



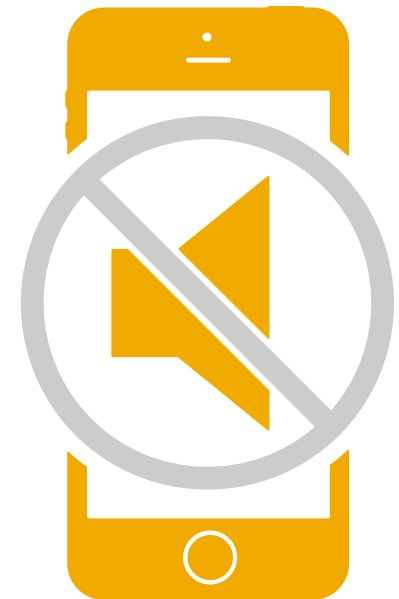
Smart decisions. Lasting value.™

Optimizing Working Capital in Private Equity M&D Organizations

John Kurkowski
Bart Kelly
Stephen Wiley

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- Please submit questions or comments through the Q&A function at the right side of your screen.
- Questions will be addressed throughout the presentation and as time permits at the end of the presentation. We are committed to getting back to everyone about any questions we cannot get to during the presentation.
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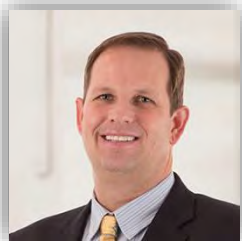
Today's Presenters



- **John Kurkowski**, Partner - Audit & PE Services Leader



- **Bart Kelly**, Principal - Advisory Services



- **Stephen Wiley**, Managing Director - Advisory Services

Today's Discussion

1. Why This Matters? – It's All About the Return!
2. Working Capital Optimization Challenges
3. Improvement Strategy: Process & Technology
4. Addressing Underlying Suboptimal Processes
5. Foundational Methodology
6. Case Study
7. Working Capital Software Analytics & Overview
8. Optional: Software Demo

Why This Matters?

It's All About the Return!

Why This Does Matter

- It's much more than an interest rate savings.
- It's about:
 - Lower upfront investment.
 - Permanent reduction in handling costs.
 - Reduction in operating margin erosion – fewer bad debt and excess and obsolete inventory write-offs.
 - Fewer distractions for management dealing with strategies for getting rid of slow moving inventory through closeouts.
 - Improved service levels.

Typical Impacts of Optimizing Working Capital

Overall Inventory Reduction

- Typically see a 10% to 25% inventory reduction
- Provides one-time cash flow reduction & year-over-year carrying cost reduction, which are roughly 10% for each \$ invested

Impact to Valuation

- More thorough analysis of inventories & receivables
- Reduce E&O inventory & improve AR recovery

Improved Cash Conversion Cycle

- Reduction in AR Days
- Maximize realization of at risk receivables

Pricing / Margin Enhancement

- Highlights low margin SKU's and customers
- Facilitates strategic pricing opportunities and rationalization decisions

Working Capital Impact Examples

Summary Example Benefits of Inventory Optimization				
Assumptions (\$ in millions)	Company 1	Company 2	Company 3	
Revenue	\$ 100	\$ 200	\$ 500	
Inventory Before Reduction	\$ 12	\$ 25	\$ 57	
Inventory Carrying Costs as % of Inventory	10%	10%	10%	
Inventory Reduction from Optimization	15%	15%	15%	
Consulting Services & Software Implementation	\$ 0.200	\$ 0.350	\$ 0.475	
Assumes Five-Year Holding Period				
Impact (\$ in millions)	Company 1	Company 2	Company 3	
Increase to \$ Pretax Earnings	1.6%	1.8%	1.7%	
Increase in Net Operating Cash Flow During Five-year Holding Period	\$ 2.44	\$ 4.97	\$ 12.64	
Return on Investment in Inventory Optimization	13.2x	15.2x	27.6x	
Increase in IRR for Invested Capital	2.4%	2.5%	2.5%	

With multiples at record levels, improvements to working capital will provide a meaningful return on investment.

Working Capital Optimization Challenges

Is Your Organization Maximizing Your ERP System?

We see that many limitations inherent in ERP systems...

- Today's ERP systems are powerful tools that capture tremendous amounts of data. However, the process of:
 - Identifying,
 - Locating,
 - Extracting,
 - Organizing, and
 - Analyzing...the masses of data, locked in millions of transactions, within multiple ERP systems, is often difficult and overwhelming.



...are leading to unfavorable performance gaps.

- Obsolete / aged inventory
- Excess inventory
- Inventory shortages / stock outs
- Poor on time delivery (supplier & customer)
- Delinquent receivables
- Sub-optimal Cash Conversion Cycle
- Excessive premium freight charges
- Lack of visibility and transparency

How can organizations increase operational and financial performance by transforming and leveraging the large volumes of data into actionable items?

Working Capital Data Analysis Challenges

Data Acquisition is Difficult

- Data may come from multiple areas in the ERP or disparate Excel* sheets.
- Gaps in data can be a significant barrier to analysis.
- Staff may struggle with what data to look for and where to find it.

Analyzing Data Is Arduous and Ad Hoc

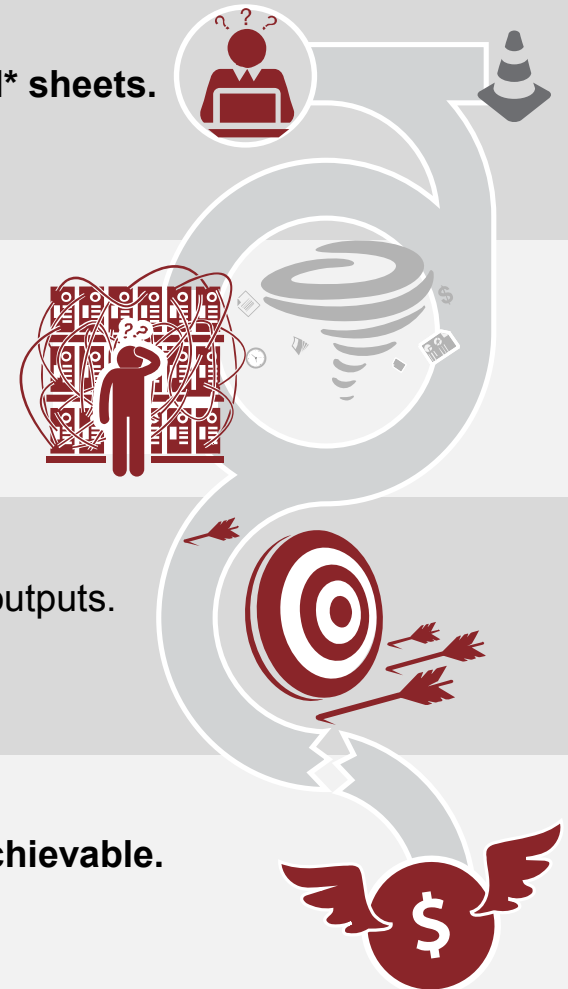
- Limited formalized tools are available to support in depth analysis.
- **Most analyses are not comprehensive and are limited in scope.**
- Analyses are labor-intensive and prone to error.

