Crowe Horwath

The Unique Alternative to the Big Four®

Resilient and Sustainable Supply Chain

September 30th 2015

Audit | Tax | Advisory | Risk | Performance

Resilient and Sustainable Supply Chain

Welcome

The presentation will begin promptly at noon Eastern.

Audio:

- There is not an option to listen via your computer.
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Housekeeping

- All phones will automatically be muted upon entering the meeting. Please also place your phone on mute if that feature is available to you.
- An email will be sent tomorrow with links to a recording of the webinar, presentation handouts, and topic-related thought leadership.
- Please submit questions or comments through the Q&A function at the right-hand 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 respond to during the presentation.

Housekeeping (cont'd.)

You will be eligible for Continuing Professional Education (CPE) credit if you:

- Log in individually to the session
- Successfully complete at least 75 percent of the polling questions
- Click on the corresponding button to respond to polling questions within the allotted 20-30 seconds

You will not be eligible for CPE credit if you:

- Join only the conference call
- Fail to successfully complete 75 percent of the polling questions
- Fail to remain logged in to the session for the minimum required time
- View a recording of this session (CPE credit is awarded only for live sessions)

Evaluation:

- Upon completion of this program, you will receive an event evaluation.

CPE Certificate:

- The certificate will be emailed to you within two weeks.

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Material creation: Sept. 4, 2015
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Today's Presenters

Mike Varney, CIA – Partner, Risk Consulting Group
Crowe Horwath LLP

Mike has over 20 years of experience in internal audit, risk management, accounting and financial reporting for manufacturing companies. He is currently focused on consulting with clients on addressing their risk and internal audit needs with a focus on Supply Chain related issues.

Bart Kelly, Principal, Advisory Services
Crowe Horwath LLP

Mr. Kelly's >20 years of experience includes a wide variety of businesses ranging from $10 million to $20 billion. He is responsible for developing client opportunities, determining overall financial impact, designing targeted improvement plans, and ensuring successful execution of engagements that drive measurable bottom line performance improvements.

Learning Objectives

After this session, you should be able to:

- Better identify the critical elements an organization should have in place to achieve a sustainable supply chain. During the webinar will focus and discuss the following areas :

  1. Provide a definition of a sustainable supply chain and review each critical element
  2. Review an approach for analyzing inventory activity to identify supply chain improvements
  3. How to leverage a robust supply chain risk assessment to drive internal audit activities relating to supply chain

Agenda

- Resilient and Sustainable Supply Chain Framework
- Supplier Segmentation
- Risk Assessment and Internal Audit Activities
- Questions

