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**ELEMENTS OF SUCCESSFUL  
DEMAND AND SUPPLY  
PLANNING DEVELOPMENT**

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Lausanne, April 19th, 2018

ERP/SCM/VCP

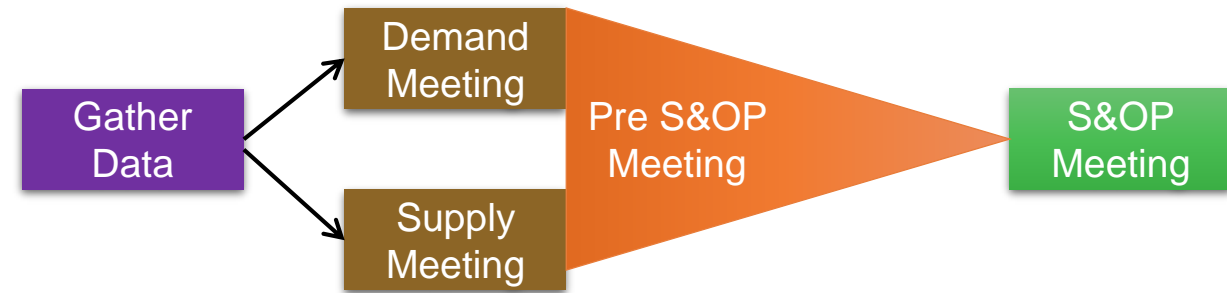
CPG (SCM)

Cross Pillar

# S&OP PROCESS: QUICK RECAP

# S&OP : BUSINESS PRACTICE SINCE 80'S

- Created in Mid 80's
- Got Established by early 90's
- Realize term Pre S&OP is understated
- New Role of a Business leader emerged
  - Like a Conductor in a symphony ensuring everyone is playing in same speed and Same *Volume*.
  - S&OP is about coordinating the Volume
- Data has always been a challenge
  - Always been Fragmented, Incomplete, dated
  - Limited by tools and Computing power



