

# CHAINalytics

## Increasing Inventory Velocity

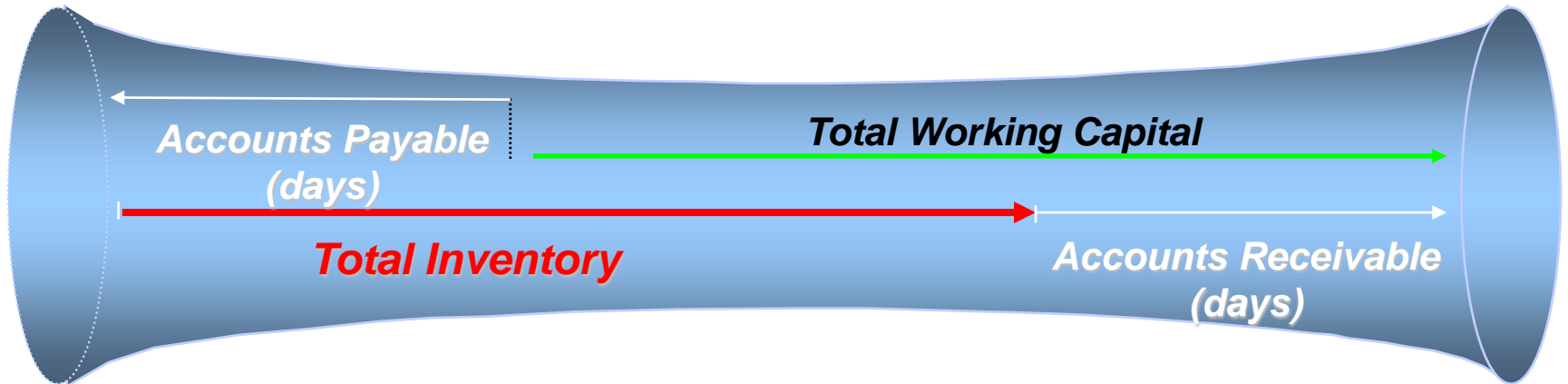
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- Depressed economic activity and uncertainty
  - Evaporating jobs, significant drop in consumer spend
- Limited ability to raise capital
  - Reluctant banks
- Pressure to improve business performance
  - Pending shake out of weaker companies

***Enterprises need to look at practical means to improve financial performance***



$$\text{Cash Conversion Cycle} = \text{DSO} + \text{DIO} - \text{DPO}$$

DSO: Days Sales Outstanding – Receivables

DIO: Days Inventory Outstanding

DPO: Days Payable Outstanding - Payables

***CCC is the time between customer's cash and supplier's invoice***

- **Cash Flow**

- Get paid earlier / pay later
- Finance receivables / inventory
- Automate AR / AP processes



## Inventory Velocity

- **Material Flow**

- Keep minimal owned inventory in the supply chain

- **Information Flow**

- Use technology to support fast material and cash flow

***Focus of this webinar is on inventory velocity enabled by supply chain strategy and tactics***

***The goal of any enterprise attempting to increase its inventory velocity should be to tie as little of its working capital on inventory to support its sales while meeting or exceeding customer expectations profitably, and sustain that high velocity over time***

- **Technology**
  - Visibility
  - Execution Support
  - Optimization / Planning
- **Process**
  - Demand Profiling
  - Inventory Segmentation
  - Collaborative Business Practices



***Both supply chain technology and processes play a role in sustainable improvements***

- **Visibility and Execution Support**
  - Know what inventory is where and at what condition  
WMS / MES / TMS / OMS / Event Mgt
  - Substitute information for inventory  
POS or usage data  
Status updates on supply chain events

***Visibility strongly correlates to lesser actual pipeline inventory and safety stock***

- **Optimization and Planning**
  - Network design and flow path configuration
  - Inventory deployment with optimal targets
  - Forecasting, replenishment / production planning and material procurement
  - Transportation planning

***Best-in-class companies use optimization & planning technology to increase inventory velocity along the Supply Chain***

- **Demand Profiling**
  - Understand the signal that runs your supply chain
    - Demand velocity / variability over lead-time
    - Seasonality profiles
    - Product launch profiles

