Conquering the Inventory Dilemma

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About ChainLink Research

ChainLink Research, Inc. is a Supply Chain research organization dedicated to helping executives improve business performance and competitiveness through an understanding of real-world implications, obstacles and results for supply-chain policies, practices, processes, and technologies. The ChainLink 3Pe Model is the basis for our research; a unique, multidimensional framework for managing and improving the links between supply chain partners.

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Introduction

From an accounting perspective, inventory is considered an asset.\(^1\) At the same time, many businesses have embraced lean approaches, striving to minimize inventory at every stage of their operation. “Inventory only really matters when it’s converted into sales.” Inventory is the product, after all, and how we make money. For most businesses, managing the inventory is also a burdensome activity. It seems that in the management of inventory, we are always left with unsatisfactory choices.

The question is: how do you have enough to satisfy your customers while not having so much that all your working capital is tied up? You can imagine being able to satisfy 100% of your customers 100% of the time with 100% of the offered inventory—you can imagine it, but not even the largest companies can afford it. You can also imagine the alternative—the Henry Ford model of inventory management: you can have it in any color (or size) you’d like, as long as it’s black. It worked for Henry Ford, but you won’t be able to stay in business very long when your customers have many options available from your competitors.

You could try a build-to-order strategy, but be saddled with long lead times and indeterminate delivery times (and probably a higher-cost product). With the order by 10 p.m. have it by 10 a.m. availability model embraced by so many industries today (whether a complete, custom build-to-order or a website with movie and music downloads\(^2\)), having a clear, precise picture of your options is critical to success.

Most businesses spend too much time dealing with inventory challenges. For many, the cost of excess is manageable. It’s part of the cost of doing business. They are willing to absorb, within reason, the cost of holding ample inventories to make sure they are always responsive to sales opportunities. “There should always be plenty of our products on the shelf for our customers to buy, because we never want our customer to have a reason to choose our competitors.”\(^3\) The “stack it high, watch it fly” mantra may work for many retailers, but only if they have the right mix, which can be very challenging. High tech companies, which are often thought of as the paradigm

\(^1\) Although consignment inventory is considered a liability

\(^2\) Yes, they too have inventory issues.

\(^3\) Surprisingly, told to us by a high-tech VP in an industry usually known for lean supply chains
of the build-to-order method, are plagued by long lead time components, tempting them to keep more inventory than their current demand requires. But having excess is a huge burden—requiring markdowns, margin loss, and often, new product cannibalization or liquidation of the excess inventory. So, there is no one ‘right’ level of inventory—it depends on your goal and the nature of your business, market, or product line.

Inventory management challenges are dynamic. The cost of management—changing transportation methods, warehouse and administrative management, dramatic fluctuations in fuel costs, rapidly rising or falling wages in different regions, and changes in market conditions (i.e. demand, or customers’ strategies)—all impact inventory strategy. Plus the opportunity cost of having cash tied up in ‘just-in-case’ inventory can limit responsiveness if markets change. These dynamics make achieving the ‘right inventory’ strategy a moving target.

In spite of the science—and art—that has been developed over years of best practices and technology, many challenges still persist. Lately, these challenges have been exacerbated by a volatile global economy. This volatility leads many companies to realize that even if they had stable methods in the past, they now need to address their approach and respond to new conditions. This issue emphasizes the point that having great technology, great processes, and great people who know how to operate in this dynamic environment is required.

In this white paper we will discuss the challenges and strategies for solving the inventory dilemma:

- Challenges and trade-offs in managing inventory in a dynamic and volatile world
- Case studies—how large and small companies have learned to manage and use inventory as a strategic advantage to increase sales and customer satisfaction, and yet maintain profit margins and decrease the working capital tied up in inventory
- And how the proper use of technology provides visibility, cohesion and precision in your inventory-management decisions
- Conclusions and lessons learned from successful practitioners.

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4 High tech suffers from high volatility due to global risk issues causing material shortages, as well as intense competition.
The Inventory Dilemma—Part One

‘Best practices, best practices’—you’ve heard it, you’ve taken the courses, seminars, and written all the sequels, yourself. So why does inventory management continue to be a challenge? Maybe it’s not you, but the volatile world, the changing customers, and the economic conditions of the supply chain.

