Ability to quickly align a whole organization ... market-to-market. Focus is on horizontal process orchestration; to sense and translate market changes (buy- and sell-side markets) bi-directionally with near real-time data latency to align, sell, deliver, make, and sourcing operations.
2012 marked the third decade of supply chains.
The first two decades were all about rapid replenishment.
Relying only on supply responsiveness is a recipe for failure
Replenishment only processes, in isolation, drive up costs, increase working capital, and reduce asset utilization.
- A replenishment-centric approach only focuses on those items that can be manipulated or constrained by purchasing. It cannot compensate for the lack of a strong demand management processes.
Market uncertainty requires next generation “right time” demand-driven processes focused on “demand synchronization”.
Demand-driven processes are challenging and sometimes seem difficult to get right compared to replenishment rigor, and tend to be politically charged.
Implementing a demand-driven process in support of new market-driven management requires investment in process, analytics, and technology.
STRATEGY

THE FOCUS OF SUPPLY CHAIN EXECUTIVES OVER THE NEXT TWO YEARS

Top 3 Supply Chain Trends

- Big data: 57%
- Demand sensing: 57%
- Data visualization: 51%

Increased visibility into supply chain: 30%
- Supply sensing: 19%
- Corporate social responsibility: 15%
- Machine learning: 13%
- Mobile technologies: 9%
- Internet of things: 9%
- Digital manufacturing: 6%
- Use of unstructured data: 4%
- Other: 4%

Source: Supply Chain Insights LLC, Global Summit Survey 2013 (April - August 2013)
Base: Supply Chain Insights Global Summit 2013 Registrants (n=47)
Q15. What are the three supply chain trends that you are most excited about, when it comes to driving supply chain excellence by the year 2020?
MARKET-DRIVEN SUPPLY CHAIN GOALS

- Sense demand signals faster to changes in the marketplace.
- Align supply chain faster to fluctuations in demand.
- Align demand and supply with improved customer service with substantially less inventory, waste and working capital.

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THE “MARKET DRIVEN” SUPPLY CHAIN JOURNEY
THE “MARKET DRIVEN” SUPPLY CHAIN JOURNEY

- Supply Replenishment
- Distribution Requirements Planning
- Inward Focused (Inside-Out)
- Reactive Process
- Lean Management

Operational Excellence

Supply-Driven

Market

Data Integration Technology

Supplier

Replenishment (Shipments)

Selling into the channel (push)
Optimized inventory levels dramatically reduces the reliance on “speedy” replenishment and aligns inventory to an outside-in focus.

Move away from rules
Supply Sensing
Supply Shaping

Customer Demand
Focused
(Outside-In)

Proactive Process

Inventory Optimization

Selling through the channel (pull)

Selling into the channel (push)

Data Integration Technology
AMWAY CHINA

BUSINESS ISSUE

• Amway China’s unique distribution model, together with the frequent marketing promotions required to react quickly to market changes, make inventory management a challenge.

SOLUTION

• Demand Synchronization: Inventory Optimization

RESULTS

• Lowered inventory levels by 10%, decreased logistics costs, and boosted customer satisfaction to 97%.
• Improved operational efficiency shortens replenishment time from the logistics center to retail outlets by 20%.

With SAS predictive analysis and inventory optimization, we can keep inventory at the right level at the right time. When business or customer demands change, we can quickly adjust via the flexible inventory optimization system. With the IOS, Amway China cannot only reduce logistics costs, but also enhance customer satisfaction and improve its competitive edge.

Raymond Hui
Distribution Vice President

http://www.sas.com/success/amwaychina.html
AUTOZONE

BUSINESS ISSUE

• Need to forecast consumer demand of more than 1,000,000 service parts in its 3,300 stores, and be able to track performance and optimize prices to sustain growth and profitability

SOLUTION

• After-Market Service: SAS Service Parts Optimization

RESULTS

• Were able to accurately forecast consumer demand for service parts by sifting useful information from tens of billions of data points, in order to optimize inventory and assets

SAS helps us sift the important signals from all the noise coming at us, so to speak, so we can make decisions that leverage our inventory and assets optimally and give us a good ROI in the market.

Rajeeve Kaul
Director of Product and Price Optimization
HONDA AUTOMOBILE

BUSINESS ISSUE

• Increasing costs of carrying inventory at its warehouses while attempting to fulfill its "Next-Day Delivery" service.
• Excess inventory and stock outs due to millions of SKU’s and forecasts spread over 5 DC’s and 80 remote locations with data from multiple sources
• Service parts businesses were locally run by regional
   Wanted to establish a global service parts business unit.