No Insight, No Actionable Improvement

- Actionable improvement requires knowledge & ability to interpret the outputs.
- Information can be misleading and disguise insights.
- **Comparing performance enterprise wide is challenging.**

Optimizing Working Capital Is Elusive

- **Inadequate skills and tools make optimizing working capital unachievable.**
- Excessive working capital prohibits other investment opportunities.



Best in Class: Working Capital Solution

Data Acquisition Is Automated

- Crowe helps identify what data is needed and where it's located.
- Standardizes the extraction process to facilitate replication.
- We help determine user-defined dynamic thresholds to deliver insights.

Analyzing Data Is Nearly Instantaneous

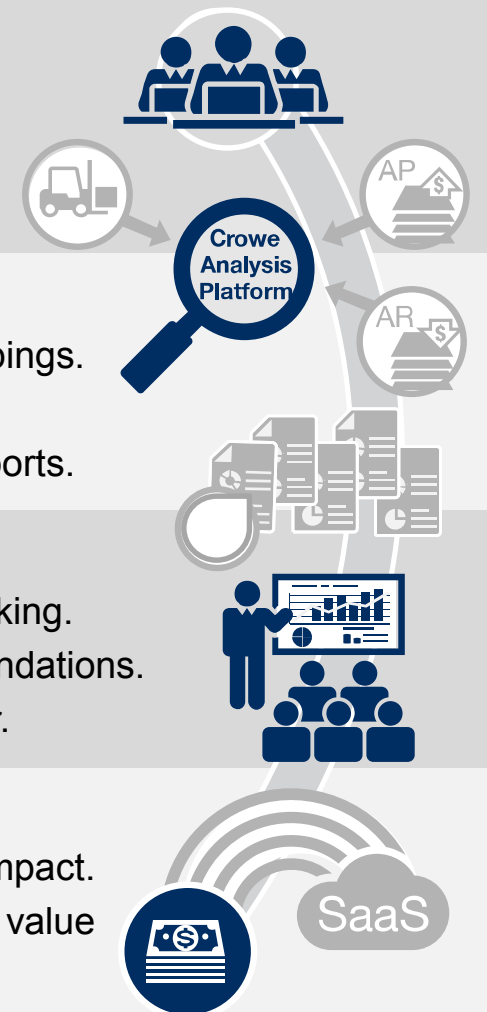
- Segmentation strategy stratifies working capital data into meaningful groupings.
- Dynamic thresholds yield very specific and actionable areas of focus.
- Overlaying 44+ unique analyses provides insights not seen in “one-off” reports.

Insights Point to Actionable Improvement

- Configurable dashboards provide users with views to support decision-making.
- Initial assessment highlights significant areas of opportunity and recommendations.
- Comparisons let you see how areas are performing relative to one another.

Optimizing Working Capital Is Achievable

- Allows for pinpointed action items as well as tracking of improvements & impact.
- Ongoing updates & collaboration with Crowe specialists provide additional value & continuous improvement opportunities.



Polling Question One

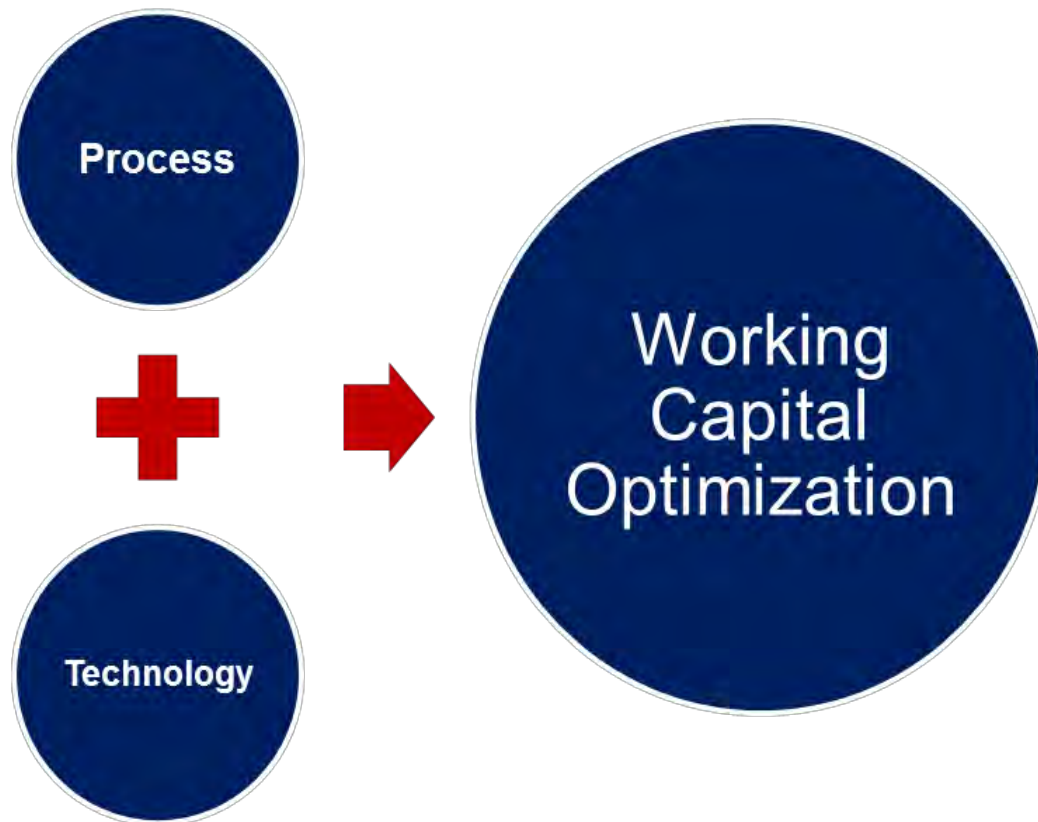
Our organizations use data from ERP and business systems to drive targeted working capital improvements.



- A. Strongly Agree
- B. Moderately Agree
- C. Neutral
- D. Moderately Disagree
- E. Strongly Disagree

Approach

Dual Prong Improvement Strategy



Challenge

- Increasingly complex supply chains lead to challenges:
 - Remaining responsive to a customer base, balancing the working capital inputs, and maximizing profitability
- The result is often inefficient and sub-optimal performance, with excess inventory / working capital, and lower on-time order fulfillment.

