

IF TIMES GET TOUGH:
MANAGING YOUR BUSINESS
IN A TURBULENT ECONOMY

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If Times Get Tough: Managing Your Business in a Turbulent Economy

It's a business environment that electrical distributors, their customers and business partners haven't seen for many years. While product price increases have slowed down in 2023, lead times for some electrical products are still measured in months instead of days. And while many business owners expect a recession, there's a wide range of opinions on when it will start and how long it will last.

Preparing Your Company for a Demanding Business Environment is intended to help distributors operate their businesses more efficiently when times get tough. The first article in this e-book, 5 Ideas to Pump Up Profits in a Demanding Business Environment, provides some quick tips on resources distributors can tap into to manage profits if and when business conditions slow down.

In the three-part series, Managing Your Supply Chain, by Howard Coleman, president, MCA Associates, readers will learn how to fine-tune their inventory management strategies so that they have the correct products in stock to meet customer's requirements, but don't have unnecessary inventory sitting on shelves in their warehouse.

The final article in this e-book, Cost Savings of Fiberglass Electrical Conduit A Boon for Projects in 2023, looks at how Champion Fiberglass; electrical conduit and strut support systems are priced to ease project cost burdens in a tough economic market.

Champion Fiberglass and Electrical Wholesaling hope the ideas this e-book provides on job-site cost savings and profit management help you manage your business through any economic challenges you may face in the future.



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5 IDEAS TO PUMP UP PROFITS IN A DEMANDING BUSINESS ENVIRONMENT

BY JIM LUCY

While industry observers and economists disagree about the timing and depth of a potential recession, now is a good time to prepare for a potential downturn. The five strategies discussed in this article will help your company maintain and even grow profits if the U.S. economy hits a rough patch.

#1. GET TO KNOW YOUR ERP SYSTEM BETTER.

A distributor's ERP system has often been called the nervous system of the business, and for good reason – it's connected with virtually every facet of your business. While many distributors may think of their ERP systems primarily as a tool to manage warehouse inventory or price changes, today's leading ERP systems are equipped to do much more,

including managing bids, change orders, shipping, delivery, e-commerce strategies and online storefronts.

Your ERP system probably has more capabilities than you realize, and it can be an insightful tool you can use to manage your business when or if the market tightens up. Make it a point to talk with your ERP provider to see what else their software could be doing to help you manage your operations more cost effectively. Think about getting involved with their user group, or with other distributors in your buying group or other industry associations that are on the same software platform. If you identify a few more profit dollars from your conversations with any of these resources, it will be well worth any time you or your team spend on this exercise.

#2. RE-EVALUATE LOCAL MARKET CONDITIONS.

Your daily, weekly or monthly sales reports give you the most important feedback on business at the local level. But do you ever wonder how to measure the market drivers that shape the business environment for electrical contractors, facility maintenance personnel and other end users?

If you have a better feel for key factors that drive business in your market area, you can make more informed business decisions about how and when to adjust your business strategies to market conditions. If a leading economic indicator in your market area is flashing a green "go" signal, you may be able to get a jump on competitors by investing in your business before other companies realize better times are around the corner.

Economic indicators such as building permits, population growth and local market sales estimates offer insight into market growth, and this information is readily available. The U.S. Census Dept. publishes some excellent free market data at the state, Metropolitan Statistical Area (MSA) and county level

that can give you an idea of future construction activity down the road – building permits and population change data. Building permit data is a leading indicator of future housing construction because builders generally don't purchase building permits unless they are serious about building. When new homes are built, strip shopping centers, offices, schools and other retail and commercial construction follow. The Census Dept.'s building permit data is published each month at [census.gov/construction/bps/msamonthly.html](https://www.census.gov/construction/bps/msamonthly.html).

Population data is published annually and offers insight into how many people are moving into or out of a county, MSA or state. This is important because in addition to purchasing new homes, new residents create demand for new stores, schools, office and other types of commercial, retail and institutional buildings. On the flip side, when



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residents move out of a local area in large numbers, the demand for these facilities decreases. The U.S. Census Bureau's populations data is available the state, county and MSA level at [census.gov/programs-surveys/metro-micro/data/tables.html](https://www.census.gov/programs-surveys/metro-micro/data/tables.html).

If you are looking for local market potential data, check out *Electrical Wholesaling's* annual Market Planning Guide and the local market data available as part of a \$99 subscription to *Electrical Marketing* newsletter. For more in-depth local market sales projections, DISC Corp. ([disccorp.com](https://www.disccorp.com)) markets a full package of electrical industry data.

#3. PROVIDE PRE-ASSEMBLED ELECTRICAL PRODUCTS OR SYSTEMS TO CUSTOMERS.

If you can help contractor customers save time and labor during challenging economic times, they will remember it. Some electrical distributors are offering pre-assembled electrical products as a value-added service. Graybar Electric Co., St. Louis, and Rexel USA, Dallas, are two distributors with innovative preassembly services.

Graybar urges contractors to "always be installing" so they can focus on the most profitable portion of any job – using their time and expertise on the job-site to install products, and not on non-productive tasks like having highly paid electricians working on time-consuming tasks like assembling fixture whips; installing fittings into steel boxes; or assembling enclosures. A promotional video on Graybar's website says electrical contractors spend up to up to 40% of their time working on nonproductive tasks, which impacts project profitability.

Rexel also focuses on project profitability with its preassembly services, which it provides for electrical, lighting, solar, automation & control and voice-data-video products. One of its promotional flyers for this service says, "We'll handle the labor; you reap the savings. On the jobsite, time is money. You need to keep your high-valued labor focused on the most important tasks. With Rexel's Pre Fab services, we deliver pre-assembled components built to your specifications right to your jobsite. We do all the work while you save time and labor cost on repetitive installation. You get consistent quality at a lower cost."