The respondents in companies we interviewed for this report have their heart and soul in designing great products and serving and delighting customers—not in methodologies. But whatever your motivation, you still need a game plan to win in this volatile world.

Often, overly simplistic discussions of inventory management state that because you are in a specific industry—retail or high tech, for example—your inventory strategy should be ‘X.’ But those who work day-to-day know that their business may be quite different and have different goals and characteristics than other firms within the same industry sector. Rather than taking a strictly industry-based approach, firms should look at their own business model and strategy, supply chain structure, the nature of their products, and other characteristics of their business. By taking these factors into consideration, they can improve their inventory strategy by changing contracts with customers or suppliers, improving their demand or supply chain strategy, and most importantly, by improving their access to information. We will explore (using Figure 1) some of the challenges or areas of dynamism in businesses that create inventory management challenges.

Business Model and Product and Supply Chain Structures

A lot of creativity can go into creating business models today, whether for design-only brand companies or vertically integrated businesses that still design, make, and sell their own products. There can be a large variety of business models in the ‘product creator’ segment. Although a firm may be categorized in the manufacturing sector, we know they may not ‘touch’ or even own a plant. Some or all of the business can be outsourced to third parties.

And the so-called third parties (e.g. contract manufacturers, distributors, logistics, packaging) have become creative and increasingly successful in expanding their business through entering new industries, or creating new services such as light manufacturing, installation, and service. Some have created financial agreements to share the inventory risk with the manufacturer they represent or the customers they serve.5

The last few years have brought huge challenges to companies due to globalization and economic volatility. This has caused all companies to reconsider and often make dramatic changes in how they manage their business model—revenue, partners and business structure. Assumptions about past planning methods in sales forecasting and inventory planning, therefore, might not be valid in the current economic conditions. So, a firm’s approach to inventory management has to be fresh and should be reassessed constantly as part of the business activities.

5 Often, a wholesale distributor is not a public company and can assume cyclical financial burdens to support inventory for the supply chain. Of course, there has to be solid analytics behind such agreements.
Product and Inventory Strategies

Although ‘durable’ and ‘nondurable’ are old phrases and not often used today to describe products, they do serve as a base for thinking about inventory strategy. One mistake often made in consumer segments is characterizing products as fast moving. For instance, in restock/replenish items, from soup to soap, the data and the product are not very fast at all, with many firms updating forecasts at monthly intervals or longer. In the extreme, highly perishable food goods are fast moving; whereas soaps can be stored in the warehouse for years. High-tech consumer electronics (which are not called fast moving), on the other hand, have a fast-moving product life cycle, fast manufacturing, dynamic competition and therefore, constantly changing forecasts. So dispelling myths and avoiding generalizations helps in inventory planning.

Fast fashion also has some old myths. The old thinking considered fashion a one-time buy: apparel entered the retail channel and was sold (or not) and new products seasonally replaced them. But today, with higher visibility and near-term forecasting, multiple replenishment cycles for the same SKU can happen in a matter of days for firms that use this approach.

Service businesses often have major challenges forecasting the inventory required in both the short and long term to meet service demand. Committed turnaround times for many markets can be in hours (auto parts, for example) requiring a high inventory cost to be a player in this market.

These are just a few examples of different characteristics that create inventory planning dilemmas.

Supply Chain Structure and Agreements

One of the most important aspects of business is finding and collaborating with trading partners who add value to the business. These relationships are honed, often after many years of experimentation.

Policies and agreements between trading partners have a huge impact on inventory management. For example, is a retailer really taking possession of the inventory, or is it considered consigned, thus creating returns on the unsold items, in which case the supplier is still left with the inventory dilemma.\(^6\) Agreements also can focus on pricing control and product promotions which have an impact on sales and margins. Some retail sectors take full responsibility for the products they sell; others will control price, but the manufacturer retains the inventory burden and has to deal with unsold merchandise.\(^7\) This impacts revenue recognition, as well as working capital. Companies may find themselves in a cash and inventory crunch if customers return unsold product.