Opportunity

- By addressing the underlying process deficiencies and leveraging ERP / system extracts, tremendous operational & financial improvements can be achieved

Typical Software Integration Life Cycle

Process Steps

Acquire &
Clean
Data

Validate
Data with
Financials
& Gap
Resolution

Automate
Upload
Process

Develop
Summary
Findings

Findings
Review

Processing Time

~2 to 3 Weeks

~2 Days

Addressing Underlying Suboptimal Processes

Sources of Erosion

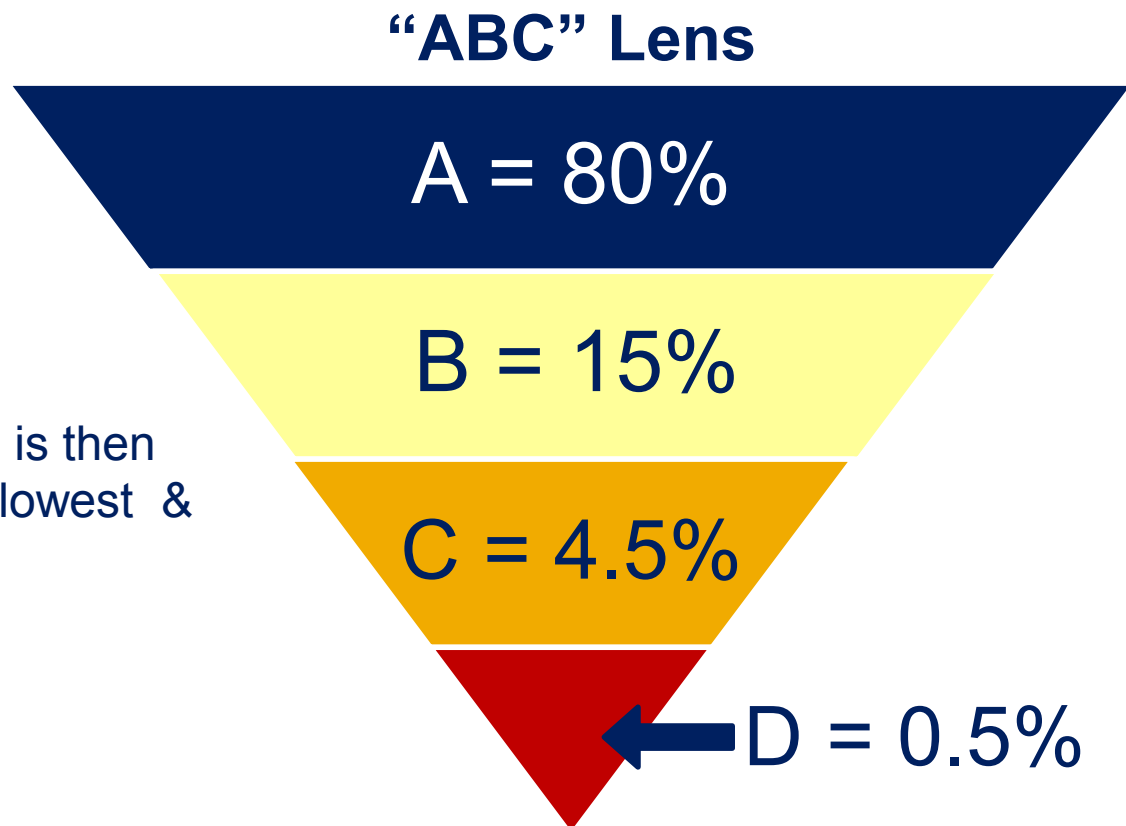


Foundation

- ABC Methodology
- Segmentation

ABC Segmentation Defined

- ABC analysis provides a methodology to segment data based on predefined criteria. Common criteria examples within industry include:
 - FG Sales
 - RM Usage
 - AR / AP Dollars or Days
- The predefined criteria is then sorted from highest to lowest & delineated as follows:



Finished Goods (FG) – ABC **SKU** by Sales Dollars

- Typical FG ABC analysis reveal a disproportionate percentage of the sales dollars are driven by a relatively small percentage of the portfolio.

ABC SKU Classification Sales Dollars				
Class	Sales \$	% of Sales	SKU Count	% of Count
A	\$ 53,840,553	80.0%	233	11.7%
B	\$ 10,105,452	15.0%	468	23.4%
C	\$ 3,036,166	4.5%	638	31.9%
D	\$ 336,857	0.5%	658	32.9%
Totals	\$ 67, 319,028	100%	1,997	100%

Foundation

- ABC Methodology
- Segmentation

Segmentation Visualized – Dual Axis Matrix

- The dual-axis matrix combines ABC methodology with a secondary segmentation, such as days on hand (DOH), inventory turns, aging, volatility, profitability, or purchase price variance (PPV).

Type of Segmentation (DOH, Turns, Aging, Volatility, etc.)							
Class	<10	10 to 19	20 to 49	50 to 99	100 to 365	>365	Grand Total
A							
B	Good		Fair		Poor		
C							
D							
Total							

Vertical 'Y' Axis = ABC Classification

Horizontal 'X' Axis = Interval Breakdown (Days, Dollars, % Volatility, etc.)

Sample Analysis – Days on Hand

- Days on Hand provides insight into how well the client is managing inventory.
- The matrices are viewed in terms of actual dollars or as a percentage of the grand total within each interval segment.

DOH Based on Historical Sales: Inventory Dollars							
Class	0 to 30	30 to 60	60 to 90	90 to 180	180 to 365	>365	Grand Total
A	\$ 402,421	\$ 1,271,853	\$ 1,470,481	\$5,408,533	\$ 7,977,676	\$ 5,757,018	\$ 22,287,982
B	\$ 46,225	\$ 204,998	\$ 242,251	\$ 773,966	\$ 1,481,970	\$ 2,054,629	\$ 4,804,039
C	\$ 7,453	\$ 38,233	\$ 60,372	\$ 201,352	\$ 535,279	\$ 1,127,702	\$ 1,970,391
D	\$ 3086	\$ 2,734	\$ 3,175	\$ 21,024	\$ 227,419	\$ 13,640,610	\$ 13,898,048
Totals	\$ 459,185	\$ 1,517,818	\$ 1,776,279	\$ 6,404,895	\$ 10,222,344	\$ 22,579,959	\$ 42,960,460

DOH Based on Historical Sales: Inventory Percentage							
Class	0 to 30	30 to 60	60 to 90	90 to 180	180 to 365	>365	Grand Total
A	0.9%	3.0%	3.4%	12.6%	18.6%	13.4%	51.9%
B	0.1%	0.5%	0.6%	1.8%	3.4%	4.8%	11.2%
C	0.0%	0.1%	0.1%	0.5%	1.2%	2.6%	4.6%
D	0.0%	0.0%	0.0%	0.0%	0.5%	31.8%	32.4%
Totals	1.1%	3.5%	4.1%	14.9%	23.8%	52.6%	100%

Sample Analysis – Aging Analyses

- Similar to Days on Hand, Inventory Aging segments the actual dollar value or percentage of the grand total for each interval bucket based on the aging periods.