#4. TEACH CONTRACTORS ABOUT BUSINESS BASICS.

Electrical contractors may be wiring wizards, but they often have trouble running a business. Accounting, bookkeeping and budgeting are usually second-nature to many electrical distributors. But contractors with no business background may struggle with these basic business skills. Another value-added service you can provide is having electrical contractors sit down with your financial manager to get some basic business

tips. Contractors often need to learn about marketing themselves, too, and if your company has a marketing person on staff, he or she may have advice for customers in this area, too. Think about how you can help an electrical contractor market themselves with social media, if that's one of your areas of expertise.

You should also encourage these customers to join community organizations like the Kiwanis or Chamber of Commerce. This will give them the opportunity to develop professional relationships with accountants, bankers and lawyers they may someday need to use in their business.

#5. DON'T FALL PREY TO THE NATURAL INSTINCT OF CUTTING BACK ON MARKETING IF TIMES TURN TOUGH.

When managers are forced to make cuts in their business expenditures when sales slow down, marketing and advertising budgets are often quickly and indiscriminately cut. That's unfortunate, because in a downturn, it can be good business to get the word out about your company's products and services. If your competitors are cutting back on their marketing, it can be exactly the right time to maintain your investment in it, because your message will stand out more in a less-crowded marketing environment.

A *Harvard Business Review* article written at the time of the 2008-2009 Great Recession emphasized the importance of maintaining a strong marketing presence in good times and in bad. In "How to Market in a Downturn, (<https://hbr.org/2009/04/how-to-market-in-a-downturn-2>) John Quelch and Katherine Jocz wrote, "As sales start to drop, businesses typically cut costs, reduce prices and postpone new investments. Marketing expenditures in areas from communications to research are often slashed across the board — but such indiscriminate cost cutting is a mistake.

Although it's wise to contain costs, failing to support brands or examine core customers' changing needs can jeopardize performance over the long term. Companies that put customer needs under the microscope, take a scalpel rather than a cleaver to the marketing budget, and nimbly adjust strategies, tactics, and product offerings in response to shifting demand are more likely than others to flourish both during and after a recession."

Summary. While the general consensus is that any potential recession will most likely be fairly mild, now is still a good time to develop and implement a plan of action in case business turns sour. Maximizing the capabilities of your ERP system, getting more insight into local market conditions and working closely with customers will help your company get through a downturn.



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MANAGING YOUR SUPPLY CHAIN – PART 1

The first article from Howard Coleman of MCA Associates in the multi-part series explores how distributors can use inventory optimization to pump up profits and increase service levels.

BY HOWARD COLEMAN

Fashions change, seasons change, and so does your supply chain. When was the last time you looked at your entire supply chain process to determine if it's keeping up with the times? If you have not examined your inventory and supply chain drivers in some time, it's time to take a look at how some new innovations can impact profit, service level and working capital improvement. Fortunately, even small companies can look and act big, challenging their thinking about their supply chains and implementing practical and realistic solutions.

INVENTORY OPTIMIZATION

If you happen to be an advocate of "lean thinking," then this discussion may well be right up your alley. If you are new to lean thinking it's not some new weight loss program, and it doesn't mean "Leave Everything Alone Now." This discussion will introduce you to how at least one aspect of this philosophy can be incorporated into your organization, strategically and tactically, in a new and different way.

If your goal is to have the right inventory, at the right place, at the right time, then you are trying to optimize your inventory investment. You may be familiar with how pricing and gross margin analytical software allows you drill down into how you price products, customers, etc.; develop what-if scenarios; and see the potential results of pricing policy decisions and their impact on the goal of maximizing gross margin.

What margin is to pricing optimization, service levels is to inventory optimization. Inventory optimization (IO) is a subset of the broader analytics—business intelligence - which in the process of collecting, storing and analyzing data enables more intelligent supply chain decisions to unlock working capital while maintaining or improving your desired service levels. IO views inventory as a strategic asset, not as a problem.

IO software, applied to your inventory and supply chain decisions, performs a rigorous analysis of your inventory. It uses the business intelligence you obtain to identify specific changes to inventory stocking and replenishment processes and decisions, changes to the distribution network, and correlate inventory investments to product revenue and profit generation opportunities. I recently heard IO defined and then stated in a few different ways that make a lot of sense:

- The minimization of costs and the maximization of revenue and profits, through improved visibility and stocking strategies.
- For multi-location distribution networks, the inventory level in one location can affect the ability to achieve inventory and service level goals in another.

For instance, if you set inventory levels at location "A" to "X;" what do you need to set inventory levels at location "B" to achieve "Y;" when "B" is the source of inventory for "A"? The only way to correctly answer this question is to determine the total inventory for all locations simultaneously, taking into account all the various dependencies and sources of variability within the distribution network. It comes down to identifying smarter inventory replenishment policies and holding rules that align your company's inventory with your go-to-market strategy. The IO approach, and the software tools available to carry it out, deliver desired/user-specified customer service levels



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at minimum total distribution network inventory cost, while allocating inventory most strategically among the stocking locations.

The word “simultaneously” is a key word, considering the impact that inventories have at any given level, on upstream locations (a distribution center or your supplier) and downstream locations (your stocking branches). Advocates of IO say, “Look at the total distribution network,” whereas traditional ERP systems often just look at the inventory requirements at each location or echelon separately in a “transactional based look”

When you consider the benefits of IO, it’s surprising many companies don’t review and/or update basic safety stock decisions; review their demand and lead-time supply variability on a regular basis; and are still “ball-parking” their inventory decisions related to paying freight or hedging against commodity price increases. They may not have a good understanding of what the cost versus inventory trade-offs really are.