SOLUTION

• After-Market Service: Service Parts Optimization

RESULTS

• Minimal inventory for auto-parts while maintaining instant delivery rate of 99%
• 15-20% improvement in forecast accuracy, reduction in inventory, and improvement in service levels

Since introducing the system, Honda’s forecasting accuracy has increased by 20% in the US, and 15% in Japan.

Oyama-san
Senior Executive Director
KVERNELAND

BUSINESS ISSUE

• Unsatisfactory inventory turns, service levels and forecast quality.
• Needed to optimize inventory levels at its DC’s.
• Require SAP integration with service parts solution.

SOLUTION

• After-Market Service: Service Parts Optimization

RESULTS

• 60% increase in inventory turns
• Improve customer service levels to over 95%

The SAS solution helped Kverneland improve service parts forecasting, leading to optimized inventory of spare parts and improved customer service targets.
WISTRON CORPORATION

BUSINESS ISSUE

• Self-developed system good for short-term, three to six month forecasts.
• Need to establish a next-generation service parts management system capable of accurately forecasting demand and inventory flow in the coming 3 to 6 years.

SOLUTION

• After-Market Service: Service Parts Optimization

RESULTS

• More precise forecasts and a clear picture of long-term inventory flow bring greater efficiency Reduced inventory while improving customer service.
• Cost savings through reduced overstocks
• Ability to monitor inventory across a global network of service points.

http://www.sas.com/success/wistron.html

HIGH-TECH MANUFACTURING

SAS has successfully helped us achieve much more precise forecasts of parts demand and enhanced inventory transparency. With this, Wistron effortlessly deals with the complex management issues that arise from our successful and growing business.

Jack Chen
Sr. Director, Operation Division
THE “MARKET DRIVEN” SUPPLY CHAIN JOURNEY

Move away from rules
Supply Sensing
Supply Shaping

Customer Demand
Focused
(Outside-In)

Proactive Process

Inventory Optimization

Operational Excellence

S&OP

Supply-Driven

Analytics

Market

Selling through the channel (pull)

Data Integration Technology

Customer Orders

Replenishment (Shipments)

Process

Supplier

Selling into the channel (push)
Jack Welch, former CEO of GE

“Marketing is too important to be left to the marketing people.”
• Supply Chain Planning = S & OP
  • S = Sales and Marketing
  • OP = Operations Planning

• Need to balance our equation
  • Supply Chain = S”M” & OP

• New Supply Chain = SM&OP/Finance
• If sales and marketing are not attending your S&OP meetings, then you are only doing OP, not S&OP!
SALES (MARKETING) & OPERATIONS PLANNING

Goal: Make budget, lower costs, increase revenue
Needs: Access to sales/marketing programming, and supply costs
Forecast: Final Constrained top/down forecast
Purpose: Annual Financial Plan

Goal: Increase Profit Margins, Market Share, and Revenues
Needs: Product availability.
Forecast: Unconstrained Demand
Purpose: Sales/Marketing Plan

Goal: Optimize inventory and lower supply costs
Needs: Stable and Accurate Forecast
Forecast: Constrained demand forecast
Purpose: Supply Plan

Goal: Feasible Supply Plan
Needs: Reduced forecast variability and supply disruptions
Forecast: Constrained bottom/up forecast
Purpose: Supply Plan

Market Channels
Procurement
New Products
Manufacturing
BENEFITS RECEIVED FROM S&OP PROCESSES

- Increasing revenue: 59%
- Improving forecast accuracy: 57%
- Reduction of inventory: 50%
- Improving asset utilization: 42%
- Determining outsourced...: 38%
- Determining procurement...: 36%
- Improving new product launch: 34%
- Transportation and warehouse...: 32%
- Capital planning and asset...: 32%
- Improvements in the perfect order: 30%

**Source:** Bricks Matter: The Role of Supply Chains in Building Market-Driven Differentiation
What benefits have you received from your work with S&OP processes?
THE “MARKET DRIVEN” SUPPLY CHAIN JOURNEY

Demand Sensing
Demand Shaping
Demand Shifting
Consensus Forecasting & Planning

Outside-in
Focused

Proactive Process

Lean Forecasting
FVA

Move away from rules
Supply Sensing
Supply Shaping

Customer Demand
Focused (Outside-In)

Inventory Optimization

Process

Customer Excellence

Supply-Driven

Finance

SM&OP

Demand-Driven

Customer Orders

Replenishment (Shipments)

Point-of-Sale

Data Integration Technology

Analysis

Nielsen/IRI/IMS

Market

Selling through the channel (pull)

Supplier

Selling into the channel (push)
DEMAND-DRIVEN FORECASTING

DEFINITION

- The use of forecasting technologies along with demand sensing, shaping, and translation techniques to improve supply chain processes. Focuses on identifying the market signals and translating them into the drivers of demand.