Ever Changing Supply Chain Structures

Source: Crowe analysis

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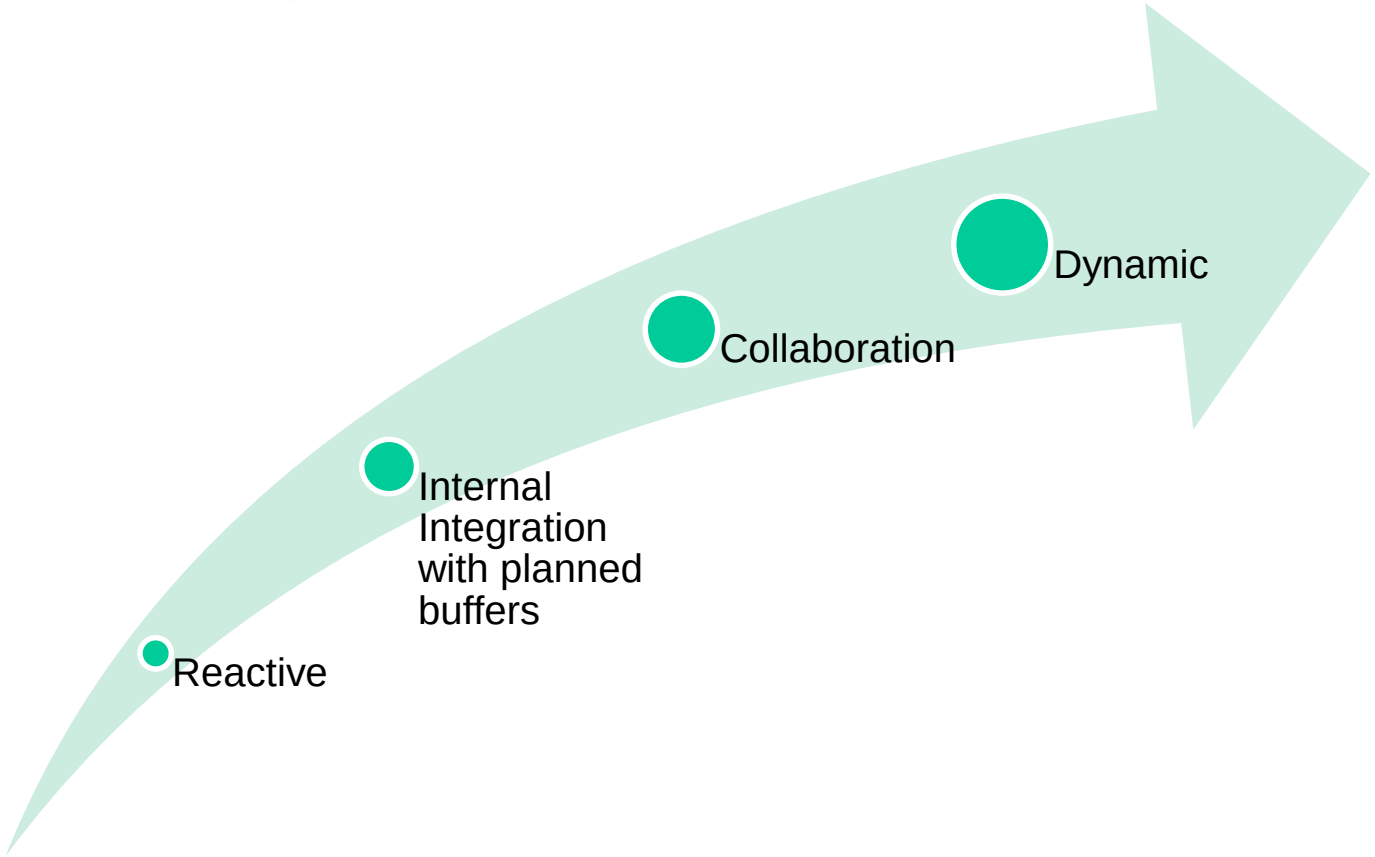
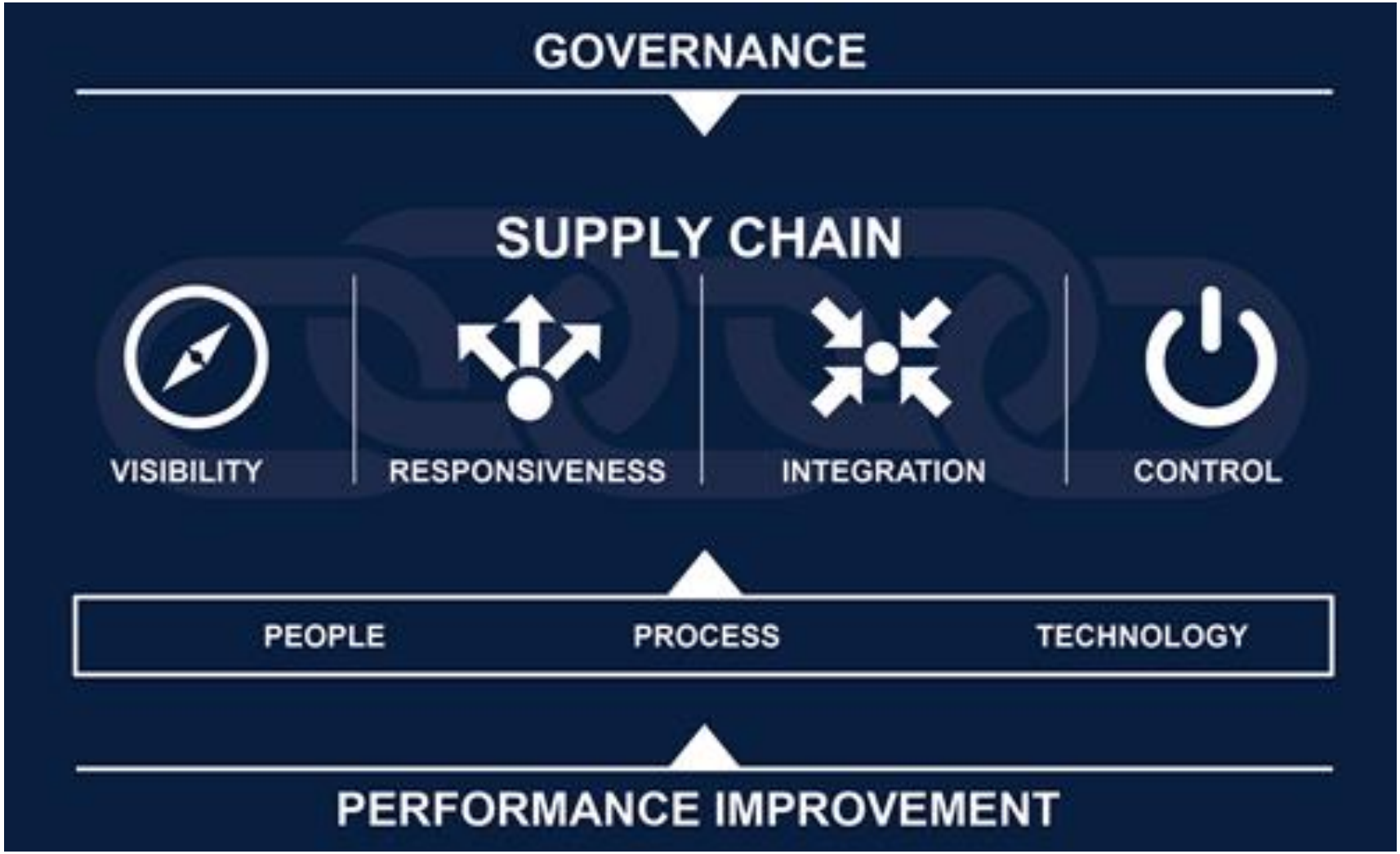
Source: Crowe analysis

Supply Chain Resiliency Defined

The ability of a supply chain to react to change



Sources: GT Nexus, Wieland, A. & Wallenburg, C.M. (2013): The influence of relational competencies on supply chain resilience: a relational view. International Journal of Physical Distribution & Logistics Management. Vol. 43, No. 4, pp. 300-320