If we accept the premise that the best you can do now is to make these “non-simultaneous” decisions, then maybe a more “scientific” approach has merit, one that enhances and leverages your ERP investment without having to replace your ERP system.

The rationale. Some companies believe they have already optimized inventory through their ERP system’s applications capabilities, as far as those capabilities allow. They are now looking for tools that manage safety stocks, lead times and replenishment/re-order frequency decisions. They want to attain desired service level objectives, in a more intelligent manner, while recognizing that less inventory does not have to translate into lower service levels.

Additionally, they are using IO analytics to drill-down to specifics and discover a lot of things they didn’t know before, such as providing differing service levels by product or group or location, or when adding branch or two. In today’s environment, it’s not enough to just monitor inventory control efforts by running reports from your computer system to measure inventory turns. Why? These actions are not directly concerned with transforming inventory management into a profit and service level enhancer. This is where IO enters the picture. Your stocking strategies become very important, particularly if you relate it to your business objectives, to specific item/product attributes (fast movers, slow movers, new products, critical products), demand expectations and supply characteristics.

INVENTORY DRIVERS

The challenge of IO can be even more daunting in “multi-echelon” distribution networks (see figure above) where you have product stored at a central point (a distribution

center (DC) or hub), and the DC is the internal supply to your branches. It’s called the “hub-and-spoke” distribution model.

IO’s nuts and bolts involve carefully setting and monitoring the specific “drivers” of inventory management that are interrelated and using information gathered from each other. An analysis of these drivers, and visibility into them, can provide answers to “what if” questions, as well as provide the diagnostic tool into inventory rules, metrics and measurements. These “drivers” are:

- Desired service levels
- Forecasting, or what we will call “flowcasting” later in the article
- Replenishment order frequency
- Lead time

Desired service level. This involves setting and monitoring the desired service level performance of the inventory itself down to each SKU. Most ERP systems, alone don’t provide service level analysis and reporting. Rather, you must analyze demand history, demand variation, GMROI and lost sales.

Desired forecasting. This requires that you have an understanding that goes above and beyond simply having knowledge of recent sales history. It requires an understanding of “demandpull” and “continuous flow” concepts (flowcasting) and their use to develop appropriate target inventory levels for each and every product.

Replenishment order frequency. This is another critical aspect of inventory optimization. Replenishment is not just reordering. It’s not just about the cost to generate a purchase order, but rather how much you order, each time you order. That’s where each order costs your company money. Supply chain professionals often make the mistake of ordering to sustain perceived service levels or for other perceived benefits, such as free freight. But if service level and continuous flow (flowcasting) can be utilized correctly, there is no need to be in the dark. More accurately pinpointing an optimum or best order frequency can by itself account for significant inventory reductions and service level enhancement.

Lead time. Anticipating lead-time with accuracy goes beyond simply determining a supplier’s lead-time from past averages. It not only requires an in-depth assessment of the supplier’s overall performance, but also being able to understand its impact on all locations within the distribution network to minimize or eliminate those self-defeating practices such as having to “over order” or “over transfer” in an attempt to compensate for variations in supplier performance.

In Part 2 of this series, we will help you analyze hub-and-spoke distribution networks.

MANAGING YOUR SUPPLY CHAIN - PART 2

Part 1 of this three-part article explored how distributors can use inventory optimization to pump up profits and increase service levels. This article digs into the best inventory replenishment strategies.

BY HOWARD COLEMAN

A “hub & spoke” distribution network can have some major pitfalls. One is typically a lack of true network optimization because stocking and replenishment strategies are applied to one echelon without regard to the other(s) (See **Fig. 1** and **Fig. 2**). Another pitfall is the reliance on demand forecasting and its inherent variability. There are some potential negative consequences, such as excess inventory in the form of redundant safety stocks at both hub-and-spoke. I have also seen stock-outs at a spoke even though adequate inventory exists in the distribution network, and the distributor thought the service between DC (distribution center) and spoke was acceptable. MCA Associates have also seen variances in what distributors order and the actual demand, due to demand variability.

In the typical hub-and-spoke system, replenishment decisions between the DC and its external supplier use order strategies that depend on its internal cost factors such as carrying inventory, but in particular, the supplier’s ordering constraints — pricing, discounts, freight, rebates, etc. That means order replenishment quantities depend on a combination of internal and external factors:

Demand – the rate of product flow out of the DC

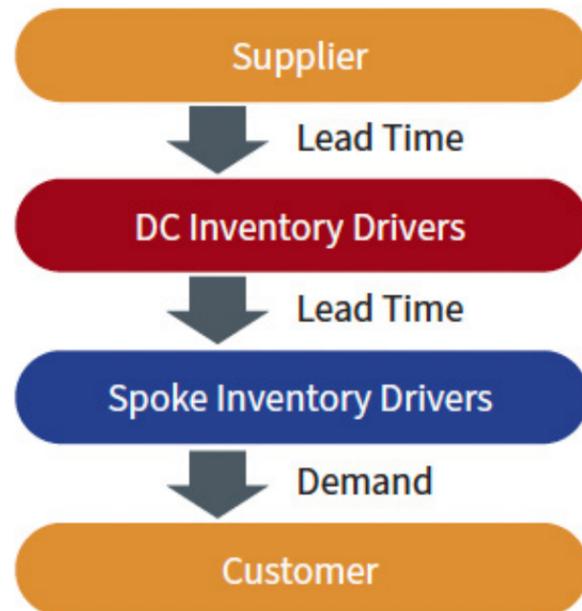


Fig. 1.

