WHITE PAPER

Inventory Management

An Approach to "Right-sizing" your Inventory

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January 2012

Infosys™
Portland

Introduction

Inventory management – having the right product in the right place at the right time - is not a new concept in supply chain. Supply Chain managers have always had to deal with the conflicting demands of trying to improve service whilst reducing inventory. In today's environment, new complexities, such as shorter product life spans, increased reliance on promotions and longer global supply chains, are adding to this challenge. The net impact is that companies often do not fully understand their product's supply and demand characteristics, employ the wrong inventory strategy, and suffer the consequences on their balance sheet

The following white paper suggests that contrary to conventional thinking, companies can optimise their inventory holdings to deliver higher service with a reduced base stock level. Accomplishing his result requires a thorough derstanding of the underlying drivers of inefficiency and a detailed analysis of the cost benefit trade-off in inventory decisions. Examples from a variety of industries suggest that benefits generated from an inventory improvement program often significantly exceed any investment required in implementation. Results are industry specific but typically a working capital

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improvement of 5-10% and a service level uplift of 5-15% is achievable. Studies have shown that for every 1% improvement in service level, there is a corresponding 0.5% increase in sales, so this uplift is quite significant. Reduction in inventory for one client freed up working capital in excess $30M whilst improvements in availability for another company suggested a potential $10 – 20M uplift in EBIT. The following document outlines an approach to help companies tackle this problem and quickly realise these benefits.

The Situation & Consequences: Why is inventory still a challenge?

Despite a wealth of information and theory on the subject, managing inventory remains at the top of the SC agenda. This is easy to understand because of the implications to sales and cash flow of poor inventory management and because the operating landscape is continuously changing. The following table presents a macro view of some of the current challenges and complications that we see at our clients and in the wider environment.

	Situation	Complication
Demand Risk	• Heavily promotion driven sales • Shorter and more frequent product lifecycles • Growth of the online channel • Increased pressure from customers/consumers (home-brands, reduced loyalty)	• Forecasting is increasingly difficult • Peaks and valleys in inventory requirements • Common issues include SKU proliferation, pipeline/run-out management challenges and data quality inconsistencies • Questions about where to store product to meet demand • Higher levels of on shelf availability expected leading to higher inventory requirements
Supply Risk	• Offshore sourcing to reduce product costs • Increased supply chain disruption risks • Rapid price changes in commodity and fuel prices • Increased pressure on working capital as borrowing becomes more difficult	• Increased lead times require earlier decision making and less reactive supply chain management • Agility & Resilience are increasingly important but can require extra resource to manage • Increasing transport cost proportion of total spend • Safety stock often reduced instead of focus on cycle stock

Figure 1: Several factors act together to create an unbalanced inventory position

The consequences of these and a myriad of other issues often results in holding:

a) TOO HIGH INVENTORY resulting in

- high cost of stock holding and reduced working capital
- reduced profitability from discounting / write downs and increased risk of obsolescence
- increased warehouse costs (including offsite storage requirements and transport associated)
- increased risk of pilferage
- increased cost of counting/handling
- increased insurance and taxes associated

b) TOO LOW INVENTORY resulting in

- stock outs, lost sales and often lost customers
- service penalties for not hitting agreed SLA's
- increased costs from having to use priority freight
- poor freight utilisation due to sub-optimal lot sizing
- increased resources required to manage allocation activities for constrained stock
- a bad reputation in the market

To soften the impact of these challenges and minimise the consequences of too little or much inventory, organisations must have a strong understanding of their product's and their customers/ suppliers behaviour and performance. Conversely, they must be able to quickly react to changes via robust systems, good demand and supply planning processes and well trained staff with clear roles and responsibilities. This is often a much harder task than it sounds!

An approach to help right-size your Inventory

Portland Group employs the following approach in helping our clients determine the right level of inventory for their organisation and ensuring the right processes and policies are embedded to sustain improvements. This approach