- The input signals are from the market.
  - Trend
  - Seasonality,
  - Sales Promotions
  - Marketing events,
  - Price
  - Advertising
  - In-store merchandising
  - Competitive pressures, and
  - Others

“Demand planning has evolved from a shadowy concept to a critical planning function.”

—Deborah Goldstein,
Vice President Demand Planning, McCormick
DEMAND-DRIVEN FORECASTING

DEFINITIONS

• Sensing Demand Signals
  • Sense true market data (POS) to understand market shifts in demand for your products.

• Shaping Future Demand
  • The use of techniques to stimulate future demand by varying the values of price, sales promotions, marketing events, and other related factors using “What If” Analysis.

• Demand-Shifting
  • Two Types:
    • 1) at point of sale, and
    • 2) at point of supply.

• Demand Orchestration
  • The process of making trade-offs market-to-market based on the right balance of demand risk and opportunity.
FORECAST VALUE ADDED (FVA)

PURPOSE

• Reduce touch points that are not adding value
  • Measure each touch point in the forecasting process before and after someone manually adjusts the forecast.
  • If they are not adding value, then eliminate that touch point, or discount it through weighting
• Fildes and Goodwin research (e.g., Foresight: The international Journal of Applied Forecasting, Fall 2007 Issue)
  • 75% of forecasts are adjusted using judgment
  • 85% of time when forecasts are adjusted upward they make the forecast less accurate (Over confident)
  • 85% of the time forecasts are adjusted downward they improve the accuracy (More conservative)
• 95% of the people who touch the forecast actually add no value
  • When asked why, “If I don’t touch the forecast, I’m not doing my job”.
BEST IN CLASS COMPANIES ARE...

- 2X as likely to have increased market share
- 56% more likely to have improved gross profit margin
- 1.5X more likely to improve order fulfillment
- 3X more likely to have forecast accuracy > 70%

Source: Aberdeen Group, June 2010
VALUE OF DEMAND-DRIVEN SUPPLY CHAINS...

• According to Gartner, implementing demand-driven supply chain strategies leads to better:
  • Customer service,
  • lower inventory, and
  • lower overall supply chain costs,

• Resulting in:
  • 10% higher revenue and
  • 5-7% better profit margin.
NESTLE DIRECT STORE DELIVERY (DSD)

BUSINESS ISSUE

• Needed a demand planning system that is easy to use, has a wider range of forecasting models, is able to handle extraneous variables like promotions/price, and has advanced statistical modeling capabilities to reach forecast goals

SOLUTION

• Demand Synchronization: Demand Forecasting

RESULTS

• Significantly improved forecast accuracy as compared with their existing system
  • Exceeded 7% MAPE improvement
  • Lowered inventory safety stock by more than 12%
• Significantly reduced Excel spreadsheets
• Able to measure the impact of promotions and price change; providing improved store-level forecasting during promotional cycles

“When we switched to SAS, we saw our forecast accuracy improve immediately, we saw service take off in a positive way, and our inventories decreased,” says Grah. “We actually exceeded our original projections,” says Arnaud Joliff, Director of Supply Chain Integration, adding, “Forecast accuracy improvement drives safety stock, inventory days on hand, storage costs and freight costs reduction. By gaining a few points of accuracy at the national level you can generate supply chain savings immediately.” The accurate forecasts have even benefited areas such as efficient route planning.

Arnaud Joliff
Director of Supply Chain
ERICSSON

BUSINESS ISSUE

- Needed a more accurate forecast of customer demand to facilitate projection of consistent delivery lead times
- Reduce missed orders due to a lack of production capacity in the demand planning process

SOLUTION

- SAS® Demand-Driven Forecasting

RESULTS

- Sync capacity with demand for improved forecast accuracy to improve fill rate and reduce inventory
- Increased forecast frequency to weekly and interface with the formal S&OP process
- Ability to identity emerging trends and exceptions
- Reduced Excel spreadsheets and provided a secure database for department planning

“SAS is the future standard for analytics in Ericsson.”

Thomas Noren
Vice President of Radio

Customer Validation Slide – For One-to-One Customer Use Only
LI-NING

• BUSINESS ISSUE
  • The forecasting accuracy affected their supply chain efficiency deeply.
  • Too many SKU’s needed to be forecasted.