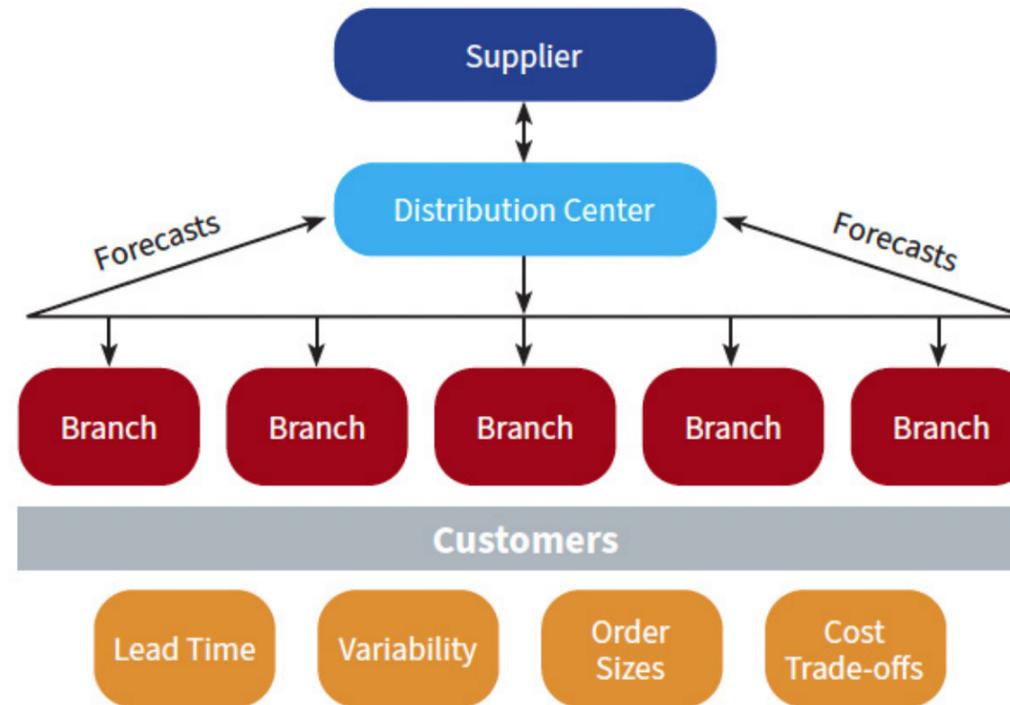


Fig. 2.

Demand variation – fluctuation in the rate of product flow out of the DC, from one period to the next

Lead time – time between ordering product and having it available to fill demand

Lead time variation – fluctuation of the lead time, from replenishment order to replenishment order

Replenishment review frequency – the frequency that the DC’s inventory position is checked to see if a new replenishment order is needed

Replenishment order strategy – the DC’s supply objective, a trade-off between carrying inventory, transportation and purchase cost

Service level goal – the DC’s service commitment to its internal and its own external end-use customers

Inventory position – the DC’s available stock (on-hand, on-order, backorders, commitments)
 The relationship between the DC and the spoke depends on the spoke’s own demand forecast, order frequencies (related to stock-transfer frequency), safety stock protection and other ordering rules that may have a bearing on the spoke’s replenishment order quantities. Some issues emerge here:

- The appropriate “measure of demand” signaled to the DC, from the spoke, and how should it be forecast
- Accounting for demand variation



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- The effect of larger-than-necessary replenishment orders from the supplier to the DC and their impact on the overall supply chain strategy
- The optimal service level goal between the DC and its “customers” —the spokes
- Factoring in the spoke’s inventory position into the DC’s replenishment decisions
- Replenishment review frequency and the DC’s service level goals impact inventory and service levels at the spoke
- When there’s a limited supply of product at the DC, the strategies for product allocation to the spoke
- Customer expectations for the same service level from the DC, when the DC is servicing its own “end use customers”
- The role that the DC’s external supplier’s lead time and lead time variation play in the spoke’s replenishment strategy

These are all important considerations. There is often a “split” in replenishment approaches, kind of like a sequential approach — one for the DC and one for the spoke. Let’s look at some of the problems this split poses.

LACK OF VISIBILITY UP THE DEMAND CHAIN

When a spoke seeks to replenish itself, it’s blind to suppliers beyond the DC. The spoke ignores any lead-times other than its own — the lead time from the DC. The spoke may also assume that the DC will completely fill its replenishment orders each and every time. And depending on your ERP system, the spoke may not have any visibility into the DC’s inventory balances.

LACK OF VISIBILITY DOWN THE DEMAND CHAIN

Similar to the case above, when the DC seeks to replenish itself, it may be oblivious to customer demands beyond those of individual spokes and/or have no visibility into the spoke’s inventory balances.

DEMAND DISTORTION

Because the DC and spoke create independent demand forecasts (based on their own immediate “customer’s” demands), distortions in demand and peaks and valleys often result in too much inventory at the DC.

TOTAL DISTRIBUTION NETWORK COSTS

If one or more of the spoke’s inventory drivers are modified, the cost implications may be readily apparent at the spoke, but not readily visible to the DC. The impact becomes strictly focused on one single echelon.

NO LINKAGE BETWEEN SAFETY STOCKS

The DC and each spoke protect themselves independently, so any desire to optimally balance inventory is made more problematic. This lack of cohesiveness is caused by independent decisions as to how inventory will be managed, either at the DC or spoke.

In the third part of this series, we will explore the difference between “push” and “pull” inventory management strategies.



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MANAGING YOUR SUPPLY CHAIN - PART 3

The final article in this three-part series compares “Push” vs. “Pull” inventory management strategies.

BY HOWARD COLEMAN

If you have a hub-and-spoke arrangement as your primary distribution network, then your main objective should be to minimize the total inventory across the distribution network while meeting your desired service levels to end customers. You may want to investigate inventory optimization (IO) as a solution.

