course it is. However, many industries just used forecast as an overall input and adopted a philosophy of pull or push. Push, by building up safety stocks, most often used in consumer goods, still leaves a company over or under stocked on many items. Pull, most often used in discrete industries, tries to avoid inventory and wait for demand; but this often results in late orders due to supply constraints. It is important to note that the push/pull boundary is dynamic and changes over time. So it is not a one-time decision. Thus, the need for more dynamic software.

Supply chains today are too long and complex to support these stark choices. MEIO allows a more nuanced model, one where the evaluations of push/pull boundaries at the product and/or supplier level (not just supply-chain wide) can produce profound improvements in performance.

Suppliers are loath to stock items with highly variable demand, yet they need to find ways to be in the game. Non-availability means losing business to competitors. So, fine-tuning requires a discussion between echelons about working together to improve total supply-chain costs. This working together can lead to significant cost reductions.

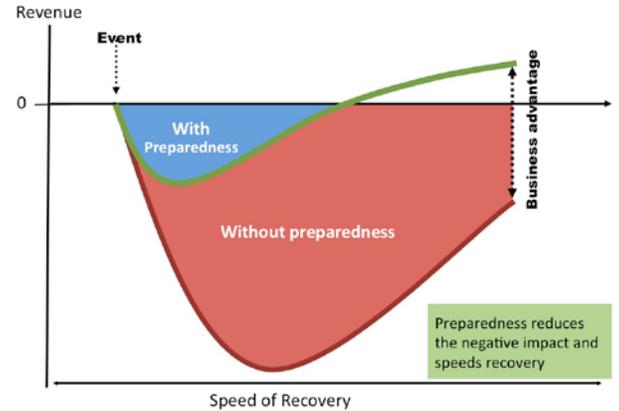
For example an organization may dictate a rule of thumb inventory policy such as “hold three months of stock, if you want our business.” With real visibility, the MEIO-generated optimal policy to support end-to-end service at best cost can replace this buffer inventory with data.

These dialogues need to happen at a node and at a global level. After all, each node's cost ultimately becomes part of the total cost. Visualizing alternatives with modeling and MEIO technology enables this type of conversation. This leads to changes in policies concerning lead/response times, forecast flex and frozen periods, as well as specific inventory-holding strategies and safety stock.

Thinking Resiliently

Supply chains need to be re-evaluated to deal with fluctuations and uncertainties in global markets. MEIO exercises help uncover necessary or alternative strategies based on volatile markets. Some strategies, such as seasonal adjustments, are well known. But within that season, what will the blockbuster product be and what assets do we need to be able to respond? Alternative suppliers, routes, third-party warehouses? Without the process and methods, profits are lost on the downside and customer sales and growth on the upside.

Resiliency is becoming a core state of mind—and a competency—for many enterprises. They see supply-chain resilience as a key cross-functional mandate. During the last recession, organizations that invested in broader technology and process methods were able to right size/right mix their inventories more effectively. They also have the tools for ‘what-if.’ This allows them to think more about the upside—expanding business opportunities—not just hedging against risk. Multi-echelon inventory optimization allows them to evaluate a range of scenarios, assessing policy to support volatility, yet revealing and establishing stability so that organizations are not reactive to each change.



Our research has shown that during major weather and geological disasters, more resilient organizations maintained sales, expended less working capital on recovery, and shareholder value rebounded more quickly than those whose supply chains were not prepared.

And here is the real advantage: well-prepared organizations can out-sell less prepared organizations during challenging times. Their plans kick in with better-positioned assets and inventory to meet the market requirements.

Today, risk-focused organizations are working across their chains to create more methods and visibility to deal with volatility. This means maintaining an ongoing dialogue and sharing data from MEIO to make plans, then making the requisite adjustments in inventory to deal with roiling markets.

Thinking in a Continuous Improvement Mode—the Way Ahead

The road to better business performance is not linear. It requires continuous re-evaluation and re-assessment of where we are, what we have learned, and what can we do better. Hence, implementing MEIO is not a *one-and-done* ‘project’ but a way of thinking—along with process, metrics, data and technology refinements.

For many, it is a process of maturity to move to more data-driven discussions, thinking about market impact, possibilities for improvement, and developing plans to be ready rather than always reacting.

This requires education—and re-education—of the organization. Organizations change, people change jobs, people get into routines, so they often don’t step back and take a look at where they are and see off into the horizon, and ask, “What more can we do?” The answer is: a lot!

A key lesson drawn from our discussions with these successful program participants is that MEIO is a competency that enterprises develop. They can enrich themselves year by year by taking the lessons (and technology) from one team to the next, moving from one catalytic starting point and broadening the competency across the enterprise.

Companies who use MEIO ultimately get strategic, regardless of the starting point, since they reinvigorate and revise from their starting point and leverage their investment and the knowledge they’ve gained to take the next step forward. This approach is particularly useful in companies that are multi-divisional or that experience many structural changes.

Conclusions: Not Just a Technology, but a Way of Thinking

Early on, we postured: should businesses take a strategic or tactical starting point? No doubt, businesses can begin an MEIO project at one site or business unit. And they will get feedback from their partners about how they are doing, so, in reality, even tactical changes are not made in isolation. However, there may be greater constraints outside their domain that they cannot control without a broader program.

So when thinking about going forward with the MEIO approach, several questions need to be asked: Are we contemplating the optimal approach? Is this the best we can do? Are we ready for a corporate-wide program? If not—why not? In Figure 1, we contrast the strategic and tactical views of MEIO programs.

Two paths to Multi-Echelon Performance



Figure1: Strategic vs. Tactical Focus for MEIO

As you think about implementing MEIO, there may be many drivers of the ‘get better’ strategy—whether striving for overall better business performance through more intelligence and visibility, or becoming prepared for dramatic catalytic events.¹¹ In any case, the path forward has prerequisites. In Figure 1, above, you can see that in order to achieve the desired outcomes, goal setting, data, and process disciplines need to be in place. A very strong political leadership can drive corporate-wide data standards and transformation; without that, and lacking some of these prerequisites, you should set a less ambitious starting point. Success will broaden the pull across the enterprise for more projects. Getting a good start and learning from that is more important than a grandiose but unsuccessful project.

Businesses need harmonious methods in order to think both strategically and tactically. Physical plants, warehouses, and equipment are not as fungible as inventory. But both need to be looked at in order to create a model that achieves the business goal in both the short- and long-term.

“Multi-echelon Inventory planning allowed us to ask the question: What are the things that are causing us to miss our targets, to carry more inventory than we should? How can we continue to evaluate where we are and make changes? MEIO allowed us to incorporate that kind of thinking in the organization.”

So, MEIO is not just a safety stock calculator—nor just for strategy exercises. Rather MEIO needs to become part of the business dynamics, allowing organizations to respond to markets, to adjust and flex as needed, saving cash and customers. Targets such as safety stock levels, supplier sourcing contracts, and service levels no longer remain fixed static numbers, but become reassessed and fine-tuned to constantly improve performance.

Constructive conversations and better outcomes need to be data driven. That means taking the concept of MEIO beyond the yearly or monthly planning exercise—away from a *program* mindset—and integrating it into the various echelons of the business, integrating into daily and weekly processes, and providing site-level or functional input. Giving others visibility and input and allowing them to visualize potential outcomes will open doors to new ideas. Enlightened thinking and implementable new ideas can enable the entire business to gain and sustain success.

¹¹ Mergers, new customer requirements, new markets, as well as supply chain disruptions



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