Aging: Inventory Dollars							
Class	0 to 30	30 to 60	60 to 90	90 to 180	180 to 365	>365	Grand Total
A	\$ 12,509,392	\$ 4,901,080	\$ 1,027,586	\$ 1,867,586	\$ 1,171,764	\$ 793,570	\$ 22,270,978
B	\$ 2,318,659	\$ 756,737	\$ 336,872	\$ 361,350	\$ 503,741	\$ 526,297	\$ 4,803,656
C	\$ 600,636	\$ 252,020	\$ 139,670	\$ 212,017	\$ 269,044	\$ 496,433	\$ 1,969,820
D	\$ 3,117,573	\$ 835,432	\$ 1,974,270	\$ 765,157	\$ 1,534,177	\$ 5,648,300	\$ 13,874,909
Totals	\$ 18,546,260	\$ 6,745,269	\$ 3,478,398	\$ 3,206,110	\$ 3,478,726	\$ 7,464,600	\$ 42,919,363

Aging: Inventory Percentage							
Class	0 to 30	30 to 60	60 to 90	90 to 180	180 to 365	>365	Grand Total
A	29.1%	11.4%	2.4%	4.4%	2.7%	1.8%	51.9%
B	5.4%	1.8%	0.8%	0.8%	1.2%	1.2%	11.2%
C	1.4%	0.6%	0.3%	0.5%	0.6%	1.2%	4.6%
D	7.3%	1.9%	4.6%	1.8%	3.6%	13.2%	32.3%
Totals	43.2%	15.7%	8.1%	7.5%	8.1%	17.4%	100%

Analysis Example – Accounts Payable

- Because segmentation analysis revealed an excessive volume of low dollar AP transactions (less than \$500), a ‘P-card’ system was implemented for small transactions, which provided the ability to significantly reduce AP headcount.

AP Transactions by Dollar Amount						
Dollar Range	Transactions	% of Total Transactions	Cumulative	Total Spend	% of Total Spend	Cumulative
< \$100	7,194	20.9%	20.9%	\$184,210	0.1%	0.1%
\$100-\$500	9,748	28.3%	49.2%	\$ 1,639,987	0.5%	0.6%
\$500-\$2,000	7,937	23.0%	72.2%	\$ 5,869,893	1.7%	2.3%
\$2,000-\$3,500	2,456	7.1%	79.3%	\$ 4,667,197	1.4%	3.7%
\$3,500-\$5,000	1,409	4.1%	83.4%	\$ 4,357,403	1.3%	5.0%
\$500-\$10,000	1,999	5.8%	89.2%	\$ 11,078,245	3.2%	8.2%
\$10,000-\$50,000	2,610	7.6%	96.8%	\$ 44,843,736	13.1%	21.3%
> \$50,000	1,113	3.2%	100.0%	\$ 269,123,790	78.7%	100.0%

Polling Question Three

My organization(s) have clear understanding of the levers required to influence or positively impact working capital.



- A. Strongly Agree
- B. Moderately Agree
- C. Neutral
- D. Moderately Disagree
- E. Strongly Disagree

Case Study

Methodology in Practice - Implementation Examples

Concrete Accessory Manufacturer

- 10+ manufacturing / distribution locations across the United States
- Disconnect between MTS / MTO policy
- Lack of a formalized process to address slow moving inventory
- Decentralized planning
- Insufficient system parameter updates
- Lack of tools / visibility into other locations inventory levels
- Sub-optimal inventory turns

Implementation Improvement Approach

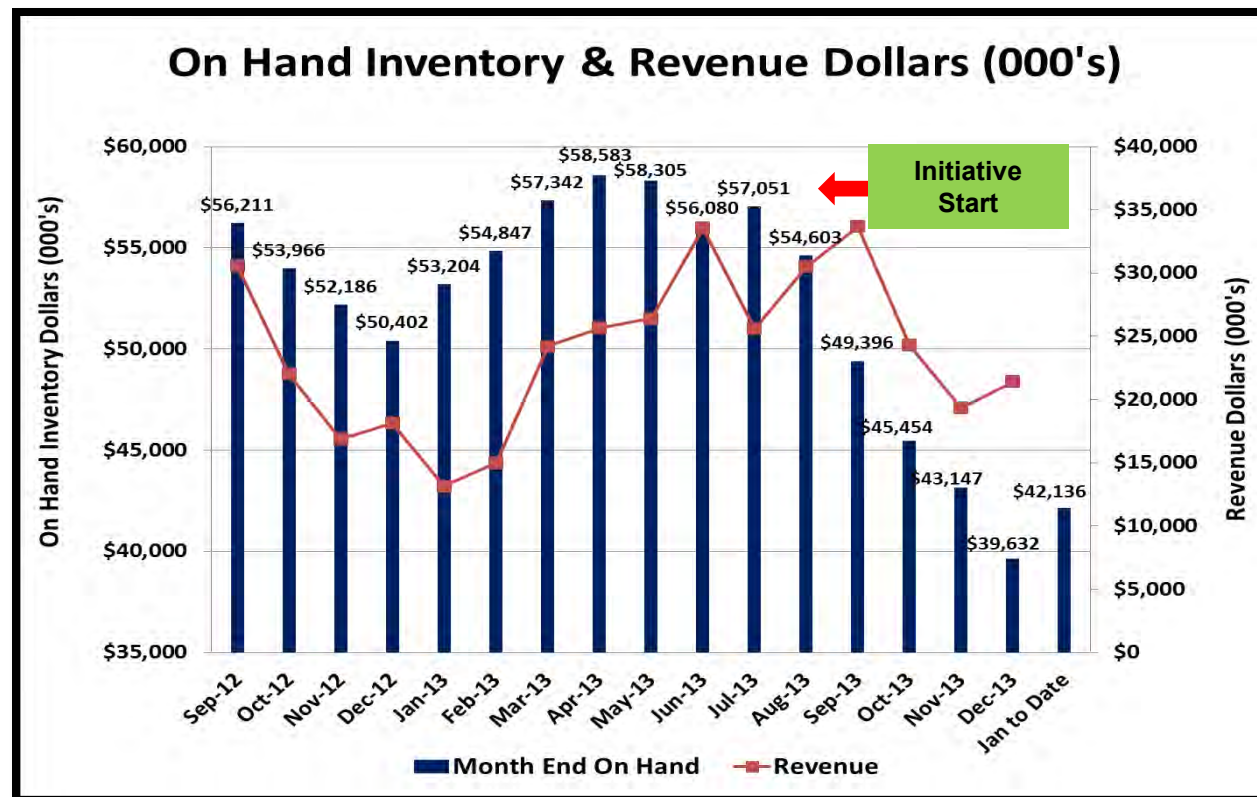
Problem: Strategies to Reduce Recurrence

- System Parameters
- MTO / MTS Optimization
- Supplier Lead Time Reduction
- VMI / Consignment Opportunities
- SKU Rationalization
- SI&OP / Forecasting
- Pricing / Margin Mgmt.