MCA & Associates’ white paper — “Lean Thinking in Wholesale Distribution Supply Chains — Do You Pull or Push?” (available at www.mcaassociates.com) describes how distributors can begin to “pull” inventory through the supply chain rather than “push” it. In conjunction with IO, you can then use the customer’s demand signal (the buy signal) as an inventory driver to drive replenishment, rather than the traditional demand forecasts at all levels.

You could also synchronize replenishment order strategies by taking into consideration all of the other inventory drivers we have discussed in the previous two articles — lead-time, desired service levels and replenishment order frequency. Then you could examine the alternatives and do some “What-if?” exercises. To explore why are these inventory drivers so important? Fig. 1, on page 22, which illustrates the “Push-Pull” concept, shows that on the right side, the inventory peaks are lower, the inventory lows are higher, and the period between replenishment cycles is shorter.

We should challenge some of these “facts of life” in inventory management. Let’s look at Fig. 2, also on page 22. The forecast (the first number in the Branch boxes) and the actual demand (the second number in the boxes) shows significant variance at each “spoke,” although at the DC (distribution center) level, the variance is more acceptable. Now, consider that the narrower the aggregation, the worse the answer becomes. In other words, the question of how much you will “consume” of a product, perhaps from the distribution center, will typically provide a better answer to the question, “How much product will you sell from one of the spokes?” It’s just a statistical truth.

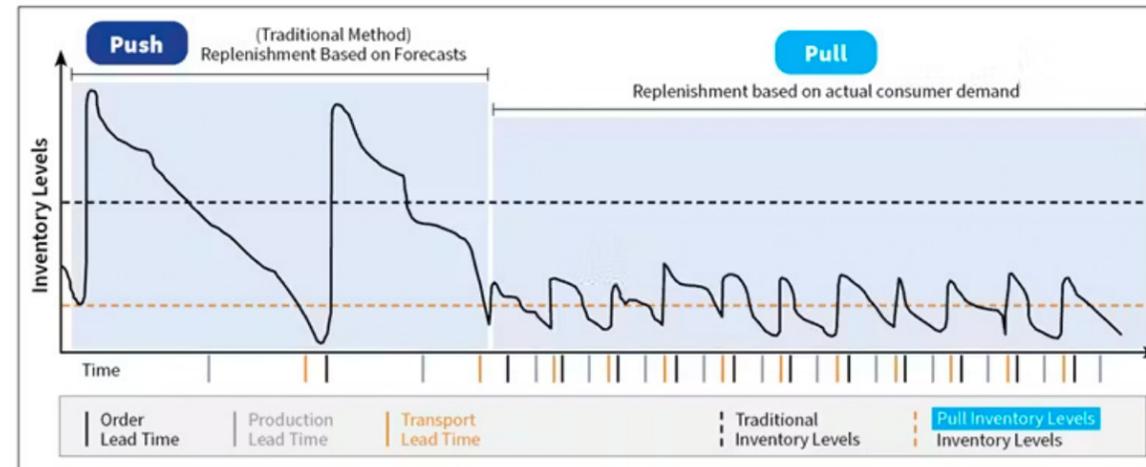


Fig. 1.

You may tend to address this “truth” by over-compensating with inventory, particularly at the spoke — and just where the forecast variation is highest. You do this with safety stock, but then risk, from a service level perspective, the misallocation of inventory (wrong place – wrong time).

THE PULL APPROACH TO INVENTORY MANAGEMENT

So, there is a tendency to “push” inventory throughout the supply chain, based on the specific method of calculating forecast. Demand variability is often not recognized quickly or even communicated to the source of supply. If we just remember that forecasts are not actual consumption, then many of the dilemmas we often face, like high inventory, moving parts long distance, and inventory counting could be eliminated.

This gets us to a “Pull” approach alternative. “Pull” is similar to just-in-time and the Kanban approach to designing efficient work flow. With this philosophy, as product is sold, a replacement is “pulled” through the supply chain. Now we are doing it based on real demand and actual consumption — the customer’s buy signal.

We use these buy signals in our everyday life. Consider

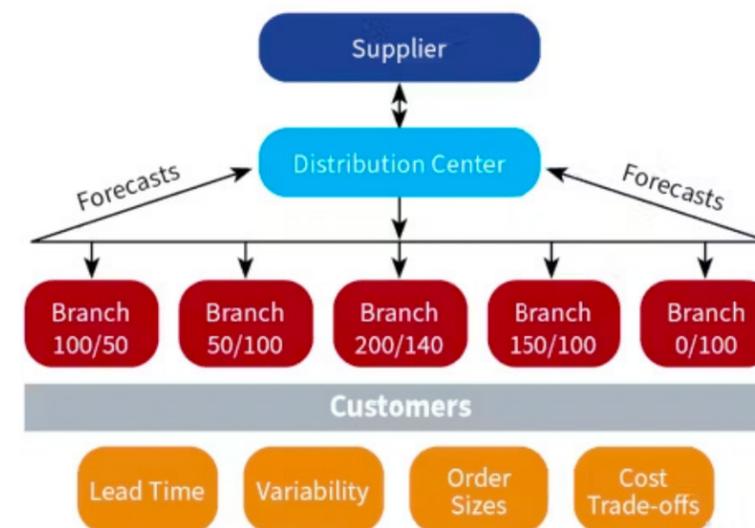


Fig. 2.



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the gas gauge in your automobile, which indicates when you need to purchase more gasoline, or the empty message that a vending machine displays when more products need to be loaded from the vendor.