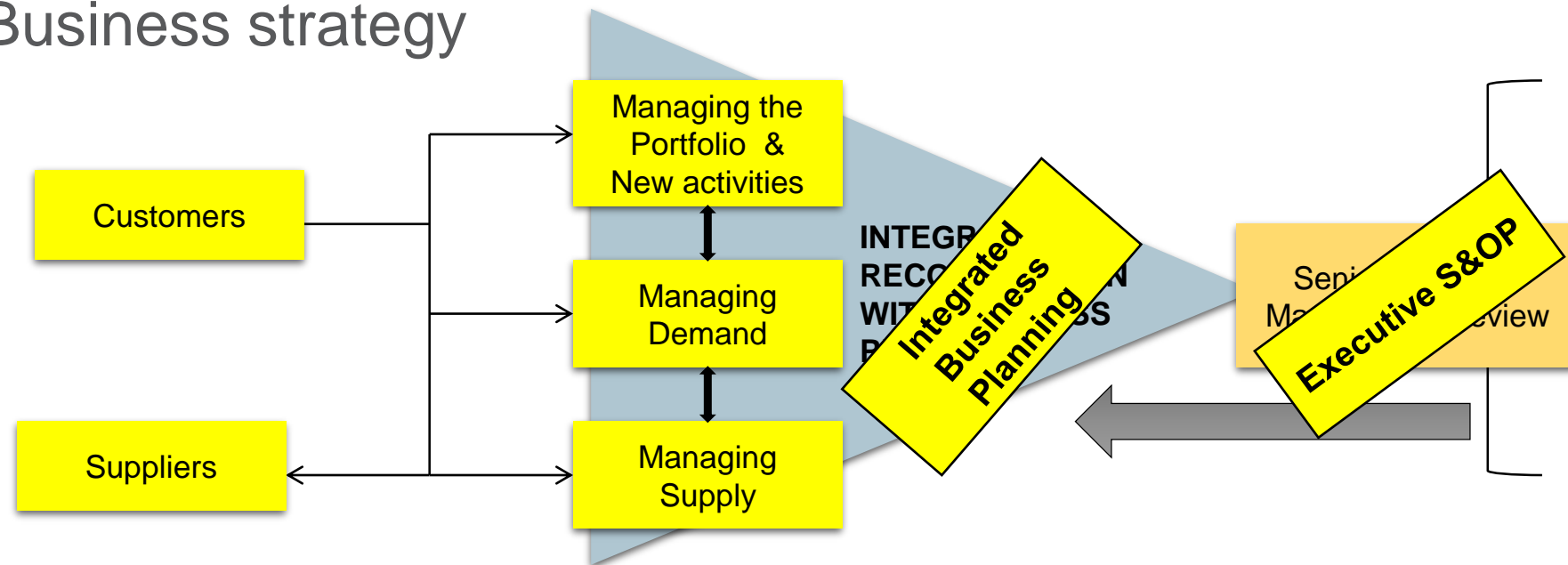
# ORIGINAL S&OP PROCESS

- All about Demand and Supply
- An attempt to achieve one number
- Operations led
- Pushing it up to Senior Management
- Lacking technology and tools
- Planning Horizon too short

# S&OP: WHAT HAS CHANGED?

# AS S&OP MATURED : TODAY'S BUSINESS MODEL

- All areas of company involved
  - Marketing, Sales, Product Development, Finance, Operations
- Cross functional collaboration in a common business language
- Senior Management led
- Planning Horizon 12 to 18 months
- Implementing your Business strategy





# WHAT NEEDS RECONCILING ?

- New directives from senior management
- New Opportunities in the market place
- New Product timing
- Deviation from the business plan
- Supply problems
- Any issues emerging through the monthly process



# WHO MAKES UP THIS TEAM?

- You need a leader or process owner of the integrated reconciliation process
- Leaders from Finance, new product development, sales, marketing and supply chain
- Members from each area of the company who is needed to reach a consensus , make decisions and recommendations for the path forward

# WHAT IS THE WORK OF THE INTEGRATED RECONCILIATION TEAM ?

- **Review** global performance outlook and differences between business strategy, budget and forecast
- **Reconcile** gaps between new activities, demand, supply and financial targets
- **Highlight Impact** of changes (units and financials), gaps , opportunities and major integration issues over a 2 year horizon
- **Develop Scenarios** considering trade offs, cost benefits etc
- **Redirect** issues that should have been resolved elsewhere in line with organization responsibilities
- **Make recommendations** and/or decisions for alternatives with business impacts for each
- **Elevate** to senior management major open issues and seek attention at an aggregate level

# FOCUS ON CHANGE

- It is important that the S&OP process focus on what is changing and facilitate the change
- The questions are:
  - What has changed ?
  - Do we agree with the changes ?
  - Do we understand the internal and external factors that is causing the change?
  - Do we understand the impact of the changes?
  - Are there any alternatives?
  - What decisions need to be made?

Welcome Change

# MANAGEMENT BUSINESS REVIEW

## (VOLUMES, FINANCIALS, SUPPLY CHAIN HEALTH : ONE SINGLE DASHBOARD)

Windows Explorer: Sales And Operations

Navigation: Executive Review Page | Demand Review Page | Supply Review Page | Glossary

Filters: Comparison Scenario: JuneBase, Baseline Scenario: JuneCapacity, Fiscal Year: 2008, Category Description: All Categories, Organization Code: [Blank]

### Executive Summary

	JuneBaseline	JuneCapacity	JuneOutsource
Shipment History	593,689	593,689	
Operating Plan	1,337,218	1,453,779	
Consensus Forecast	1,462,490	1,462,490	1,462,490
Shipment History Value (USD)	\$116,300,345	\$116,300,345	\$116,300,345
Constrained Forecast Value (USD)	\$75,001,358	\$132,708,421	\$132,708,421
Operating Plan (USD)	\$191,301,703	\$249,008,766	\$249,008,766
Consensus Forecast Value (USD)	\$282,921,650	\$282,921,650	\$282,921,650
Budget (USD)	\$296,378,288	\$296,378,288	\$296,378,288
Demand Fill %	86%	100%	100%
Difference % - Operating Plan and Budget	-35%	-16%	-16%