Source: Crowe Horwath LLP

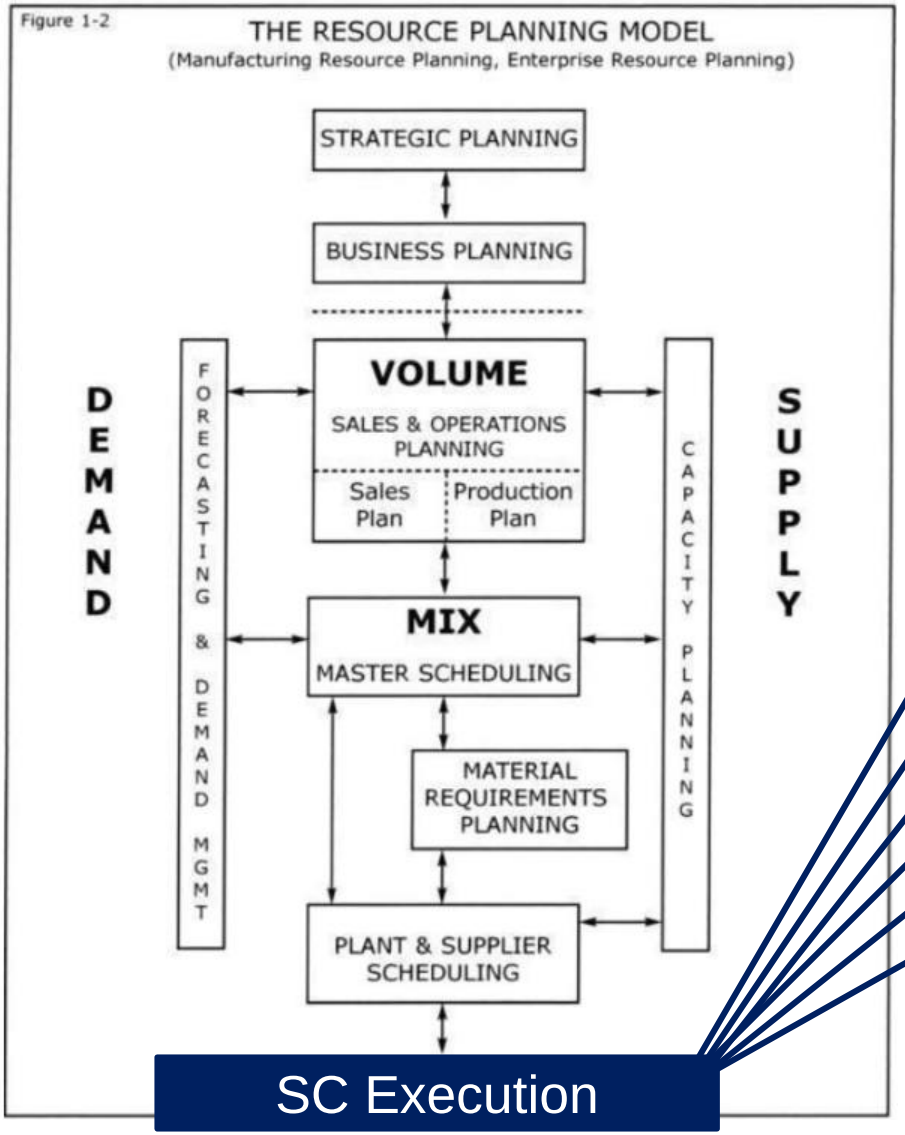
Polling Question 1

What is most likely to affect your supply chains resiliency?

a. Lack of visibility across the Supply Chain
b. Responsiveness of suppliers to changing demand
c. Old or outdated technology tools
d. Lack of internal integration between Sales, production, procurement, and distribution
e. Control environment not aligned to complexity of organization
f. Unsure/don't know

SIOP and Supply Chain (SC) Value Stream

Where do you begin?



- Executing POs
- Inventory Management
- Expediting/Tracing
- Production Control, etc.
- System Parameters
- Supplier Performance

Source: Crowe analysis

SIOP and Supply Chain (SC) Value Stream

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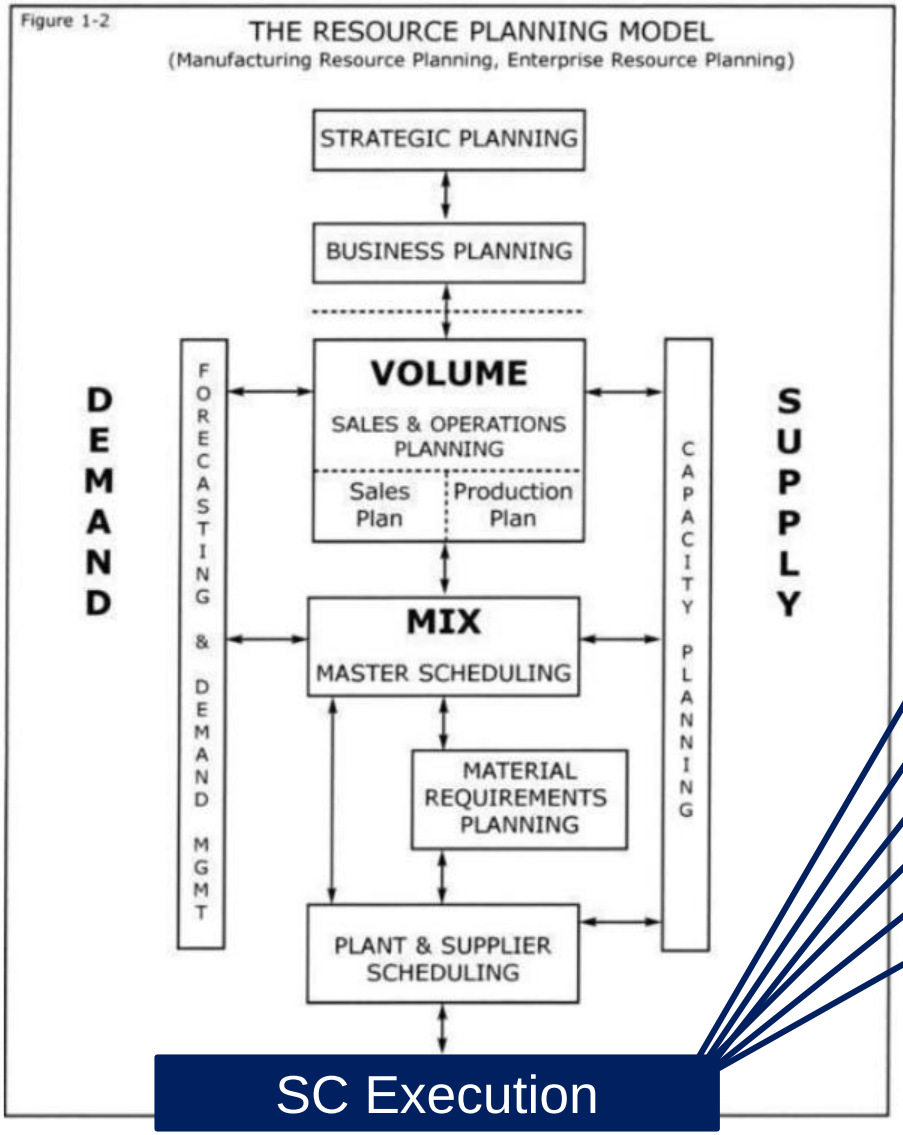

