Sales & Operations Planning

Key Lessons Learned

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THE KEYSTONE GROUP

Atlanta • Chicago

Keystone Overview

Presenters

Brad Terry, Principal

Joined Keystone in 2009

- Brad's areas of focus include operational, profitability, and cash flow improvement, financial & operational restructuring, and business strategy
- A CPA, Brad earned his MS in Accounting and BBA in Finance and Accounting from University of Michigan Ross School of Business
- In 2015, he received the award for TMA National Turnaround of the Year and the TMA Chicago/Midwest Turnaround of the Year
- Brad serves on the Professionals Board for Imerman Angels, a non-profit which provides one-on-one support to cancer fighters and caregivers

Brian Stewart, Director

Joined Keystone in 2000

- Brian focuses on profitability and cash flow improvement, business strategy, restructuring, interim roles (CFO, CRO), and M&A integration
- Prior to joining Keystone, Brian studied accounting at Central College in Iowa and worked at Crowe Horwath
- He is a CPA and also a Certified Turnaround Professional (CTP) through the TMA (Turnaround Management Association)
- Brian has spoken and written articles on a variety of topics including manufacturing, transportation, budgeting, and cost management
- He is Board Member of the TMA and for Avenues to Independence Charity

Agenda

1	Keystone Overview
2	S&OP: Key Learnings
3	Q&A

Keystone Overview

The Keystone Group is a management consulting firm founded in Chicago in 1991.

Clients	• Middle market manufacturing & distribution companies • Usually $50MM to $2B in revenue
Focus	• Execution • 70% of our work is helping companies implement solutions
Teams	• Small, experienced teams that blend industry and consulting expertise
Services	• Profit & Cash Flow Improvement • Merger & Acquisition Services • Strategy & Operations Improvement
Results	• 5-10x annual return for a one-time investment in our fees

Keystone Overview

Keystone's engagements are focused around three primary service lines.

SERVICE LINES

Strategy & Operations Improvement

Helping companies identify and prioritize top line growth strategies and driving operational excellence and performance improvement

Merger & Acquisition Services

Working on the "buy side" with strategic buyers and private equity firms to accelerate the value of their acquisitions - from operational due diligence through integration planning, synergy identification and execution

Profit & Cash Flow Improvement

Helping troubled companies manage their crisis, generate cash, and develop a solid operating foundation for the future, while preserving the bank's capital position

INDUSTRY EXPERIENCE

- *Agricultural Products*
- *Automotive*
- *Apparel & Footwear*
- *Building Products*
- *Distribution*
- *Education*
- *Electronics/Telecom*
- *Energy/Oil and Gas*
- *Food & Beverage*
- *Furniture*
- *Housewares*
- *Industrial Equipment*
- *Metal Fabrication*
- *Packaging*
- *Plastics*
- *Printing/Publishing*
- *Software*
- *Specialty Chemicals*
- *Transportation*