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\(^6\) As well as having to initiate a liquidation process, increasing management expense, reducing product margins and potentially cannibalizing new product offerings

\(^7\) Stronger brands, though, can still dictate their own terms.
Lack of visibility in channel partners’ sales also creates challenges in making the right decisions for current inventory, replenishment, and strategies for the next round of products. Vendor Managed Inventory (VMI) or consignment inventory practices are often not re-evaluated for years. For some standard products this approach might work, but in more demand-sensitive or build-to-order markets, more creative collaborative planning and replenishment agreements between trading partners may be required.

Supplier agreements on planning cycles, lead times, and inventory ownership are also important here. For some customers, there is no liability for poor forecasts; whereas others need to, and often do, commit to purchase levels within a certain time frame in order to receive preferential treatment, discounts, etc. These agreements demonstrate the dilemma quite well: lack of purchasing commitment in the relationships means less working capital tied up in inventory, but may mean longer lead times and higher prices on supply. Conversely, commitments might tie up working capital but may mean a more responsive supply chain over time.8

Agreements and policies with trading partners are most often overlooked, but have a huge impact on inventory management and must be considered in any inventory strategy. Agreements need to be visible cross-functionally, since they not only impact the cost of goods sold, but current and future sales and supplier strategies.

Alignment with Organizational Goals

Lack of alignment in business processes and information leads to ineffective inventory strategy and decision making. Here are a few examples:

Cash Management and Budgeting—of course, business’s goal is to grow profitably. But cash is also king. Cash allows companies more flexibility in making the right decisions to support critical operational decisions.

Demand Management—a key function that needs to be tackled by the business. Demand management is an alignment challenge both within the corporation and with customers. Day-to-day issues associated with channels and customers, such as category management, replenishment agreements, and pricing agreements all affect demand. Hopefully they incentivize partners and customers to purchase more from your firm. But they also may impact demand patterns making forecasting more difficult. The more variable the demand, the more inventory issues are liable to crop up.

8 These decisions and trade-offs are the core of inventory optimization modeling.
Conquering the Inventory Dilemma

Market Acquisition/The Channel Strategy—the more channels with a variety of deals and arrangements, the more difficult it is to properly promote all the models without cannibalizing existing product lines. A challenging cycle of demand volatility and inventory management occurs.

Promotional Pricing—in this new social and mobile age, this has become a real risk. But firms are expected to participate with their channel partners to capture market share. That means that they use price and channel levels to gain that market at the expense of margins. ⁹

New Product Introduction—at the strategic level, a highly competitive market also can severely impact your inventory position. New features and models introduced into the market will naturally spawn countermoves. Perpetual investment in new products to stay ahead eats up cash. And rapid cycles of new product introductions create inventory obsolescence.

Alignment doesn’t happen without scalability enablers—that is, systems. In each and every case, business people with whom we spoke said that they could not scale their business or create alignment within their organization without a highly integrated solution to provide business transparency. We will return to this issue later in this paper.

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⁹ Whether these strategies are sustainable in the long run is not the subject of this paper.
## Impact of the Business Model on Inventory Strategy