- Executing POs
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Source: Crowe analysis

System Parameters

- What drives internal and external supply chain performance?
  - Reorder points
  - Safety stock level
  - Minimum order quantities
  - Economic order quantities
  - Planning lead times
  - Supplier lead times
  - Processing lead times

What role do each of these play in driving performance and inventory?

Purchasing, Planning & Scheduling

- With this level of impact, who sets, maintains, and updates these critical drivers?

Purchasing, Planning & Scheduling

- With this level of impact, who sets, maintains, and updates these critical drivers?

Source: Google Images

Purchasing, Planning & Scheduling

- With this level of impact, who sets, maintains, and updates these critical drivers?

The vast majority of organizations rely on individual Purchasing personnel to maintain the drivers for the products for which they maintain responsibility.

How does this conflict with the overall goals of the organization?

Source: Google Images

Case Study – Industrial Products

- Manufacturing organization
  - Highly engineered products
  - Acquired and grown
  - Approximately two inventory turns annually
  - Lack of ERP system usage and adherence – heavy Excel
  - No visibility or transparency
  - Inadequate platform for growth

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MRP Parameter Overview

Count of RM & WIP SKU's with Inventory On Hand (Total SKU's = 3,600)

Class	MRP Minimum Order Level	MRP Order Up To Level	MRP Safety Stock Level	MRP Planning Lead Time	MRP Reorder Level	Total SKU's By Class
A	0	5	0	383	130	626
B	0	6	0	546	157	794
C	0	2	0	558	140	784
D	0	3	0	808	124	1,396
Total	0	16	0	2,295	551	3,600
Percent of RM & WIP Portfolio	0.0%	0.4%	0.0%	63.8%	15.3%	100.0%

Percent of Items Without Lead Times

39%

31%

29%

42%

37%

Inventory Summary – Raw Material and WIP

RM & WIP Inventory Aging - Date of Last Receipt

Aging: Count of SKU's

Class	<10	11 to 30	31 to 60	61 to 90	91 to 180	>180	Blank	Grand Total
A	9	13	16	27	39	147	375	626
B	13	23	28	46	69	270	345	794
C	21	26	26	47	83	350	231	784
D	214	328	379	497	981	9652	7368	19,419
Total	257	390	449	617	1,172	10,419	8,319	21,623

Aging: Percentage of SKU's

Class	<10	11 to 30	31 to 60	61 to 90	91 to 180	>180	Blank	Grand Total
A	0.0%	0.1%	0.1%	0.1%	0.2%	0.7%	1.7%	2.9%
B	0.1%	0.1%	0.1%	0.2%	0.3%	1.2%	1.6%	3.7%
C	0.1%	0.1%	0.1%	0.2%	0.4%	1.6%	1.1%	3.6%
D	1.0%	1.5%	1.8%	2.3%	4.5%	44.6%	34.1%	89.8%
Total	1.2%	1.8%	2.1%	2.9%	5.4%	48.2%	38.5%	100.0%

Aging: Inventory Dollars

Class	<10	11 to 30	31 to 60	61 to 90	91 to 180	>180	Blank	Grand Total
A	$ 46,701	$ 33,329	$ 75,931	$ 149,277	$ 222,166	$ 529,339	$ 2,299,467	$ 3,356,210
B	$ 10,235	$ 18,775	$ 23,394	$ 36,222	$ 53,795	$ 205,306	$ 281,540	$ 629,266
C	$ 4,762	$ 6,444	$ 6,333	$ 10,855	$ 19,486	$ 82,121	$ 58,922	$ 188,922
D	$ 1,748	$ (1,221)	$ 2,253	$ 2,994	$ 7,277	$ 30,047	$ (22,263)	$ 20,835
Total	$ 63,446	$ 57,327	$ 107,910	$ 199,348	$ 302,723	$ 846,812	$ 2,617,666	$ 4,195,232