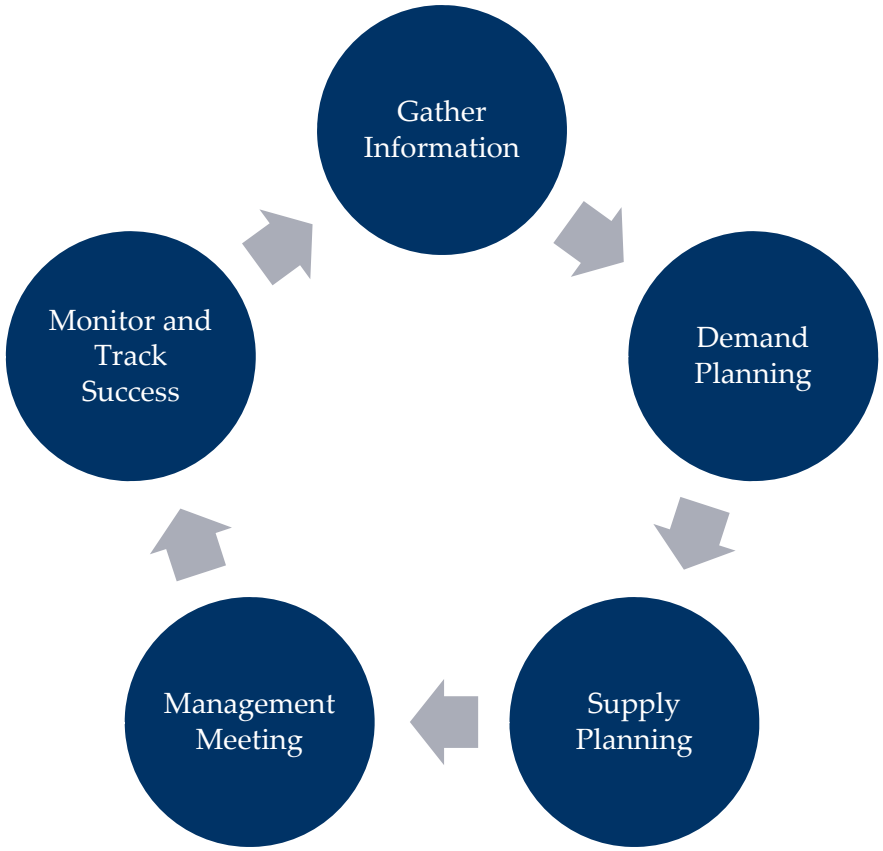
Agenda

1	Keystone Overview
2	**S&OP: Key Learnings**
3	Q&A

S&OP: Key Learnings

What is S&OP?

Sales and operations planning (S&OP) is one of the most critical, cross-functional processes that exist within a company.



- Sales and Operations Planning:
  - A process which brings together all tactical plans for the business into one integrated set of plans covering the following functional areas:
    - Sales & Marketing, Product Development, Operations, Finance, Purchasing
  - Ongoing in a business on a regular cadence, involves looking forward and backwards

S&OP: Key Learnings

What is S&OP?

Each of the functional areas that is involved in the process plays a critical role in its success.

Sales & Marketing	Production Planning	Operations	Purchasing	Finance
• Determine markets to serve • Develop sales forecasts • Product introductions, phase-outs, promotional plans • Customer advocate • Promise delivery dates to customers	• Translate forecast into production schedule • Level-load production • Plan finished goods inventory • React to changes in demand needs or supply capabilities	• Capacity planning • Manufacturing cost management • Make vs. buy decisions • Manufacturing cycle times • Labor cost management • Production quality	• Vendor quality and capacity management • Vendor lead times and cost • Inventory levels and policies	• Financial budgets • Revenue plans • Cash management and accountability • Accounts Payable and Accounts Receivable

S&OP: Key Learnings

Where does it all go wrong?

By nature, the S&OP process is set such that the functional areas will be at odds.

Sales & Marketing	Production Planning	Operations	Purchasing	Finance
My customer is critical to our business!	Tell me what capacity is available!	Get my materials here on time!	Keep the production plan consistent!	We can't continue to miss our sales forecast!
We cannot miss this shipment!	Produce what I put on the schedule!	Stop changing the sales forecast!	Decide if you care more about quality or cost – can't do both!	We are blowing our production budget!
They're complaining about our quality!		Every customer can't be a "critical" customer!	We are small potatoes to these guys, we can't push them around!	Our customers are not paying in a timely manner!
		Don't tell me not to miss a shipment but that I can't use overtime!		

S&OP Gone Wrong

S&OP: Key Learnings

Signs of distress

There are several symptoms that may indicate the need for the implementation or improvement of S&OP…

Timing in Process	Symptom
Early	Debate over which forecast to use / utilization of differing forecasts
Early	Onerous and complex product design process
Middle	High overtime costs
Middle	Constant disruption on the manufacturing floor for "hot" orders
Middle	Operations does not produce to production scheduling's set schedule
Middle	High changeover costs and substantial downtime
Late	Growth of excess and obsolete inventory
Late	Tightening of cash position
Late	High expediting costs
Late	Loss of a customer due to quality or delivery performance
Late	Actual demand differs significantly from forecasted demand
Late	Declining fill rates and poor on-time delivery performance to customers

S&OP: Key Learnings

Mitigation techniques

To augment the implementation of a full and robust S&OP process, there are specific items each functional area can improve upon.

Function	Improvement Opportunity
All	Differentiate between the budget and the forecast
Sales & Marketing	Track customer orders vs. forecast, hold post-mortem discussions
Operations	Cross-train workers to be flexible to shifting demand needs
Operations	Reduce manufacturing cycle times
Operations	Reduce manufacturing batch sizes
Operations	Utilize temps or part-time workers to scale production with demand
Purchasing	Work with vendors to shorten procurement lead times
Production Planning	To the extent possible, produce to a "semi-finished" state (postponement)
Product Design	Implement Design for Manufacturability to connect the processes
Product Design	Standardize product components to the extent possible
Finance	Understand implications and interpretation of financial targets
All	Rationalize unprofitable or low-volume products