***Slow-moving, sporadic demand products are most often laden with unnecessarily high safety stock and obsolescence risk***

Demand Category	Data	COV Category			Grand Total
		H>=1.5	M [0.6,1.5)	L<0.6	
<b>H&gt;=1000</b>					
	Demand\$	\$6,565,066	\$76,116,511	\$109,972,072	<b>\$192,653,650</b>
	Avg Inv\$	\$1,094,613	\$11,276,569	\$36,491,372	<b>\$48,862,554</b>
	Count of Products	32	348	316	<b>696</b>
	% Total Demand\$	1.7%	20.3%	29.3%	<b>51.3%</b>
	% of All Products	0.2%	2.1%	1.9%	<b>4.1%</b>
<b>M [25,1000)</b>					
	Demand\$	\$24,873,751	\$89,656,481	\$58,043,719	<b>\$172,573,952</b>
	Avg Inv\$	\$5,437,454	\$17,329,071	\$16,906,011	<b>\$39,672,536</b>
	Count of Products	1,349	3,409	1,817	<b>6,575</b>
	% Total Demand\$	6.6%	23.9%	15.5%	<b>45.9%</b>
	% of All Products	8.0%	20.1%	10.7%	<b>38.8%</b>
<b>L&lt;25</b>					
	Demand\$	\$5,087,675	\$3,929,312	\$1,358,125	<b>\$10,375,112</b>
	Avg Inv\$	\$2,246,699	\$2,035,366	\$1,148,850	<b>\$5,430,916</b>
	Count of Products	6,395	2,558	735	<b>9,688</b>
	% Total Demand\$	1.4%	1.0%	0.4%	<b>2.8%</b>
	% of All Products	37.7%	15.1%	4.3%	<b>57.1%</b>
<b>Total Demand\$</b>		<b>\$36,526,492</b>	<b>\$169,702,305</b>	<b>\$169,373,917</b>	<b>\$375,602,714</b>
<b>Total Avg Inv\$</b>		<b>\$8,778,767</b>	<b>\$30,641,005</b>	<b>\$54,546,234</b>	<b>\$93,966,006</b>
<b>Total Count of Products</b>		<b>7,776</b>	<b>6,315</b>	<b>2,868</b>	<b>16,959</b>
<b>Total % Total Demand\$</b>		<b>9.7%</b>	<b>45.2%</b>	<b>45.1%</b>	<b>100.0%</b>
<b>Total % of All Products</b>		<b>45.9%</b>	<b>37.2%</b>	<b>16.9%</b>	<b>100.0%</b>