<table>
<thead>
<tr>
<th>Area of Dynamism</th>
<th>Definition</th>
<th>Characteristics</th>
<th>How This Might Affect Your Inventory Strategy</th>
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| Business Model   | Your business and its form: retailer, etailer, manufacturer, design, service provider, logistics, distribution, financial services | Physical vs. virtual business model. Own or operate your own facilities and operation, or rely on third parties/outsource. Global or local—centralized or multi-divisions. | • Finance and policy center on inventory purchasing, stocking and liquidation  
  • Network-driven inventory through supply chain, requiring staging at intermediate points or finished goods safety stocks  
  • Long lead-time/high-risk inventory investments |
| Product          | The products you sell: Durable or Nondurable Life cycle—rapid change or long life Raw material or finished products | Product Life Cycle  
  How is it manufactured?  
  • Process—blended and batched  
  • Repetitive—large lots and high volume  
  • Build-to-Order  
  • Engineered or constructed to order  
  • Product complexity | • Fast moving or slow moving through the supply chain  
  • High-value material, causing concern for investment levels  
  • How are these consumed and can they be rapidly replenished?  
  • Seasonal merchandise models  
  • Product family with variants that change regularly (i.e., each year)  
  • Engineered, constructed, and maintained over a long cycle, e.g., medical equipment or telecommunications products  
  • Product has a long ‘service life’ requiring quality analysis of part  
  • Economic order quantity buying  
  • Strong knowledge of supply market to procure materials for one buy/one project  
  • Designing ‘greener’ low part counts |
| Supply Chain Structure | Your role with the supply chain and interrelationships between firms. Today there are many creative ways to structure and design your supply chain. Third-party distributors and logistics firms are taking on broader customer-service roles such as services, ecommerce, light manufacturing, and assembly. | Models:  
  • Distribution-centric  
  • Service provider  
  • Manufacturers channels  
  • Skip directly manufacturing-to-market  
  • Retail/retail | • Network of inventory and financial relationships to maintain visibility of orders and availability |
| Trading Partner Agreements | Policy and contracts between trading partners: Supplier Agreements  
  Customer Agreements | How material is bought  
  How it is offered in the market (pricing, discounts, etc.)  
  Policies and Terms  
  Service Agreements | • Who owns the inventory title  
  • Guarantees of forecast/commitment  
  • Vendor-managed and/or consigned inventory  
  • Lead-time commitments  
  • Make-down and pricing policies  
  • Returns  
  • Service level responses |
| Risk Management  | Understanding all the vulnerabilities and exposures to loss due to supply chain activities: implementing practices that create awareness and reduce exposure for customers, employees, the enterprise and its trade partners and the communities in which they operate. | Demand-side  
  Supply-side  
  Logistics | • Demand variability due to market economics  
  • Supplier stability, quality, and reliability  
  • Commodity and operating cost variability  
  • Carrier efficiencies, disruptions due to weather or other issues |
| Visibility and Data Management | Access to and accuracy of information for decision making | Supply chain-side  
  Cross-functionality  
  Database and data quality management | • Visibility across the trading partner network  
  • Visibility cross-functionally  
  • Data standards and compliance between trading partners |
| Alignment with Performance Goals | Financial, sales and supply chain objectives of the enterprise or function | Corporate goals: Growth, Shareholder Value, working capital, market share  
  Supply chain metrics | • Aligning investment and other inventory decisions with corporate goals  
  • Sustainability goals |

Figure 1: Inventory Strategy: More than Math!
Risk Management and Volatility

Volatility is not just a demand-side issue. Supplier risk also has a huge impact on inventory strategy. Poor data from suppliers impact the ability to determine production schedules, the ability to promise and make your customer’s on-time goals, and manage the right level of on-hand inventory.

Supplier quality and how well you can recover from supplier errors and rework issues also causes firms to carry plenty of just-in-case inventories, especially when long lead times are an inherent part of their operations.

In logistics, shipping routes are vulnerable to geo-political issues and highly variable costs. As lane capacity is consumed in a growing economy, freight costs increase. And there is always the unpleasant factor of variable fuel costs.

Companies can no longer rely on a fixed picture of reality, but need to have up-to-date information about changing conditions in order to successfully execute their strategies. If the total supply chain cost increases, should the sourcing strategy change? These are the pressing questions for many businesses today.

The Data Explosions—Volume, Dimensionality and Visibility Challenges

Fundamental to inventory management is the acquisition, management, and visualization of the ‘dimensionality’ of the information—the simultaneous ability to see inventory across the supply chain and at the most granular level. “We need to see it end-to-end, top-to-bottom.” The volume and complexity of the data—e.g., large product catalogues with many options and seasonal changes—can be challenging to manage.

Solving the visibility problem across business operations has become a big goal for many companies, since they operate in such complex trading networks. Even small businesses are often global and/or multi-site. Employees and partners have to be part of a ‘living network’—online and real-time—to understand the policies and the best actions to take in various circumstances.

Policies about how inventory is made; data recorded in perpetuity (the batch, lot and serial number) used in many industries;10 product freshness (expiration, sell-by dates); as well as product characteristics (model, style, color, and its unit of measure for sales) change across the chain—from lots to cases to items. Then there is the issue of how the data is represented: from orders, bills of material, and recipes, to graphic designs and product images in catalogs. Managing data and making sense of it is a big driver for enterprise system implementation.

The sheer volume, data dimensionality, and “changing data just makes it hard to keep the picture in focus,” one interviewee told us.