Symptom: Strategies to Mitigate Existing Excesses

- Sell back to Supplier
- Reconfigure / Reengineer
- Fire Sale
- Incentives / Rebates
- Alternative Use
- Charitable Donation
- Scrap

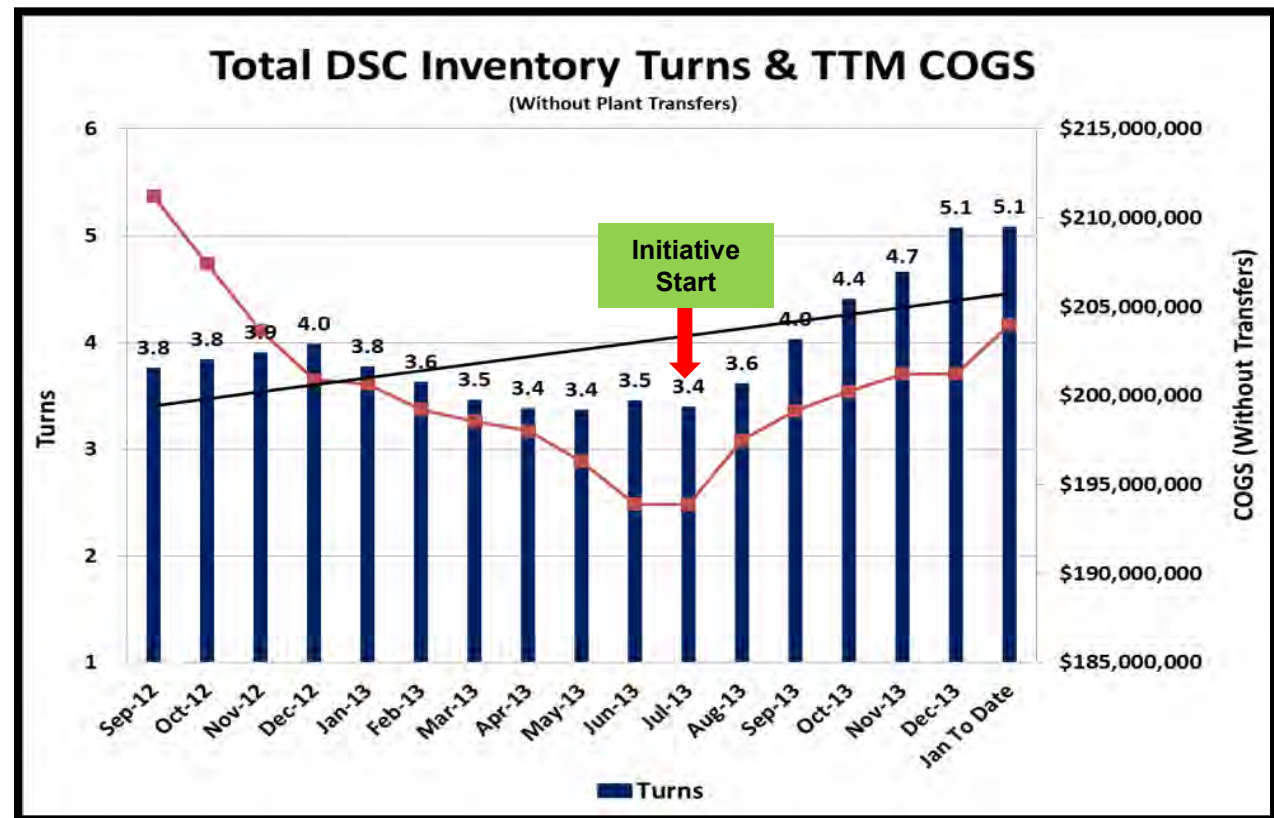
Performance Realized



Additional cash flow
impact of ~\$15M

Performance Realized

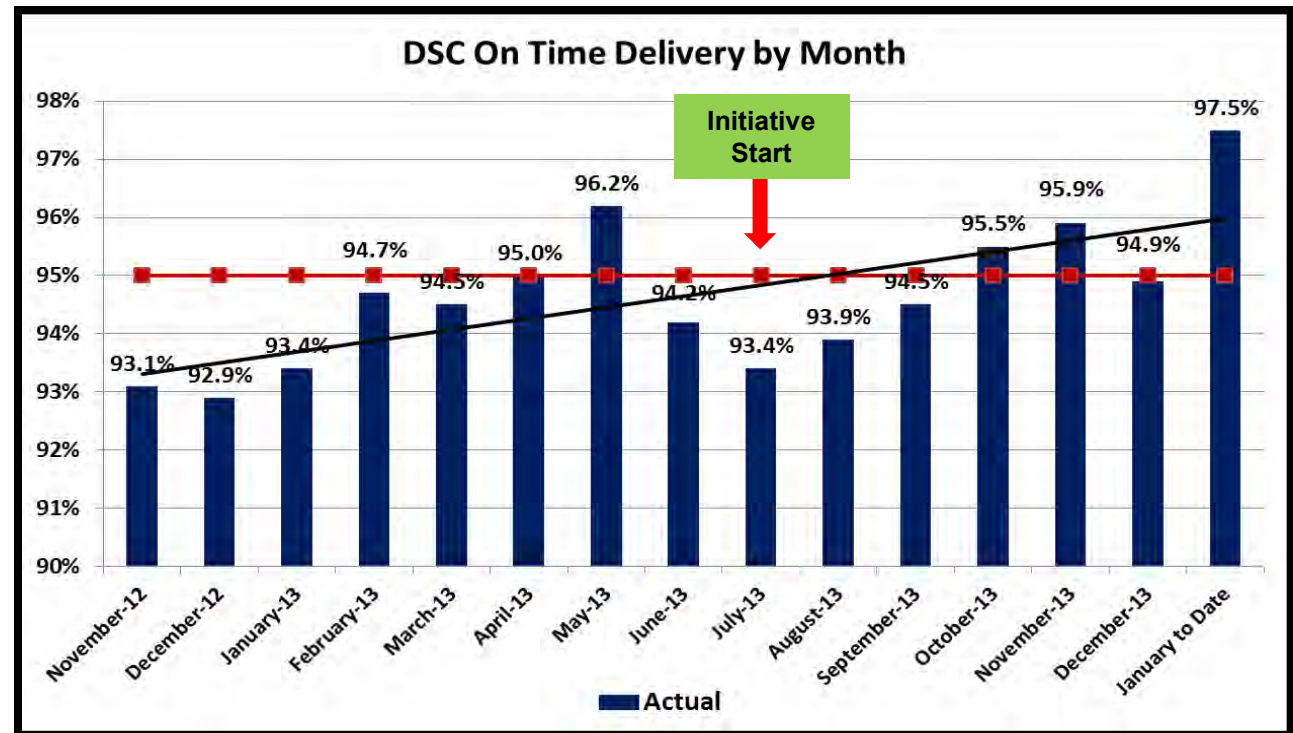
Achieved ~49% improvement in inventory turns while increasing service levels



Performance Realized

Metrics, baselines and targets are established and then tracked throughout the course of the engagement.