So maybe you already see the difference between “push” and “pull.” But, what we commonly experience with the Pull inventory management concept is smaller replenishment order sizes, which means increased product delivery frequency from the source of supply. Remember that replenishment order frequency is an inventory driver. You might think this runs counter to many supply chain relationship strategies, but first consider the basic Pull principles.

1. Aggregate inventory at the DC/hub.

As I previously mentioned, demand is more accurate at this particular level and will improve the timing and the order quantity accuracy of the products you order from your suppliers.

2. Pull inventory to the spokes.

Replenish the spokes based on the customer’s buy signal as opposed to pushing inventory to them, based on forecasts and their inherent variability.

3. Replenish inventory as frequently as possible to foster a continuous flow.

This shortens re-order lead-times and creates a shorter time between replenishment orders (one of the inventory drivers). This dampens the variability in demand and reduces safety stock needs.

4. Develop and maintain target inventory levels.

These can be calculated in several ways. The specific calculation method and its use are covered in our previously noted white paper. Basically, target inventory levels are the quantity of inventory you shoot for in the pipeline. Why do you need target inventory levels? Because they provide the buffer inventory to cover demand and the replenishment lead-time as well as protecting against shortages. Target inventory level penetration (TIL) can be measured to provide a means to monitor how well target inventory levels are being managed.

For instance, you could split a product’s TIL into three zones — green, yellow and red, just like a traffic light, and then set rules as to what constitutes target inventory level penetration:

- Green: Less than 33% TIL penetration
- Yellow: Between 33% and 67% TIL penetration
- Red: Between 67% and 100% TIL penetration

Too many products in the green zone may mean inventories are too high relative to actual customer consumption. On the other side, too many products

in the red zone may mean you have problems with inventory replenishment timing or some very unusual customer consumption.

Figure 3 illustrates how you can use target inventory level penetration to measure and visually monitor TIL use.

This could even be used as signals to your source

of supply (DC or supplier) as to what the priority and urgency of product need is.

Additionally, these graphical representations could be provided at most any level: company-wide, location level, A-B-C stratification level, etc. You could even measure the time in a zone and/or the number of products in a zone. Regardless, it now becomes actionable.

5. Develop new relationships with suppliers that incorporate the Pull philosophy. You hear so much about supply partner collaboration that the term has nearly lost its meaning.

The truth is that suppliers who have not adopted a lean thinking philosophy have a mass production mindset. It’s kind of a disconnected functional silo, one that focuses on their own local optimization. In other words, they view the key to controlling or reducing costs as a reason to produce in large batches; spreading their fixed costs over a large population of product—reducing unit costs—as well as using this approach to protect themselves from forecast error.

This drives an economy of scale model and that’s how they get measured—produce large batches, potentially consuming their capacity with product that may not be immediately needed.

A supply chain manager may get measured by the purchase cost achieved, including transportation. In contrast, your suppliers get measured by their unit cost of manufacturing. What gets forgotten sometimes is the impact of this—a surplus of inventory beyond the immediate need, or perhaps even shortages of product, because everyone is too busy either buying or manufacturing something else.

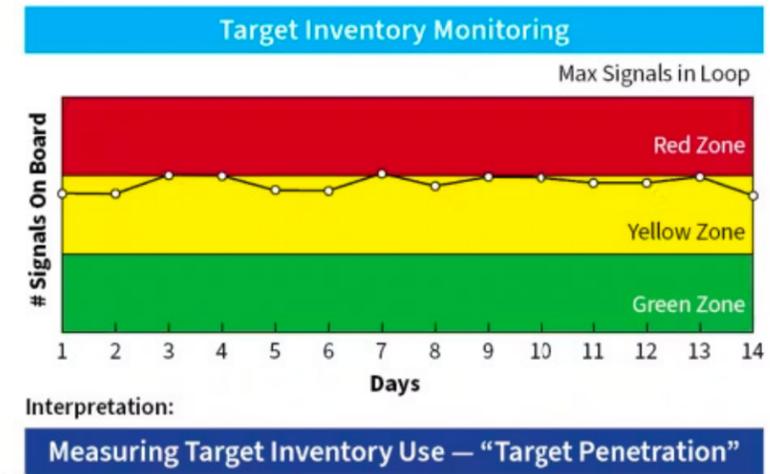


Fig. 3.



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What if you could apply these same Pull principles with your suppliers so they are producing what their customer (you) need, rather than anticipating (forecasting) what they think you'll need, while having better control over their production capacity, too. There is an opportunity to get suppliers to think differently. This might lead to more frequent re-supply to the whole supply chain, increasing the velocity of product throughout the supply chain, reducing their forecast variation, and reducing their lead-times.

This new collaboration approach should begin around the discussion of continuous flow and becoming more synchronous. Consider sharing your buy signals with your suppliers. The possibility of a direct data connection with suppliers to communicate these buy signals is intriguing because there can be aligned interests. You could even share your target inventory level penetration monitoring with them, or maybe they could even generate their own, based on their inventory position.

A CALL TO ACTION

I hope this article helps you look at the Pull model in a completely different light (Figure 4). Think of it as a supply chain system process, and as an engine for supply chain management that incorporates not only inventory optimization but advancing significant new principles in lean supply chain management. Committing an organization to realizing the benefits of inventory optimization and a Pull-based lean supply chain will require a change in business philosophy. Distributors should view inventory and supply chain management as an untapped profit and service level enhancer, as well as a cash saver. By making these concepts a reality, you can reduce your total supply chain costs, generate additional capital, increase service level, and finally attain that elusive supplier collaboration objective. This three part-series is available in its entirety at www.ewweb.com.