10 For example, aerospace, high tech, food, and pharmaceuticals
Industries have worked together to create data standards which enable information sharing and provide sharper pictures of upstream and downstream status. But standards also come at a price. Companies need a foundation in systems to support the standards, as well as translations to communicate with other companies.

Lack of cohesion due to disparate processes and systems is another hindrance to visibility. And these issues challenge many enterprises. Creating a cohesive view, then, becomes the first order of business for many firms to create single version of the truth if the enterprise is to successfully manage many of their inventory challenges.
The Inventory Solution: Getting Beyond the Dilemma—Part Two

Winning the Inventory Game in Volatile Markets: IPICO

IPICO is a company that understands the value of precision timing. IPICO is the leader in the RFID sports solutions market. Since an initial market introduction in March 2007, IPICO Sports systems are now used in over fifty countries, and continue to develop and grow a loyal following across the globe.

From Tokyo to London, IPICO times marathons and tracks world record holders as well as the ‘back of the pack.’ They continue to innovate in the sports industry with new solutions in other sports markets.

Like so many global companies, IPICO has had to address the challenges of surviving and thriving in both an overhyped technology market as well as the volatile global economic crisis. Smart management has allowed them to perform and win through these market changes. “Our business has found a growth sector in the midst of a global recession,” says, Gordon Westwater, President and CEO of IPICO. “There are other markets we operate in, but the enthusiasm of sports people—both professionals and amateurs—around the world has helped us grow in the sports sector. Where we are really growing is in Asia as these societies embrace all sorts of sports activities—not just elite athletic events.”

Besides sports, IPICO, has a highly diverse market and, therefore, has a tremendous need for integration between the company’s sales and operations. IPICO has their own innovation center creating chips and products sold into a variety of markets. They have to manage a diverse supply chain from chip design to contract manufacturer’s assemblers and off to distributors that may create the final ‘installation’ for a customer—from Beijing to Bangalore, from Manhattan to Manila—anywhere their sales and growing list of distributors may take them.

IPICO embraced a systematic way of managing their business in pace with the products they sell. As Westwater said, “Once you measure someone’s performance, you’ve got a better chance for them to get better.” They found that implementing NetSuite suited their concept for the business.

“We purchased NetSuite in a time when the business was growing in 2007; we had three development centers as well as local and field developers associated with custom solutions. Putting an enterprise system in place to manage our growth was the goal. Unfortunately the global economic sky fell and we had to pare down. If we did not have NetSuite already installed, I don’t think we would have managed the restructuring.”
Westwater went on to state, “There was a lot of product rationalization and now we are growing in many promising markets. This global business we are involved in is quite special and although we now have a smaller employee base we are very effective and connected around the world with NetSuite to manage operations. We are able to make critical decisions globally.”

This pinpoint visibility is especially important in the cash lean and tight credit markets. “Here was a business that was raising money and meeting thresholds for investors and we were successful at that. Now it’s about streamlining the business. Our predominate metric now is to be cash flow positive,” Westwater stated.

“Here really is the key to inventory management for a business like ours. Credit has become tight across the spectrum.” Westwater has noted that in the last few years credit has contracted, so pinpoint balance between demand and sourcing is a must. “At one point you had a lot of manufacturers who were very gracious with credit because there was a lot of worldwide capacity. Many of those manufacturers don’t exist anymore. And all companies are being squeezed with limited cash and not as much credit out there. So now you have to manage your own business more carefully because you are not getting those terms.”

“In a lot of cases you are paying for components upfront or 50% on order—50% on delivery. No longer do companies have the luxury of providing you product and getting paid months down the road.”

All this means that IPICO has to keep a tight rein on their custom-order business. To increase cash, businesses need to reduce cash-to-cash cycle times between customer payments (accounts receivable or DSOs) and supplier payments (accounts payable). When coupled with increased inventory velocity, which can reduce DOS, these strategies speed up revenue recognition and free up working capital. This surely is a case for real-time. Firm order-lead-times and minimum order quantity policies on the demand side become part of the policy to preserve cash and reduce or eliminate unsold inventory later on.

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11 Days Sales Outstanding
12 Or Inventory Turns
13 Days of Supply
14 Obsolescence
On the supplier side, supplier risk has also become an issue, especially after Japan. “Our products are getting more complex as our business grows and we have had to deal with scarcity with our electronics suppliers. However, we have been able to rely on our system, to not only be mindful of our supply chain, but also our suppliers.”