**Achieved consistent
95% On Time Delivery**



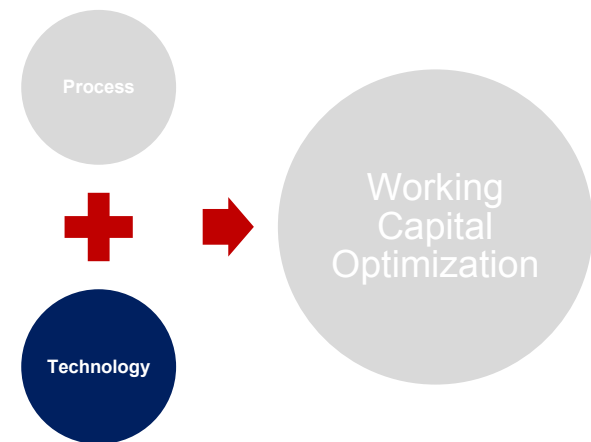
Polling Question Two

To what degree (in terms of percentage points) do you believe opportunities exist to drive overall working capital improvements in your organization(s)?



- A. Less than 10%
- B. 10%-20%
- C. Greater than 20%
- D. Not sure
- E. No opportunities exist

Working Capital Software Analytics



Working Capital Analyses – Best Practices

The key is for data to be sliced and segmented into many analytical layers.

Raw Materials (15)

- Usage Dollars by SKU
- Days of Supply by SKU
- Inventory Turns by SKU
- Aging by SKU with Lot Control
- Aging vs. DOS
- Remaining Shelf Life by SKU
- Volatility by SKU
- Supplier Lead Time vs. Actual
- Excess on Hand vs. System Lead Time
- Excess on Hand vs. Actual Lead Time
- Supplier PO vs. Standard Price (PPV)
- Consignment / VMI Inventory
- Purchasing Spend by Supplier
- Supplier Spend by Category
- Supplier Spend by Facility

Finished Goods (13)

- Sales Dollars by SKU
- Days of Supply by SKU
- Inventory Turns by SKU
- Aging by SKU with Lot Control
- Remaining Shelf Life by SKU
- Aging vs. DOS
- Volatility by SKU
- Gross Margin by SKU
- Sales Dollars by Customer
- Gross Margin by Customer
- Top 10 Customers (Revenue & Margin)
- SKU by Customer (Revenue & Margin)
- Top 10 SKUs (Revenue & Margin)

Working Capital Analyses – Best Practices

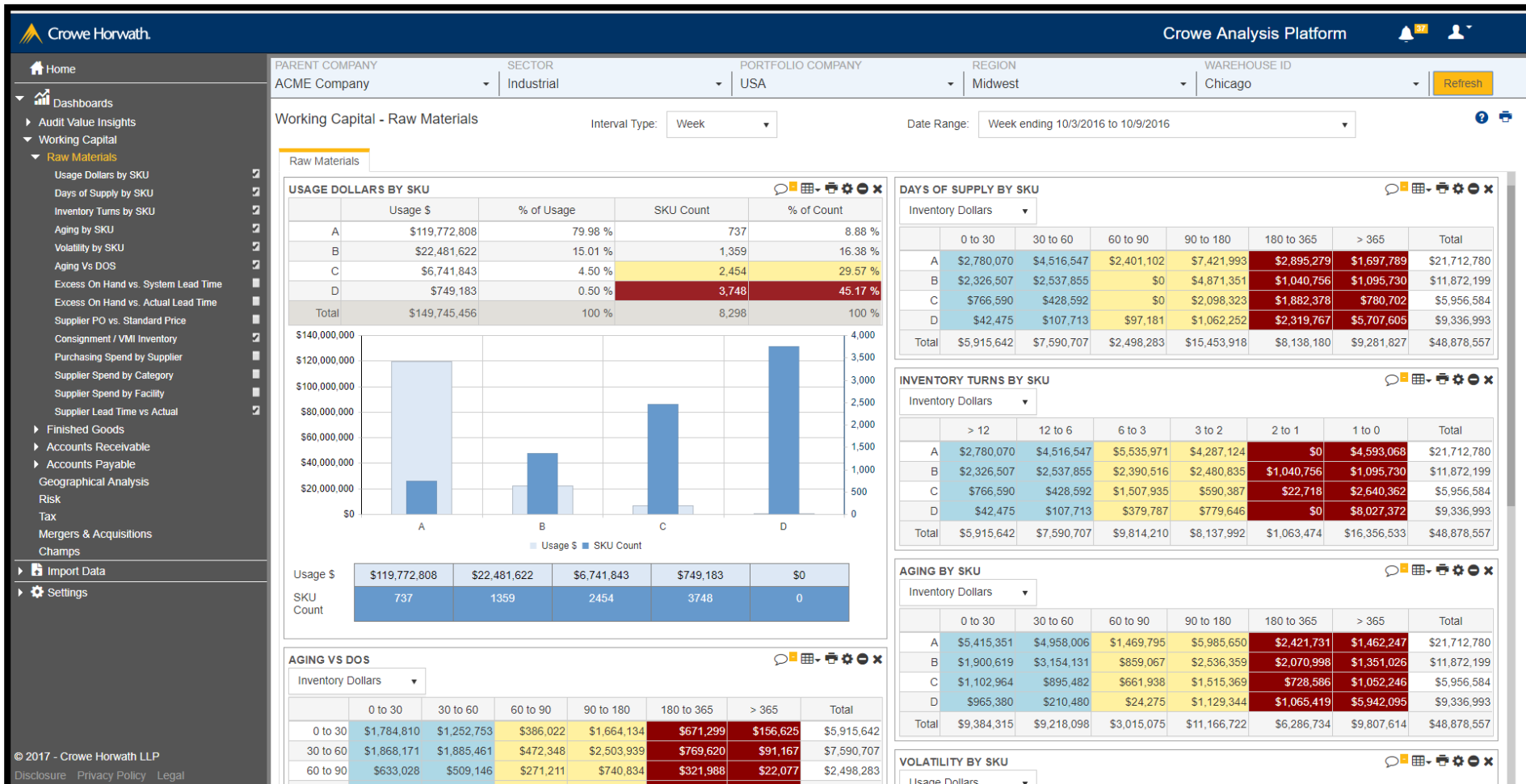
Account Payable (7)