Howard Coleman and his team at MCA Associates help distributors and manufacturers implement continuous improvement solutions focused on business process re-engineering, inventory and supply chain management, sales development and revenue generation, information systems and technology, organizational assessment and development. MCA Associates may be contacted at 203-732-0603, or by email at hcoleman@mcaassociates.com

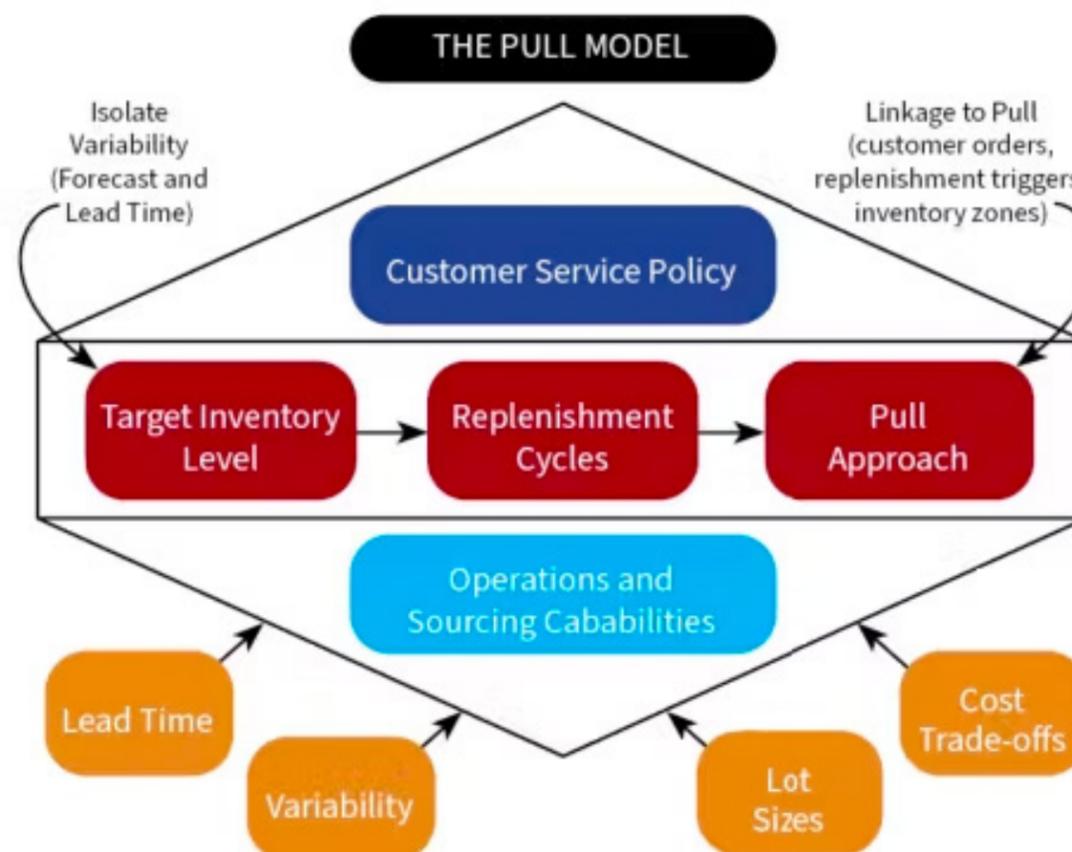


Fig. 4.



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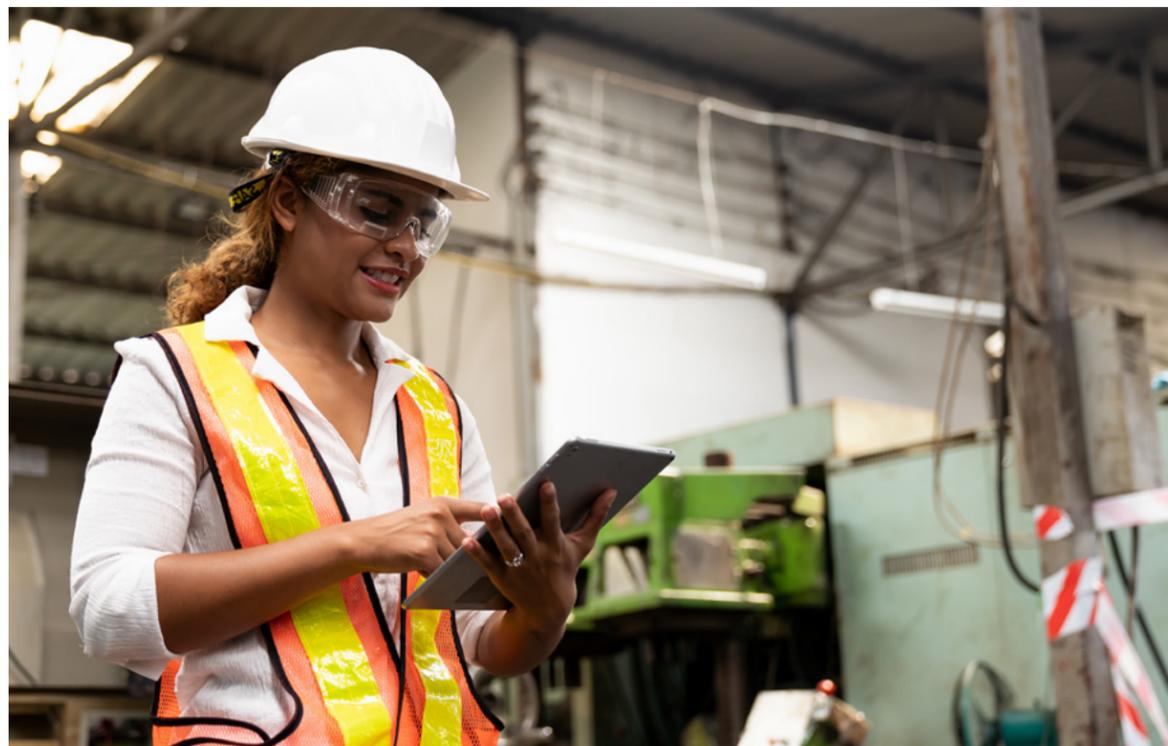
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The first quarter of 2023 was punctuated with banking events and recession chatter affecting financial markets. According to Dodge Data & Analytics, the industrial construction market in the first quarter was impacted by rising inflation and flat building starts. The company also believes recent banking events have potential to influence the industry as smaller regional banks have tightened lending standards affecting construction starts. But Dodge Data & Analytics says all is not lost, and that—even with these headwinds, “Data points to an industry well-positioned to weather recession storms.”