S&OP: Key Learnings

Case Study Summary #1

The Company: Multi-billion dollar manufacturer of seamless and welded pipe

The Result: On-time delivery improved from 75% to above 90%

S&OP: Key Learnings

Case Study Summary #2

The Company: $400MM disposable foodservice product manufacturer

The Result: Trailing twelve-months EBITDA improved from $8MM to $32MM

S&OP: Key Learnings

Case Study Summary #3

The Company: $150MM oil field accessory manufacturer

The Result: 15% improvement in Gross Margin (>$3MM) and throughput

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Q&A

- Open the floor for questions and answers

Agenda

Appendix – Case Studies

Appendix – Case Studies

Case Study #1

The Company

- Multi-billion dollar US subsidiary of an international manufacturer of tube and pipe for the oil and gas industry
- Producer of both seamless and welded pipe purchased by a variety of distributors and end users

The Situation

- Grown significantly through acquisitions in recent years, only partially integrated processes and systems
- Large manufacturing network within the US which required a lot of communication to produce product successfully
- Experiencing increasingly poor on-time delivery performance to customers, but did not understand root causes

The Approach

- We, together with the company, formed teams to identify and address the key obstacles to successful customer delivery
- Implemented regular management team meetings and weekly on-time delivery root cause discussions
- Teams included Inventory Accuracy, Sales Forecasting, Raw Material Procurement, Logistics, and Sales & Operations Planning

The Results

- The number of late "casuals" was greatly reduced and on-time delivery performance was vastly improved
- Customers that had threatened to take their business elsewhere amidst on-time delivery below 75% had now expressed their satisfaction at a performance which had hit 90% and was improving

Key Learnings

- When a business experiences a significant change (e.g. acquisition, system implementation) it is critical to ensure that a thorough communication process exists to manage through inevitable issues
- The implementation of regular communication and simple tools can greatly enhance the quality of information being provided throughout an organization

Appendix – Case Studies

Case Study #2

The Company

- $400MM manufacturer of disposable packaging and cutlery for the foodservice industry
- Network of 10 manufacturing facilities which often produced product for the same customers

The Situation

- Experiencing severe financial distress, cash-strapped, trying to strike the right balance of minimizing costs and pleasing customers
- Many of the issues were occurring at one specific plant, with many of the classic signs of a broken S&OP process, including:
  - Expediting costs, large OT, missing production plan, over-promising to customers, substantial changeover time, quality issues

The Approach

- We spent time with each of the major players in the process to understand the genesis of the issues, and found:
  - Production Scheduling using "feel" rather than logic to generate schedules, Operations not trusting the production plan and developing their own, Customer Service utilizing an obsolete policy for the timing window for changing orders, Operations did not understand the importance of certain machines vs. others, a handful of unprofitable products causing issues on the floor
- Developed tools for Production Scheduling, implemented a daily production meeting, created one agreed-upon forecast, clarified rules and policies for customer service and changing orders, implemented production downtime metrics

The Results

- The daily production meetings and weekly forecast meetings continued long after our departure, overtime was reduced significantly, on-time delivery improved, excess inventory was reduced, and the plant returned to profitability

Key Learnings

- Oftentimes when performance is below expectation, different functional areas within a business dig in their heels rather than coming together to resolve issues
- Simple tools, visibility, and communication go a long way in improving morale and performance

Appendix – Case Studies

Case Study #3

The Company

- $150MM manufacturer and distributor of oil field equipment and accessories, regarded as a market leader
- Manufactures domestically, distributes product out of DCs in key geographic locations in North America

The Situation

- In a period of rising demand, management attempted to implement a number of lean initiatives to reduce inventory
- Results were impacted as throughput declined, lost sales increased, and manufacturing variances grew
- Sales was frustrated about late orders and missed revenue, Operations could not identify the root causes of the issues

The Approach

- Conducted interviews with management, functional team leads, and hourly personnel
- Performed detailed data analysis, observed manufacturing operations, setups, scheduling, and material flow
- Developed tools and processes to schedule better; level-loaded production on the floor, re-engineered bottlenecks
- Developed manufacturing metrics to increase accountability and drive improvement

The Results

- Production volumes increased 15% YOY, manufacturing variances declined each month, Gross Margin $ increased by 15% and, with a reduction in lost sales, the company was better positioned for future growth

Key Learnings

- While lean manufacturing is an excellent concept, when not implemented effectively it can handicap a business
- Mis-information can damage an organization – there was a perception on the floor that the issues were "caused by material coming from China" which led to no accountability on the floor – materials were not coming from China