- **Inventory Segmentation**

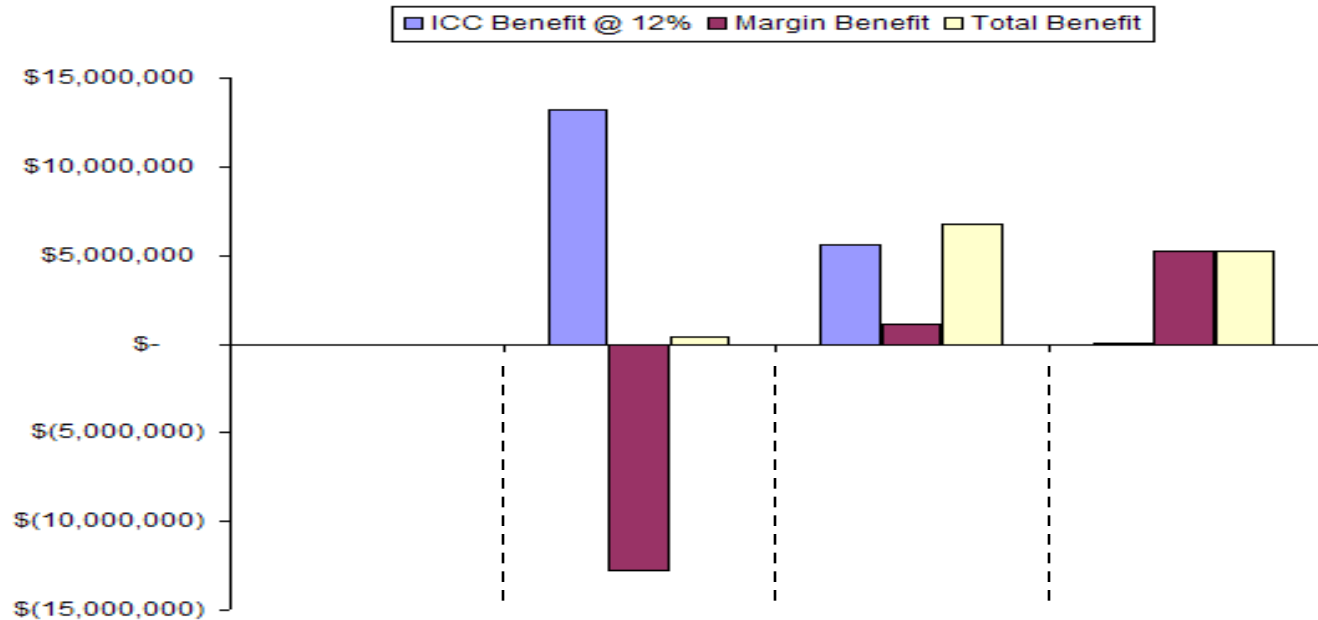
- Product characteristics

- Physical handling, sales volume, demand variability, supply lead-times and variability, shelf-life, life-cycle stage, margin contribution, etc.

- Portfolio characteristics

- Profitability targets, budget constraints, SLAs, etc.

***Service Level mix optimization can improve your net profitability***



	Baseline	Min Inventory	Max Margin	Max Service Level
Inv \$	\$ 668,934,485	\$ 559,054,580	\$ 622,133,584	\$ 668,371,044
\$ DOH	33.9	28.1	31.5	33.9
OL FR	92.1%	92.7%	92.7%	97.1%
COGS	\$ 6,357,107,773	\$ 5,977,307,232	\$ 6,292,581,036	\$ 6,401,252,840
Margin	\$ 260,680,411	\$ 247,911,379	\$ 261,819,043	\$ 265,877,871
Revenue	\$ 6,617,788,184	\$ 6,225,218,611	\$ 6,554,400,079	\$ 6,667,130,711
ICC Benefit @ 12%	\$ -	\$ 13,185,589	\$ 5,616,108	\$ 67,613
Margin Benefit	\$ -	\$ (12,769,032)	\$ 1,138,632	\$ 5,197,460
Total Benefit	\$ -	\$ 416,557	\$ 6,754,740	\$ 5,265,073

- **Collaborative Business Practices**
  - S&OP: Sales and Operations Planning
  - Standards-based data exchange (EDI, XML, etc.)
  - CPFR: Collaborative Planning Forecasting Replenishment
  - VMI: Vendor Managed Inventory

***Inventory velocity increases in relation to the degree of internal and external collaboration***

*% of respondents with “Strong” or “Very Strong” capabilities*

**Closed Loop Inventory Management Technology Enablers**

	<b>Best-in-Class</b>	<b>Average</b>	<b>Laggards</b>
Demand analysis	38%	27%	13%
Inventory segmentation	34%	26%	10%
Inventory optimization	28%	10%	0%
Inventory replenishment	38%	29%	21%
Extended inventory visibility	21%	15%	3%
Event management	19%	7%	5%
Responsive execution	25%	14%	5%

Source: Aberdeen Group, May 2009

- Increased inventory velocity shortens cash conversion cycle and generates much needed working capital
- Actionable recommendations for Best-in-Class financial performance through increased inventory velocity
  - Understand the demand signal that runs your supply chain
  - Know what inventory is where and at what condition – within your extended supply chain
  - Design network(s), configure flow paths and deploy inventory based on product / product group velocity
  - Differentiate inventory targets based on product and portfolio characteristics, e.g., velocity, variability, value
  - Use technology to enable network design, planning, execution support, visibility and collaboration for faster inventory turns

# Thank you!

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