SOLUTION
  • SAS® Demand-Driven Forecasting

RESULTS
  • The pre-season improved forecasting accuracy by product group improved their supply chain efficiency.
  • The profit margins improved 1.5% through improved size optimization.
  • Overall, improved supply chain performance
THE “MARKET DRIVEN” SUPPLY CHAIN JOURNEY

- Demand Sensing
- Demand Shaping
- Demand Shifting
- Consensus Forecasting & Planning

Outward Focused (Outside-In)

Proactive Process

Lean Forecasting FVA

Selling through the channel (pull)

Nielsen/IRI/IMS

Data Integration Technology

Market

Customer Demand Focused (Outside-In)

Inventory Optimization

Supply Driven

Supply Sensing

Supply Shaping

Customer Demand

Proactive Process

15-30%

Market Driven SM&OP Finance

Consensus Forecasting & Planning

Move away from rules

Supply Sensing

Supply Shaping

Proactive Process

10%

5 to 7%

Market Driven

Customer Excellence

Customer Excellence

Customer Excellence

Demand Driven

Demand Signal Repository

Analytics

Point-of-Sale

Customer Orders

Replenishment (Shipments)

Process

Supplier

Selling into the channel (push)
MARKET-DRIVEN SUPPLY CHAIN

BENEFITS

• Sense market changes 5X faster

• Align their supply 3X faster to fluctuations in demand
  • With better customer service with substantially less inventory, waste and working capital (e.g., profitable supply chains)

• Bottom-line: Market-Driven processes are designed from the market-back -- based on sensing and shaping demand and optimizing supply
MARKET-DRIVEN SUPPLY CHAIN’S

FOCUS ON THREE CORES INGREDIENTS

- Analytics: 30%
- Technology: 10%
- Process: 60%
## Natural Place to Start the Transformation

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THE SUPPLY CHAIN JOURNEY

RECOMMENDED READING FOR MORE INFORMATION

- Supply Replenishment
- Distribution Requirements Planning
- Inventory Optimization
- Lean Forecasting
- FVA

An executive strategic framework for building a market-driven supply chain management system. This book helps you understand how to apply the emerging world of predictive analytics for the better management of value networks; includes business cases illustrating the market-driven approach; and reveals how businesses can identify market risks and translate these into supply-side tactics.
Demand-Driven Inventory Optimization and Replenishment: Creating a More Efficient Supply Chain reviews the fundamentals of inventory optimization so that you can attain a demand-driven supply; it provides a business look at why present inventory systems sub-optimize the supply chain and faulty replenishment processes lead to wasted time and effort.

THE SUPPLY CHAIN JOURNEY

Customer Excellence

Market

Selling through the channel (pull)

Supplier

Selling into the channel (push)

Operational Excellence

Demand-Driven

SM&OP

Outward Focused (Outside-In)

Supply-Driven

Demand-Driven

Market-Driven

SM&OP

Outward Focused (Outside-In)

Selling through the channel (pull)

Selling into the channel (push)

RECOMMENDED READING FOR MORE INFORMATION

Supply Replenishment

Distribution Requirements Planning

Inventory Optimization

Demand-Driven Inventory Optimization and Replenishment: Creating a More Efficient Supply Chain

reviews the fundamentals of inventory optimization so that you can attain a demand-driven supply; it provides a business look at why present inventory systems sub-optimize the supply chain and faulty replenishment processes lead to wasted time and effort.
**THE SUPPLY CHAIN EXCELLENCE JOURNEY**

**Selling through the channel (pull)**

**Selling into the channel (push)**

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**RECOMMENDED READING FOR MORE INFORMATION**

- **Supply Replenishment**
- **Distribution Requirements Planning**
- **Inventory Optimization**
- **Lean Forecasting**

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**Demand-Driven Forecasting, Second Edition** defines a proven structured approach to demand-driven processes, methodologies, and performance metrics that can be applied immediately for significant improvement in demand forecast accuracy. The first book to truly define demand sensing, shaping and orchestration. Featuring new case studies and examples, including the contributions of the latest theoretical developments, while presenting current empirical findings and technology advancements.
The Business Forecasting Deal defines the emerging method of Forecast Value Added (FVA) analysis, shows how organizations can meaningfully improve their performance by eliminating the "worst practices" that now sabotage and confound their forecasting efforts. Through FVA analysis, a method employed at several major corporations, you can identify the waste and inefficiencies in the typical forecasting process. By eliminating those (surprisingly common) practices that make the forecast worse, FVA analysis is helping companies get better forecasts with less effort and less cost.
THE “MARKET DRIVEN” SUPPLY CHAIN JOURNEY

Customer Excellence

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Demand Driven

Demand Shaping

Demand Sensing

Consensus Forecasting & Planning

Proactive Process

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SM&OP

15-30%

10%

5 to 7%

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