Aging: Inventory Dollars Percentage

Class	<10	11 to 30	31 to 60	61 to 90	91 to 180	>180	Blank	Grand Total
A	1.1%	0.8%	1.8%	3.6%	5.3%	12.6%	54.8%	80.0%
B	0.2%	0.4%	0.6%	0.9%	1.3%	4.9%	6.7%	15.0%
C	0.1%	0.2%	0.2%	0.3%	0.5%	2.0%	1.4%	4.5%
D	0.0%	0.0%	0.1%	0.1%	0.2%	0.7%	-0.5%	0.5%
Total	1.5%	1.4%	2.6%	4.8%	7.2%	20.2%	62.4%	100.0%

Polling Question 2

Does your organization leverage formalized segmentation methodologies to drive focus, action, and priorities?

a. Not at all
b. On an Ad Hoc basis
c. All the time
d. Unsure/don't know

Supplier Performance

Methodology based on segmenting suppliers based on multiple factors including:

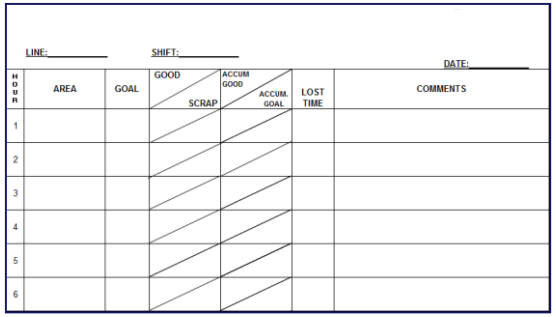
- Sales
- Criticality
- Size
- Lead-times
- Sole customer/Sole supplier
- Locale
- Overall risk factor
- Relevant business driver, etc.

Then leveraging this methodology to drive targeted improvements based on a surgical view of impact.

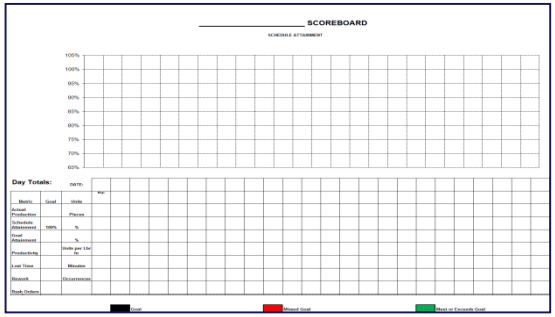
Not all suppliers are created equal.

Supplier Performance

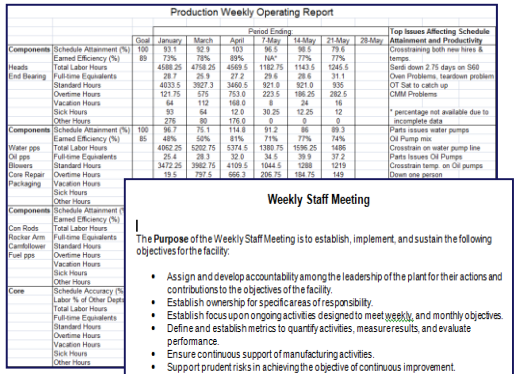
1 Supplier performance and incidents tracked at a base level



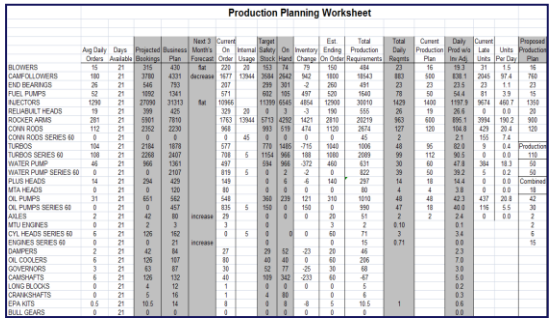
2 KVIs, KPIs are rolled up against goals and trended on scoreboards



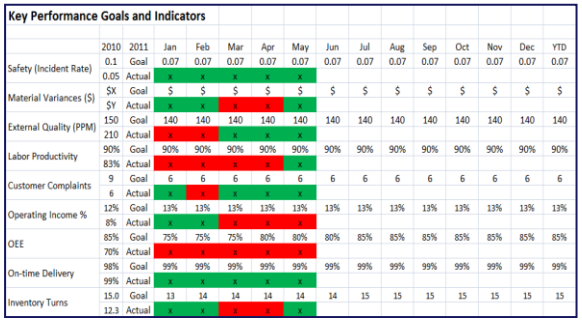
3 Performance is monitored and reviewed vs. SLAs