	Understand your products, customers, suppliers	Assess your enablers	Model, optimise and quantify	Strategy development	Implement and ongoing support
Key information to review / Activity	• SUPPLY ✓Lead times ✓Order frequency ✓Lot sizes ✓Delivery Performance • DEMAND ✓Historical sales ✓Geography ✓Order frequency ✓Service level agreements ✓Promotions ✓Emerging channels	• REVIEW: ✓Data accuracy/ availability ✓Inventory policies ✓Systems ✓Supply/demand planning processes ✓NPI & run-out processes ✓Working capital targets ✓Service level targets ✓KPI measures	✓Construct inventory model at a product/location ✓Determine projected availability & current stock holdings ✓Create optimised holding based on target availability ✓Produce reports (excess/out of stock) ✓Identify quick wins ✓Quantify & prioritise opportunities	✓Create programme for initiatives which could include: – Slow & obsolete stock reduction – Stock expediting / de-expediting – Process redesign – Policy refinement (lot, safety stock) – Performance monitoring (supplier, internal) – Systems upgrade	✓Programme office support ✓Implementation planning /tracking ✓Resource planning ✓Change management and communications ✓Risk identification & mitigation ✓Periodic health checks

Figure 2: A 5 step approach to right-sizing inventory

is based on several years of experience working across a broad range of industries to deliver real results and includes the following 5 key steps:

Understanding Your Products, Suppliers and Customers

Inventory holding requirements are an outcome of several demand and supply factors including demand variability (and forecast-ability), supply reliability, order frequency, supply lead times, and service levels. If these are not properly understood and monitored then wrong policies could be employed, adversely impacting business performance. Furthermore, several companies employ a one size fits all mentality which often does not reflect the supply and demand risk of their product categories. This step requires a large amount of historical data gathering and analysis in conjunction with stakeholder interviews to better understand the characteristics of products, customers and suppliers. It is critical to also be aware of business goals or constraints in this step that could impact any future recommendations.

Assess Enablers

Enablers are the processes and mindsets that reside within an organisation and support good operational practices around Inventory Management. It is essential that these practices are supported by reliable data and robust KPI's with clear owners and yearly targets. An example of a typical gap in an organisations capability is a poor S&OP process which does not boost internal communication nor improve demand / supply visibility and therefore impacts an organisations ability to adequately forecast and respond. Another example might be limited training for supply planners resulting in poor decision making and higher than necessary safety stock. It is therefore important to identify current processes, systems and people gaps and suggest areas for improvement or redesign during this stage.

Model, Optimise & Quantify

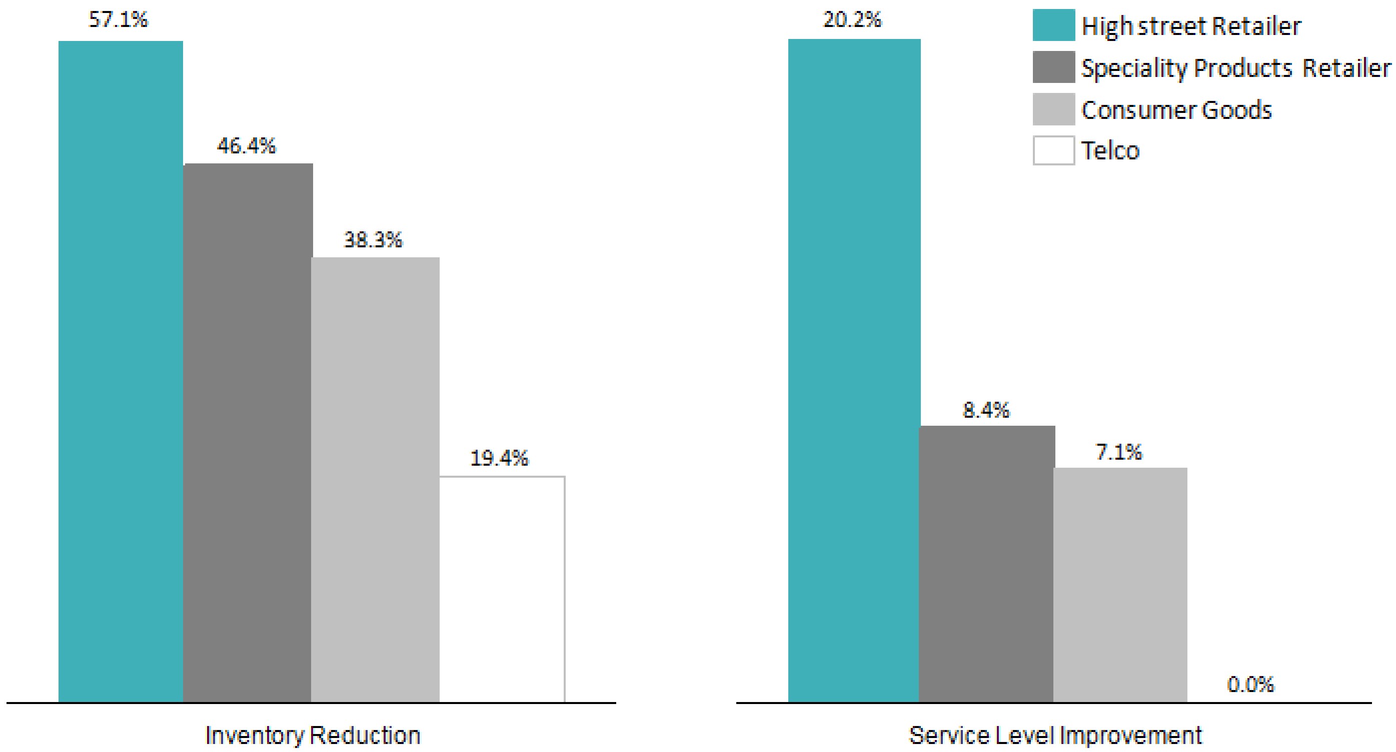
At step 3 a comprehensive inventory model is built utilising historical sales, purchasing (including outstanding orders), inventory data, and a categorisation of existing products based on forecast accuracy or sales volume ranking. The model, often created with best of breed software, helps determine projected availability levels for products by location to identify potential gaps. It can also be constructed to determine stock holding levels required to achieve targeted service levels. Typically, clients hold too much stock in some products while not enough in others. By rebalancing their stock it is possible to achieve a high level of service whilst simultaneously reducing stock (see Typical Results). In addition, reports can be developed at this stage that identify orders that will increase stock holding or alternatively project which stock might soon face shortages. These allow Inventory managers to react by expediting/cancelling orders and thus drive some quick wins. The benefits in all of these areas (both short- and long-term) can be quantified and aggregated to provide a collective view of the potential impact to working capital. Opportunities in several areas can often be realised immediately (e.g. cancelling orders) which then help to fund other internal initiatives.