- Accounts Payable Dollars by Supplier
- Accounts Payable Dollars Aging
- Current Accounts Payable Days
- Trailing 12 Months Accounts Payable Days
- Accounts Payable Days by Supplier
- Accounts Payable Days vs. Contract Terms
- Trailing Twelve Months Accounts Payable Days as % of Sales

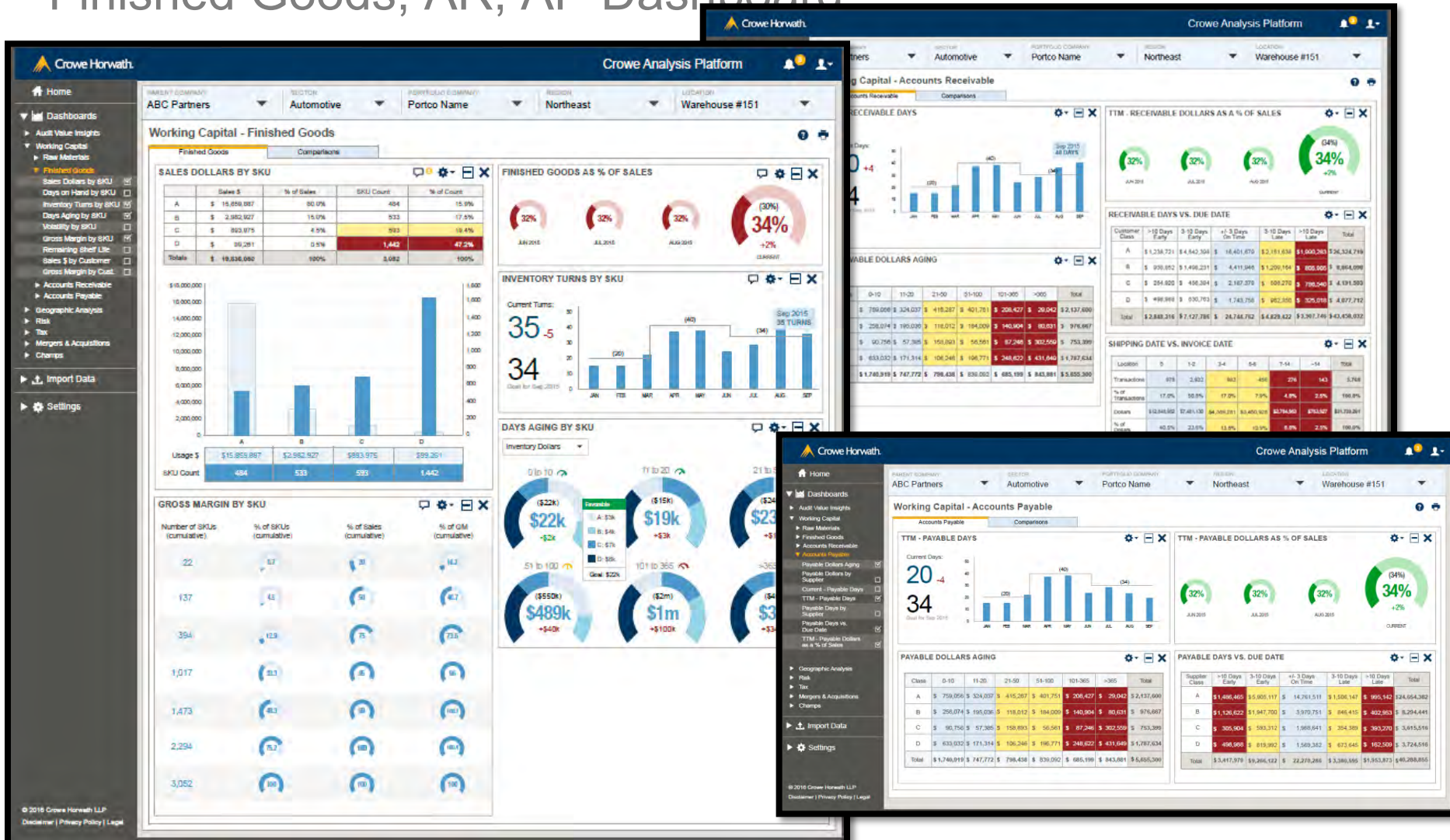
Account Receivable (9)

- Accounts Receivable Dollars by Customer
- Accounts Receivable Dollars Aging
- Current Accounts Receivable Days
- Trailing 12 Months Accounts Receivable Days
- Shipping Date vs. Invoice Date
- Accounts Receivable Days by Customer
- Accounts Receivable Days vs. Contract Terms
- Trailing 12 Months Accounts Receivable Days as % of Sales
- Delinquent Customers