4 Supply chain activities are tied to vendor objectives/performance



5 Top-down, bottom-up goal alignment drives supply chain decisions



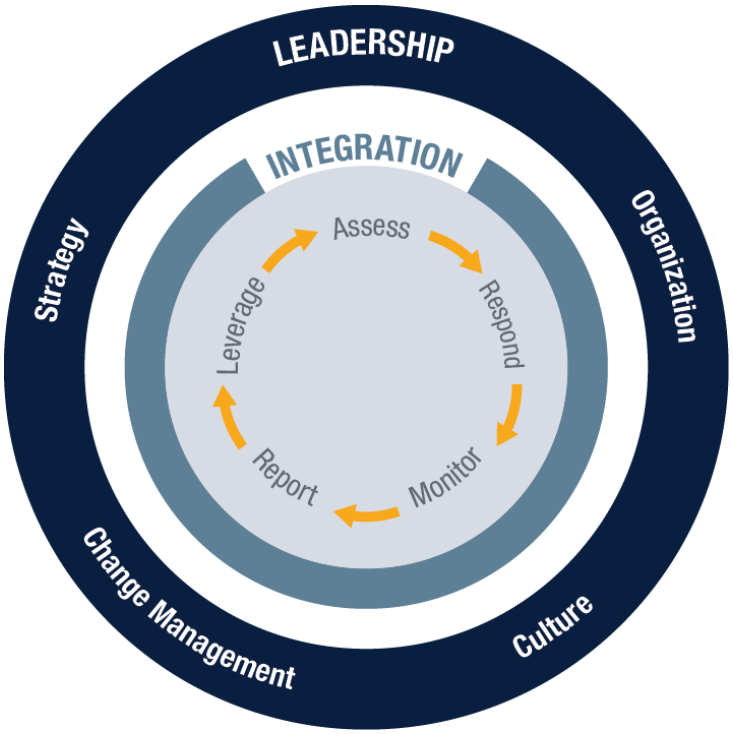
Source: Crowe analysis

Polling Question 3

How focused are continuous improvement efforts in your supply chain activities?

a. Not at all
b. As needed to address issues
c. Activities are critical to success
d. Unsure/don't know

Sustainable Risk Management



ORGANIZATION

Succession and continuity plans- move to strategy	Formalized business continuity and staffing plans
Roles and accountability	Three lines of defense accountability plan

CULTURE

Supply chain risks Identified and monitored	Defining and communicating risk
Relationships among stakeholders	Formalized communication plans
	Suppliers recognized as full partners

CHANGE MANAGEMENT

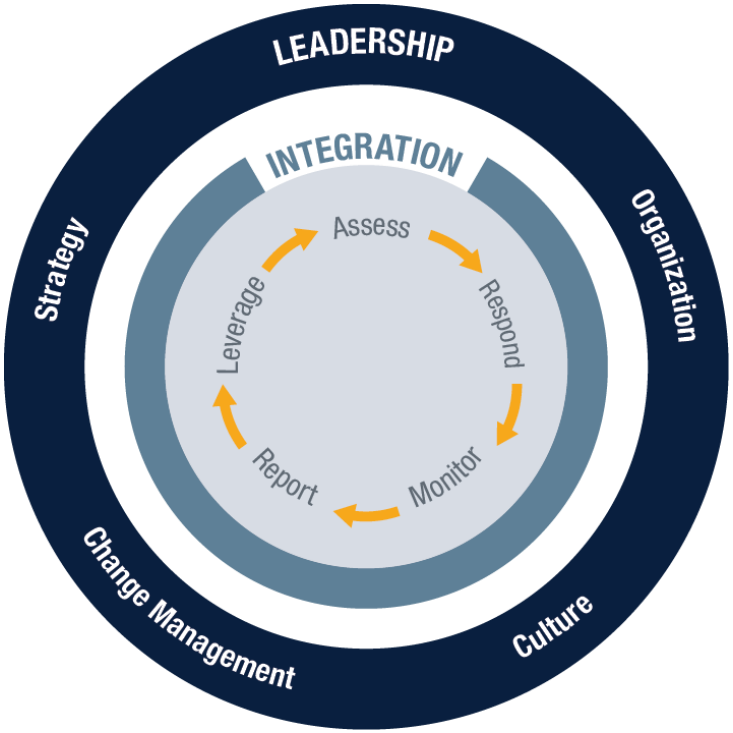
Mobilizing for changes	Prescriptive event response