Strategy Development

While it's good to identify and quantify opportunities, it is equally important to devise strategies that will realise these saving. Here, a list of potential projects should be put together both to manage stock and to manage ongoing inventory decisions. On slow moving stock for example, practical activities such as discounting the product to encourage demand or finding overseas markets could be suitable. When considering these options, it is critical to work closely with stakeholders across the organisation (e.g. Marketing, Finance) as they may have a tactic that has not been explored or may be impacted by the strategy. 5. Implementation and Support As the saying goes, failing to plan is planning to fail. The last and most important step is to realise opportunities by ensuring that the right plans (activities, resources, communications, etc.) are developed. This is where risks should be tabled and mitigation strategies employed. Specifically individual owners should be held accountable for delivery of activities with clear links to their personal performance reviews. If several initiatives are required, a programme office can be helpful to ensure implementation is tracked, the organisation is not overburdened and results are achieved.

Typical Results

Cost benefits will vary depending on industry but typically a stock reduction of 10-20% and a service improvement of 5-15% from current levels are concurrently achievable. The largest benefits we have seen at clients are a greater than 50% reduction in stock and an improvement of >20% in service levels to customers (see graphs below). We have also seen immediate uplift in sales resulting from improved product availability.



Summarising the key short- and long-term benefits of implementing a structured approach to inventory management are:

Hard Benefits

- Increased sales and improved margins (e.g., through reduced reliance on discounting)
- One off financial benefits in stock reduction through right-sizing to meet service and working capital targets
- Cancellation of orders that would result in an unnecessary increase in stock levels
- Expedition of orders that would have resulted in lost sales through better prediction of future stock plans
- Decreased write-downs/offs
- Reduced resource costs as processes that were often manual and are now automated

Soft Benefits

- Happy customers: improved service levels; increased sales
- Happy employees: less blame and fire-fighting; less resource intensive; better communications across functions
- Happy suppliers: less expediting/de-expediting of stock
- Improved visibility (reporting)

Although this appears to be quite a complex exercise, the process (excluding implementation) can be completed quite rapidly (between 4 – 8 weeks) depending on the number of products and locations in an organisations SC. Implementation will vary based on the opportunity and strategy deployed.

Conclusion

It is anticipated that inventory challenges will only intensify in the future and it is important that an organisation understands its products, customers suppliers and enablers in creating inventory policy. Those that do it well will not only reduce working capital and improve service levels but improve sales at the expense of their competitors.

About the Author

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