On going planning assumptions

Major Changes in this cycle

Emerging issues

Decisions made last week

Risks and Opportunities

Decisions to be made this week

### Scenario Planning

Scenario	Revenue (USD)	Cost (USD)	Gross Margin (USD)	Gross Margin %
JuneCapacity	\$154,870,528	\$78,455,565	\$76,414,963	34.4%
JuneOutsource	\$155,187,868	\$104,742,719	\$50,445,149	23.5%
JuneBaseline	\$91,061,655	\$47,133,487	\$43,928,168	24.6%

Scenario	Total Cost (USD)	Purchasing Cost (USD)	Transportation Cost (USD)	Carrying Cost (USD)	Manufacturing Cost (USD)
JuneCapacity	\$78,455,565	\$70,752,127	\$3,715,077	\$2,124,912	\$1,863,448
JuneOutsource	\$104,742,719	\$97,904,394	\$3,174,828	\$2,132,248	\$1,531,249
JuneBaseline	\$47,133,487	\$35,450,897	\$3,174,828	\$6,997,184	\$1,510,577

### Demand Summary

	JuneBase	MagBase
Shipment History	593,689	593,689
Production History	498,248	498,248
Shipment Forecast	1,462,490	1,462,490
Consensus Forecast	1,462,490	1,308,240
Shipment History Value (USD)	\$116,300,345	\$116,300,345
Operating Plan (USD)	\$201,614,322	\$249,008,766
Constrained Forecast Value (USD)	\$75,001,358	\$132,708,421
Budget (USD)	\$296,378,288	\$296,378,288
Difference % - Operating Plan and Budget	-35%	-16%

### Top Abs Diff - Consensus and Budget by Category

### Consensus Forecast Difference by Customer

Customer	Baseline Consensus	Comparison Consensus	Diff %
Computer Service and Rentals	726,134	819,639	11%
Business World	434,305	302,036	10%
Hilman and Associates	130,622	149,230	9%
Silicon City	148,797	149,230	-4%

### Bottom Demand Fill % by Customer

### Supply Change by Category

Category Description	Baseline Total Supply	Comparison Total Supply	Diff %
Computer Systems	655,721	726,134	11%
Hardware	353,959	389,165	10%
Accessories	2,386,422	2,597,660	9%
Vision Pad Elite	949,148	1,019,560	7%
Vision Pad Advanced	130,622	130,622	0%
Vision Pad Platinum	148,797	148,797	0%