On the channel side, “We are now using the NetSuite CRM module and our sales people now understand the importance of using the systems and the value of the information for them. We are able to spend more time reviewing forecasts with our channel partners, so we have more visibility. I am never blindsided by changes or big orders from customers, now. With this visibility we can prime our supply chain to ensure we have the components we need for big events.”

Having a cloud solution has also helped IPICO manage these costs. “We didn’t have to worry about putting in place a hardware intensive solution for a global business with data center management expenses. Getting into the cloud has allowed us to reduce our fixed costs as a business, while increasing our communications and visibility across the globe. This strikes me as a great approach for businesses like ours.”
Playing to Win: Upper Playground

Upper Playground is a company that understands how to manage through trends—and change! Upper Playground is a progressive retailer and product company.

Since 1999, Upper Playground has been committed to representing progressive urban lifestyles. With headquarters in the San Francisco Bay area, as well as locations in London and Mexico and sales through boutiques around the world, Upper Playground has established itself as a leader in the contemporary art movement. Products include art, apparel, trendy housewares and books.

Upper Playground’s culture is about a passion for art and supporting young artists, creating a community within the retail environment. It’s a young company, yet complex. Artists’ and designers’ works are licensed by Upper Playground. Artists can see their work ‘scale’ (reproductions, original works, apparel and publishing). These products are then sold through retail channels, wholesale distributors, and through their ecommerce and retail stores. Behind the scenes Upper Playground is managing warehouses and logistics; it’s all part of the day-to-day concerns.

Selling art is a passion; it’s not about managing the minutia. “The soul of Upper Playground is in the creative culture, not the scientific methodology management of resources,” said Aaron Burns, CFO of Upper Playground. Yet to fulfill their goals, this business, like so many other growing businesses, had to grow beyond the “feeling-based management of key employees who know the business so well.” Growing into a multimillion-dollar business in multiple locations required a different approach. “We needed a more methodical model,” said Burns. This was achieved through successful management of the business with technology and improved business processes.

No longer could even the most knowledgeable “…employees just gaze across a stockroom and comprehend the value of the inventory of each carton in a large warehouse with rich assortments of products and understand what is the best strategy is for each item there,” said Burns.

Upper Playground found that they could not handle the huge level of inventory SKUs in multi-locations with their current system. After evaluating several ERPs, they ultimately chose NetSuite for their solution.

The solution now allows them to create a visible platform from which to manage the business. For example, aligning purchasing with the warehouse has allowed them to see when shipments arrive. “This kicks a whole process in motion. The information can then propagate to accounting, assigning a cost and inventory
valuations as well as to sales for pricing.” These control points allow Upper Playground to efficiently manage the back office with a small staff, allocating products to customers and paying suppliers.

In the past, stores and channels would order inventory from the warehouse. Their inventory status was not visible until months later when the store receipts were settled. Now control reports allow them to see the inventory distributed across wholesale and retail. Like many retailers, they automated bar-coding so that employees can scan in the store and update information directly to NetSuite, increasing inventory accuracy across the stores. “Because of the real-time, online nature of NetSuite, inventory status is updated as product goes out the door giving us a more accurate picture of the business.”

This capability allows them to create a ‘positive customer experience’ both in the store and on the web.

Importantly, inventory visibility allows them to evaluate sales by category. In apparel for example, hoodies can sell from $60 to $120 vs. tees, which sell for $20. Managing sales for a hoodie, then, is very critical. More effective management on high price/high margin items can net the company bigger profits. They can now see if sales for certain items are slow and offer these for promotion to channel partners (and consumers in their ecommerce site), keeping turns high, putting cash in the business and allowing them to create and offer fresh merchandise.

This type of capability is often out of reach for smaller retailers who don’t have an integrated solution. Smaller retailers can be overwhelmed by the sheer size and detail of the data they have to manage, but by using NetSuite, which is integrated from purchasing and financial to sales, Upper Playground has been able to deal with complex issues such as inventory and pricing, even with a small staff.