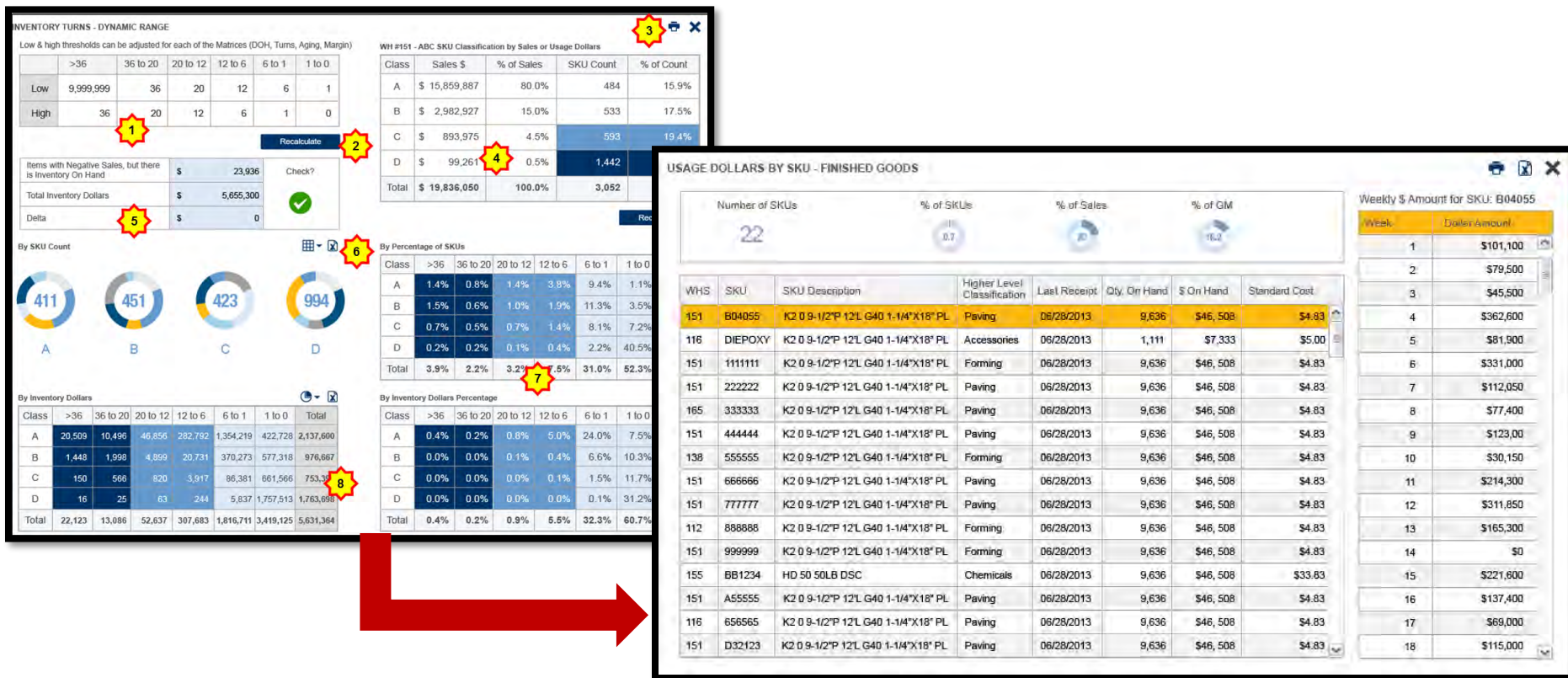
Raw Materials Dashboard



Finished Goods, AR, AP Dashboard



Drill Down Capability



- Necessary to drill downs into specific SKU's, customers, dollars, percentages, ratios, locations, sectors, etc.
- Provides instant visibility into the areas of opportunity.

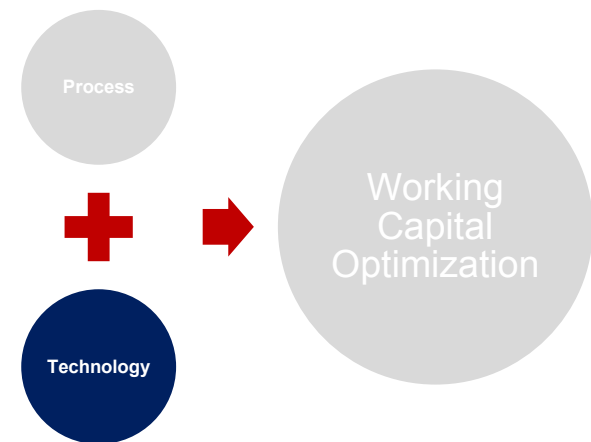
To what degree (in terms of percentage points) do you believe opportunities exist to drive overall working capital improvements in your company

- a. Less than 10%
- b. 10%-20%
- c. Greater than 20%
- d. Not Sure
- e. No opportunities exist

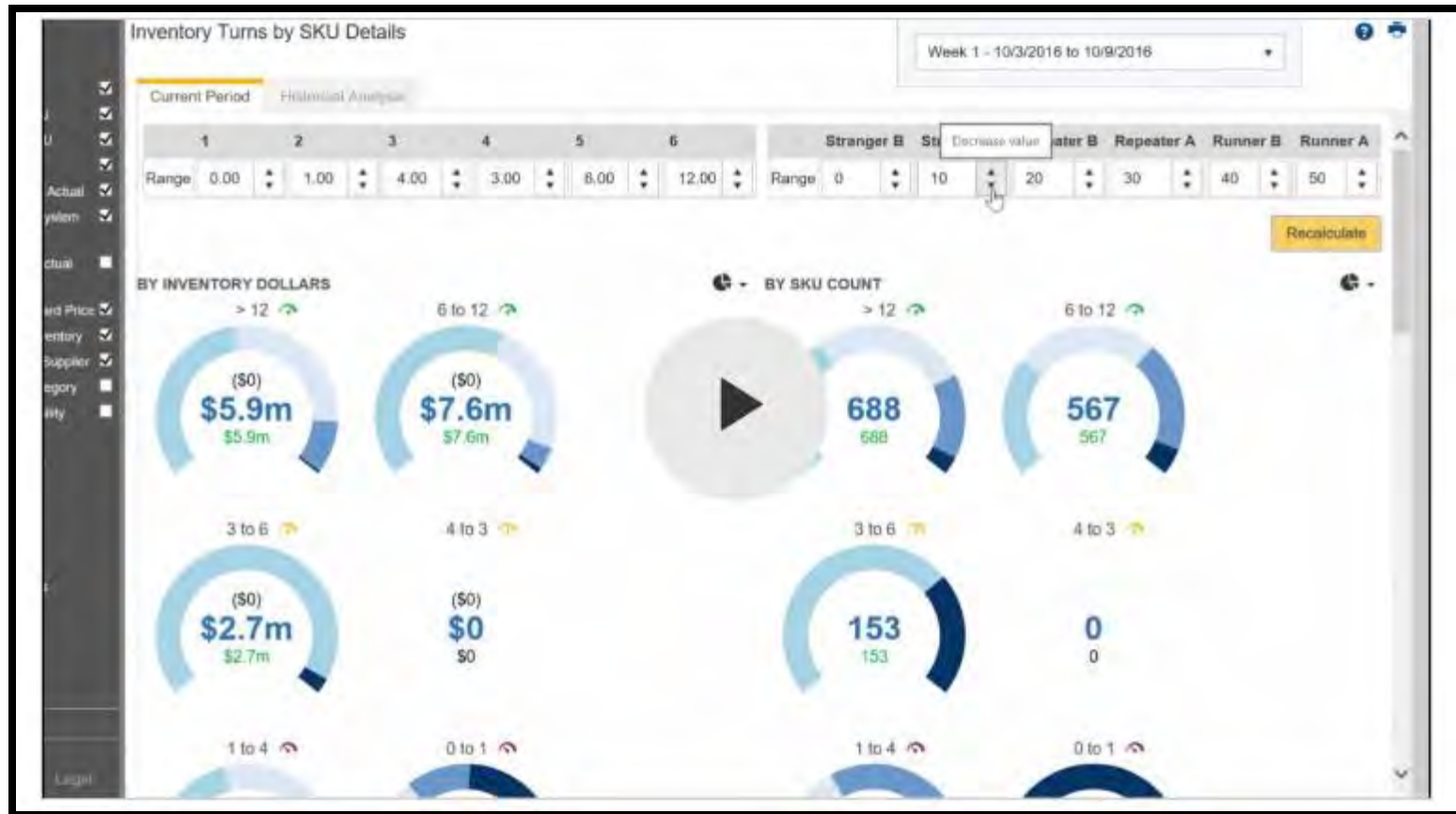


Comments & Questions.....

Working Capital Software Demo



Working Capital Demo



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