STRATEGY

Business opportunity	Defined risk appetite and tolerance thresholds

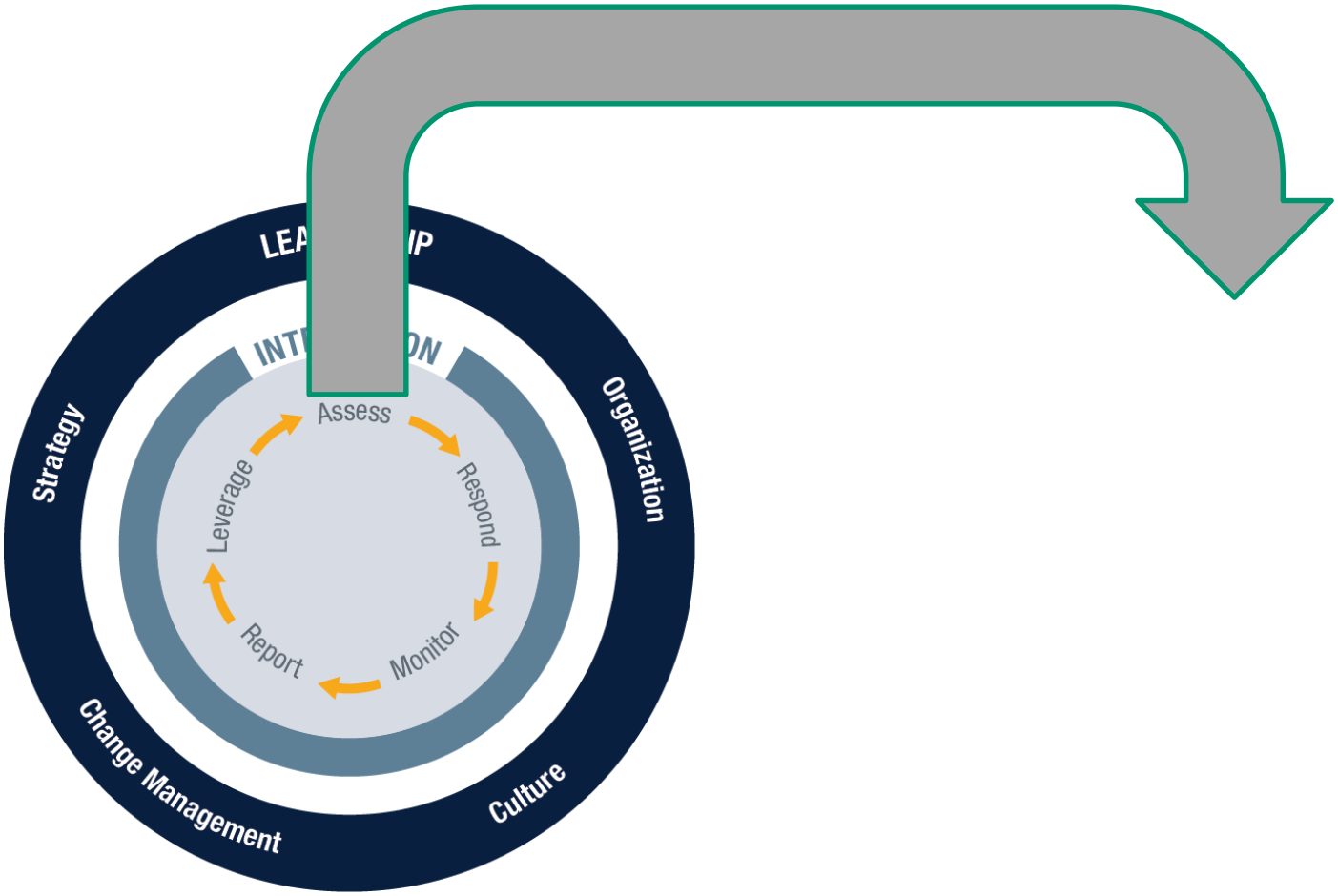
Source: Crowe Horwath LLP

Assessment of Supply Chain Risks



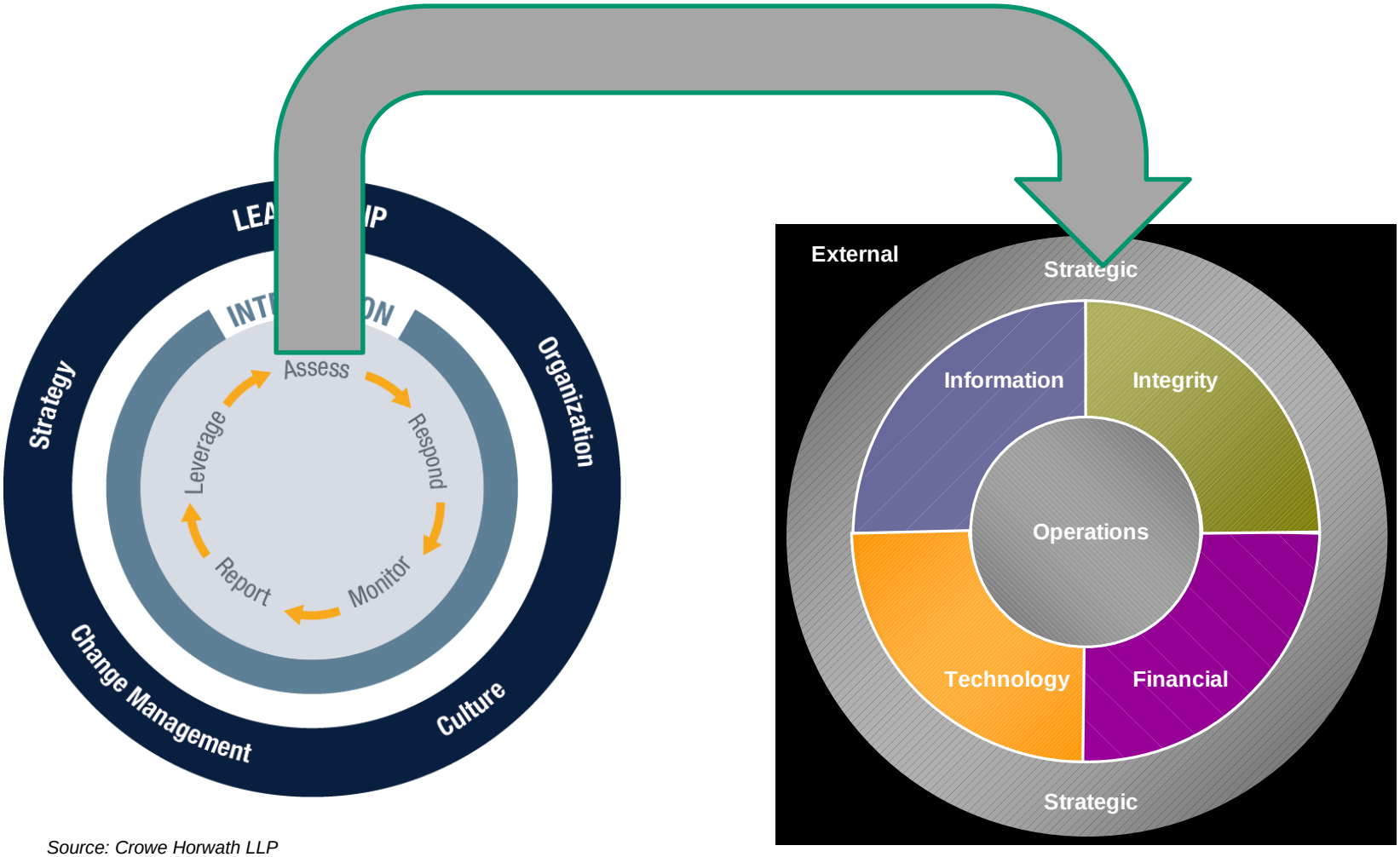
Source: Crowe Horwath LLP

Assessment of Supply Chain Risks



Source: Crowe Horwath LLP

Assessment of Supply Chain Risks



Source: Crowe Horwath LLP

Source: Crowe Horwath LLP

External Risks:

Regulatory / Legal

Public Interest Groups

Country/ Political

Strategic Risks:

Planning

Product Quality

Culture

Leadership

Operations Risks:

Cycle Time

Third Parties

Inventory Management

Source: Crowe Horwath LLP

External Risks:

Regulatory / Legal

Public Interest Groups

Country/ Political

Information Risks:

Performance Measurement

Forecasting

Integrity Risks:

Fraud

Reputation

Financial Risks:

Price

Strategic Risks:

Planning

Product Quality

Culture

Leadership

Operations Risks:

Cycle Time

Third Parties

Inventory Management

Technology Risks:

Access

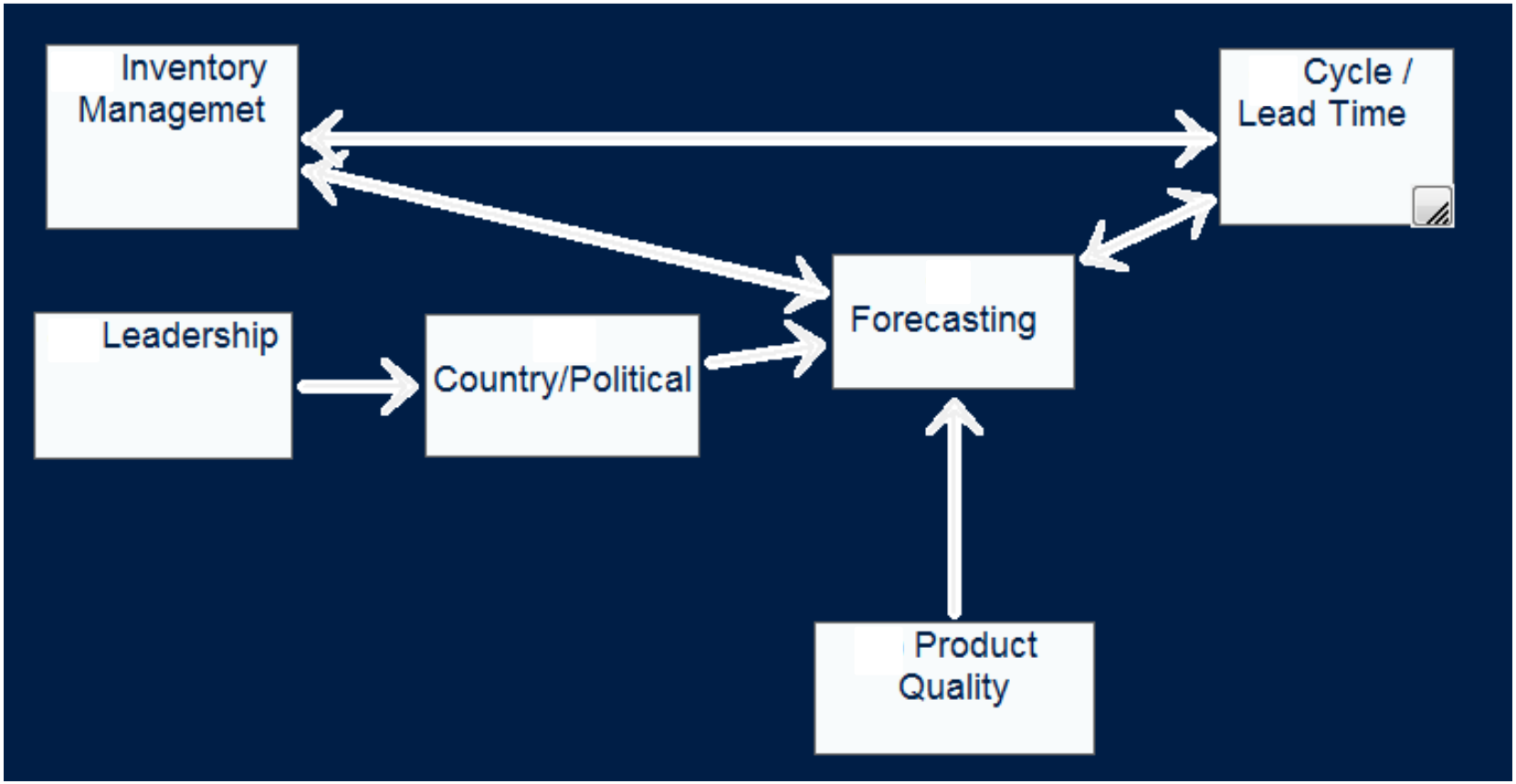
Availability

Source: Crowe Horwath LLP

Polling Question 4

What does your organization believe is the greatest risk to your supply chain?

a. Outsourcing/use of third parties
b. Regulatory pressure
c. Political/Country unrest
d. Public interest group pressure (Sustainability)
e. Quality
f. Natural disasters
g. Unsure/don't know



Source: Crowe analysis

Areas Internal Audit may focus

- Outsourced activities
  - What do you outsource
  - How is it outsourced
  - Risk to the supply chain
- Forecasting and impact to supply chain
- ERP System Drivers
  - How are they controlled
  - How are they monitored
  - Risk to supply chain and overall business performance
- Sustainability issues
  - Ethical sourcing
  - Conflict minerals
- Trade compliance

Questions

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