Not only has NetSuite allowed Upper Playground to manage their inventory operations, but it has also helped Upper Playground to manage the business through turbulent times in the global economy. “We can scale up or down operations in synch with demand, today, fairly easily,” stated Burns. Many organizations think about demand-driven as merely an inventory purchasing issue. But for retailers, the gyrations in market demand can drive major changes in store locations, formats and channel selling. The last few years have seen even the largest retailers go through radical changes in multichannel sales models, store closings, and rethinking their merchandising.

With channel partners around the globe in some troubled economic locations, Upper Playground experienced the same challenges as the big retailer. But having a firm hand on “the business operations and costs through a tight set of integrated business processes has allowed us to deal with the shifting markets and manage our cash effectively,” assuring that they’ll be playing in the art and retail scene in the future.
The Inventory Solution: What’s it Take? Part Three

Based on the above case studies and interviews we conducted for this paper, there are significant lessons we can glean from how these companies manage their inventory—and their own company.

Real time visibility—current picture of the business. There is a direct correlation between information cycle time and inventory. The bull-whip effect is avoided when information cycle times are reduced.\textsuperscript{15} Real-time visibility seems to be the foundation for enterprise cohesion as well as collaboration across the supply chain.

Multi-site and mobile—layered on top of this foundation is the ability to effectively manage out of the office and on the road—in customers’ sites, in hotel rooms, etc. Many firms are geographically dispersed, and their sales and service teams are on the road, often in different time zones. They also need access to the inventory systems. So ERP needs to move beyond a one-site installation. Cloud-based ERPs can really help here, allowing for access—anywhere, anytime—to this critical information.

Single Version of the Truth—the corporate database. Lack of cohesion results from poorly integrated environments due to overreliance on spreadsheets, paper processes and latency in information. The real-time foundation coupled with highly integrated functional modules allows the organization to have single version of the truth. Cross-functional disconnects are reduced and back-office activities can be more productive, reducing the ‘checks and rechecks’ inherent in disparate environments.

Dynamic Architectural Foundation—as noted in the case studies and many other sources, collaboration on the web is a big factor in managing global supply chains. Cloud presence—online, all the time, and integrated and interoperable with many data sources to support applications and trading partners—has been enabled by the web. Supply chains are broader than the enterprise, and the ability to communicate, transact and provide visibility in

\textsuperscript{15} The Bull Whip Effect in Inventory—the farther one is removed from the source of the demand forecast, the more variable that forecast becomes. If suppliers are at a distance from markets, they are unlikely to receive timely information, which causes them to hedge. Most firms increase their forecast in lieu of reliable information to assure they meet customer-service-level agreements, thus the total supply chain costs increase.
real-time is enhanced by cloud technologies. Alertness and the agility to respond to upside and downside activities require an open architecture.

Analytics—of course, any software must provide strong inventory planning, management, and analytical capability. Its ability to plan, set inventory levels, identify trends and be able to respond, re-plan and analyze is essential. Users who implement more analytical approaches to their inventory management experience a major step up in business performance. They also lighten the burden for those involved in planning, pricing, and managing the inventory.

Alignment and Control—creating alignment between operational processes and the corporate goals. Here is where operational scorecards aligned with ‘C’-suite goals and metrics are important. How do tactical decisions about purchasing inventory impact the corporate goals for sales, profit, and cash? What levels of decision making and what kind of decisions are appropriate for different employees to ensure that streamlined, responsive and appropriate decisions are being made at all levels of the enterprise to support the company goals?

Today, to operate with this common enterprise base of real-time information really requires an enterprise solution.

“I have the visibility to whole business no matter where I am with NetSuite in the cloud. No matter where I am—Peoria or Pretoria—I can check on sales and other vital information.”
Figure 2: Inventory Management in the Real-Time Enterprise
In this global volatile world, enterprise needs to make very precise decisions about when to invest and purchase, and about payment terms with suppliers and customers. “Gone are the thirty day payment terms from our suppliers. They now expect 50% upfront upon order, and the balance upon delivery. That means we have to be sure about firm commitments from our customers,” says Gordon Westwater.

Understanding the financial impact of purchasing, the value of current inventory and the velocity of sales helps to make better decisions in the long run on inventory policies, and in the short run, on whether to hold, sell, discount, or write-off inventory.