Champion Fiberglass® electrical conduit and strut support systems are priced to ease project cost burdens in a tough economic market. Fiberglass conduit, elbows and

strut offer the most cost-efficient conduit and support system option while providing strong, durable, easy-to-install products for a variety of applications.

When project costs are a concern, fiberglass conduit and strut supports typically outperform other types such as PVC, GRC and PVC-coated steel with savings of up to 86%. In fact, fiberglass systems provide savings four ways. Fiberglass conduit minimizes project costs with initial materials savings, installation savings, reduced material requirements and product longevity for savings down the road.

A quick estimate of 100 feet of SCH 40, GRC, PVC-coated steel and fiberglass 4” standard wall conduit from the Champion Fiberglass conduit calculator yields these results:

Materials Cost

SCH 40 conduit	\$829.26
GRC conduit	\$2581.93
PVC-coated steel	\$4165.70
Champion Fiberglass conduit	\$571

As you can see, Champion Fiberglass conduit saves \$258.26 over PVC SCH 40, \$2010.93 over GRC and \$3594.70 over PVC-coated steel conduit in the 4”, 100 foot length.

For an easy, customized comparison based on project specs, simply visit our the Champion Fiberglass [conduit calculator](#) to see a head-to-head comparison.

SAVINGS IN DATA CENTERS, TRANSPORTATION, PHARMA, UTILITIES

When specifying electrical conduit for a project there are many considerations and options. Each application has distinct requirements. Fiberglass conduit has been successfully used in many applications including bridges, tunnels, petrochemical plants, data centers and wastewater treatment facilities. Its considerable cost savings make it attractive to engineers, contractors and distributors for projects of all types.

For example, for a [data center project](#), Champion Fiberglass offered product availability and a single day installation. It was imperative that this project stay on track. Champion Fiberglass stepped in with availability, lower materials cost, and ease of installation to make that happen. Quick connections helped facilitate a streamlined install, with the end result of three miles of conduit successfully installed in one day.

For a [bridge project in North Dakota](#), fiberglass conduit was selected due to product availability and lower materials cost. Fiberglass conduit met many of the demands to protect delicate fiber optic cable such as low coefficient of friction, corrosion resistance and mechanical strength. Plus, installation along a bridge saved time and costs instead of boring under a river.

Additionally, for a recent [pharmaceutical project](#) requiring prefabricated electrical rooms, fiberglass conduit offered the following engineering benefits: lower weights for installation, lower coefficient of friction and higher tensile strength.

These benefits also contributed to substantial cost savings. For example, lower conduit weights saved installation time and required fewer materials like structural steel and hangers. Lower coefficient of friction allowed for lower pulling tensions, less stress on conductors and less installation time. Higher tensile strength provided heat resistance and no burn-through in 90-degree bends. These factors resulted in a much more cost effective option as Champion Fiberglass electrical conduit was 90% less than galvanized rigid conduit at the 4" size, a massive cost-saving opportunity for the customer.

Finally, for a utility project, fewer duct banks were required. Champion Fiberglass conduit's low coefficient of friction allowed for longer cable pulls, eliminating the need and costs required for duct bank installation. Savings of \$3 million were realized for the [Edwardsport Power Plant](#) over PVC SCH 80 conduit because the distance between concrete vaults was increased to every 750 feet, instead of 250 feet.

Project owners are increasingly choosing fiberglass conduit for industrial construction projects. Not only is it cost effective, its strength, light weight and durability make it exceedingly attractive in yielding successful outcomes.

[Learn more.](#)



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GUIDE TO ELECTRICAL CONDUIT COST SAVINGS for Engineers & Contractors



GET THE GUIDE TO ELECTRICAL CONDUIT COST SAVINGS

- > Learn four ways fiberglass conduit provides project savings
- > Discover how fiberglass conduit contributes to successful project outcomes
- > Find specifying tools and how to get a comparative project estimate



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ABOUT CHAMPION FIBERGLASS

Headquartered in Spring, Texas, Champion Fiberglass Inc. is the leading supplier of fiberglass conduit and strut to the industrial, electrical, and mechanical markets. Ours is the most advanced production facility for manufacturing rigid fiberglass conduit in North America, where the company's proprietary high-speed winding process and high-temperature curing ovens are key to the consistency and quality of these versatile products.

Beginning its production of epoxy fiberglass conduit and fittings in 1988, conduit supplier Champion Fiberglass has steadily grown to reach a number of milestones throughout the years.

In 1989, Champion Fiberglass developed the first conduit from epoxy resins that had flame resistance and low smoke characteristics, meeting the most stringent codes and specifications.

With the arrival of Champion Haz Duct® (XW Type fiberglass conduit) in 2008, the company could now provide conduit for Class 1, Div 2 installations, per the National Electrical Code (NEC).

Champion Fiberglass is an ISO 9001, ISO 14001 and ISO 45001 Certified Company. We ensure our customers the highest-quality products and customer satisfaction available in our industry.

IF TIMES GET TOUGH:
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