The ERP should not just be a financial/accounting system, but should hold current data, locations, and aging information. So many businesses are sitting on idle assets, since they just don’t have time to deal with daily inventory management. Often they are focused on current sales fulfillment, and idle stock is ignored. But if *freeing up working capital for new investments and improving the profit picture are your goals, then addressing the inventory dilemma is critical.*

**A Case for Cloud**

One of the issues often overlooked in enterprise software purchasing is the rate of change inherent in most businesses. Users are always growing into having greater needs; but ERP upgrades to traditional on-premise systems can be highly disruptive, expensive, painful events. As a result, businesses using on-premise ERP systems often postpone upgrades or system changes for years, which prevents them from making the dynamic changes they need to stay competitive. It also prevents them from having the dynamic inventory strategies discussed earlier.

In contrast, cloud-based systems are being updated continuously—you always have the latest version. And they are usually more easily configurable, allowing you to set up and change as needed.

Having a flexible and adaptable foundation, readily available as the business needs it, can help your business change as circumstances and needs change. When companies own their own systems, they usually pay too much for this flexibility. Seasonal businesses, for example, have allocated limited budget and capacity for computing power. This strategy works in the slow season, but not in their busy season. And as businesses grow, usually the last thing on their mind is disk space. Cloud providers can monitor and provide upside as needed.\(^\text{16}\)

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\(^{16}\) This issue is not just for small business. Many famous examples of websites crashing during busy seasons or exciting new product introductions have been discussed in the press.
Managing data centers, reacting to system problems and outages, having to manage system upgrades and tech support can be very disruptive, time-consuming, and more importantly, attention-consuming for businesses, especially small and midsized firms. Their real love is their passion for the company, their customers and creating exciting products. A cloud solution enables companies to focus on crafting and executing the best strategies for serving their customers profitably.

Cloud-based systems are often superior at providing connectivity to data sources and trading partners—customers, suppliers, and service providers like logistics and transportation carriers—who move and manage the inventory as it flows across the supply chain. This makes cloud-based systems a better platform for providing a single version of the truth and near-real-time visibility across the supply chain. When everybody can see who is holding what inventory, changes in demand, and changes or delays in supply, what follows is more responsive and precise inventory management.

Conclusion—Conquering the Dilemma

So what are some of the lessons learned from companies who are dealing with and managing the inventory dilemma? Here are some of the top lessons:

- Direct correlations exist between data speed and accuracy and company performance—inventory turns, cash and growth.
- Manage inventory as an on-going process, not a reduction program. The world and your business are constantly changing, so you must also change. It’s not about lean inventory—it’s about the right inventory.
- Create a transparent business model which synchronizes demand and supply.
- Integrate the back office with sales and supply chain. Coordinated activities lead to a reduction in paperwork and chasing administrative errors. But more importantly, your purchasing decisions become integrated with actual demand; your warehouse reflects true inventory status to demonstrate product availability; and you can analyze your opportunities to improve your sales.
- Understand and manage supplier risk—improve supplier performance and trading partner relationships.
- Provide accurate and timely information to the extended enterprise—channel partners, distributors, suppliers, and other third-party services. This unites them in the enterprise single version of the truth and positively impacts inventory decisions.
- Empower employees for decision making—give functional teams and employees full visibility of the impact of their decisions and actions across the enterprise. Relying on key employees who just ‘eyeball’ a situation and think they know what is going on does not scale.
- Make it all real-time. Create a real-time enterprise using the power of cloud technologies.
- Align and manage day-to-day operations with the ‘C’-suite. Creating and managing an enterprise operational scorecard is key. Goals are then obvious to all employees and are reflected in their day-to-day work. Management can assess performance, not months later, but as needed, to adjust to market conditions—up or down.
A really key point is that businesses experiencing growth and dynamism need much more than accounting. They may be small, but they are sophisticated, often complex, frequently global, and therefore need the same tools and capabilities as their larger competitors, delivered in an easy to digest platform. Many SMBs have upgraded from small accounting packages to an ERP, which can give them a clear window into their world that they did not have before.

Although the initial automation of previously manual processes can often be distressing for some employees, over the long run frustrations are reduced when everyone is working from the same platform.

At the end of the day it is about becoming ‘more self-aware’ as one business stated, “It’s [implementing their ERP system] made us more self-aware—everything is visible now, and that’s the only way to succeed when the market is growing so fast.”

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