### Profitability KPI

### Cost Breakdown KPI

### Consolidated Analysis Monthly

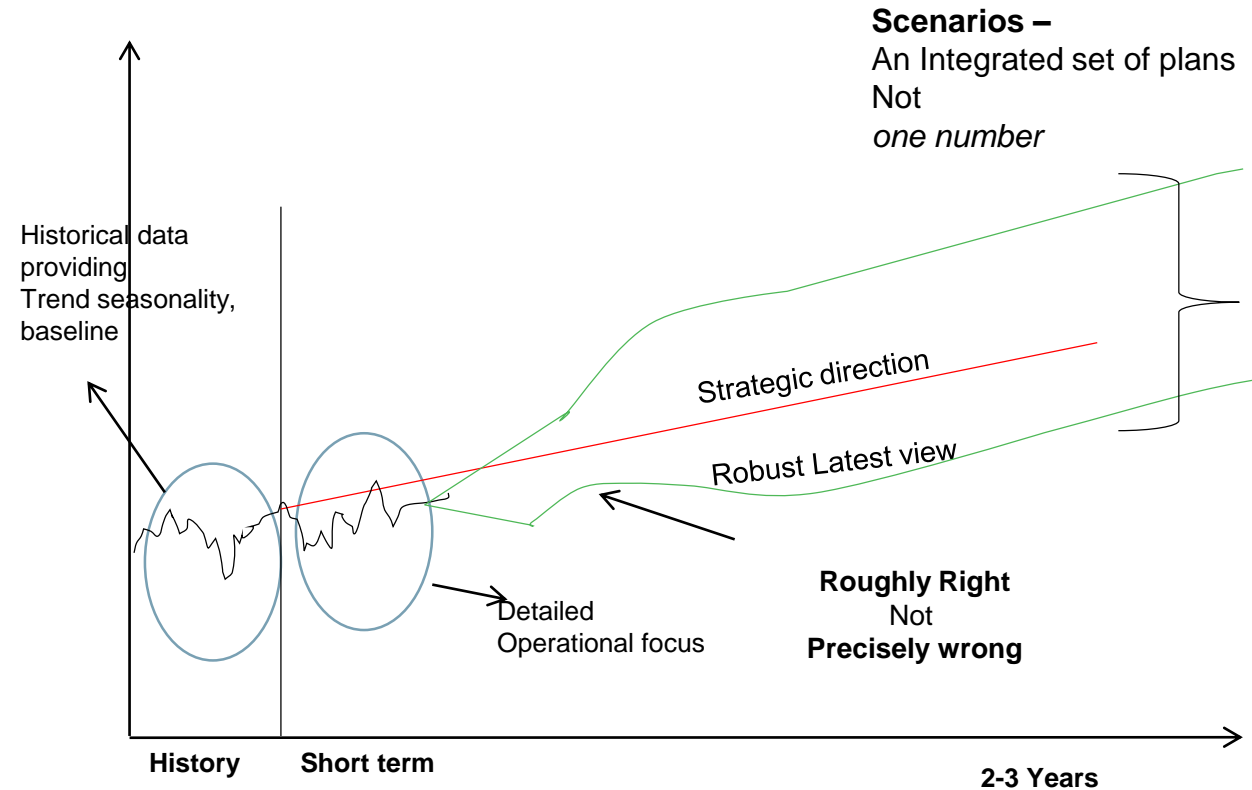
View: Units

### Demand Fill Monthly

View: Fill Chart

# SCENARIOS DRIVEN RAPID PLANS

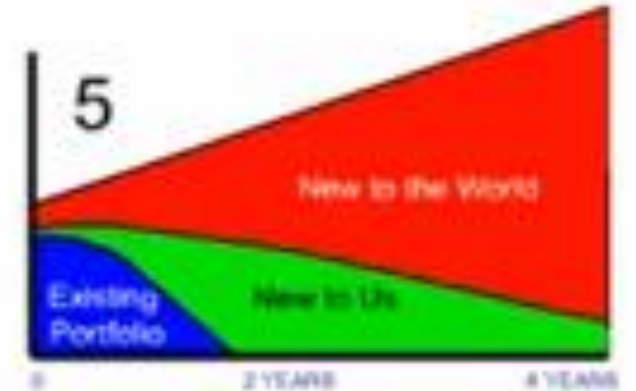
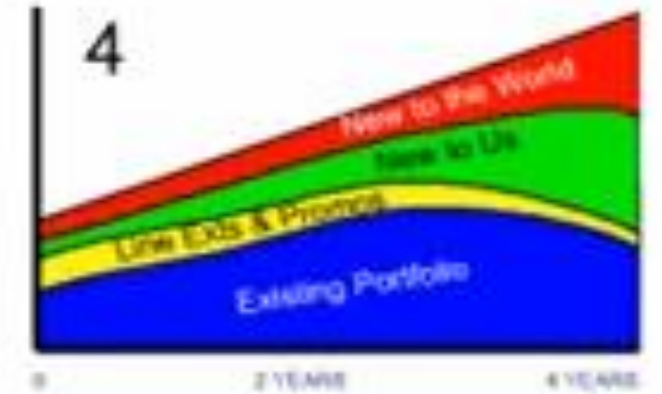
- This is testing business strategies against a number of alternative futures
- We need a new set of tools in order to accomplish scenario planning.
  - Tools that can quickly respond to the changes all the way from strategic changes to tactical changes
  - Excel is status quo : Latin for we are in mess and can't do much.
- Tools that can sense demand faster and provide insights to the S&OP blind spots which are not visible
- We need to understand that we do have multiple plans for different scenarios and different purpose



# FUTURE PORTFOLIO MODEL

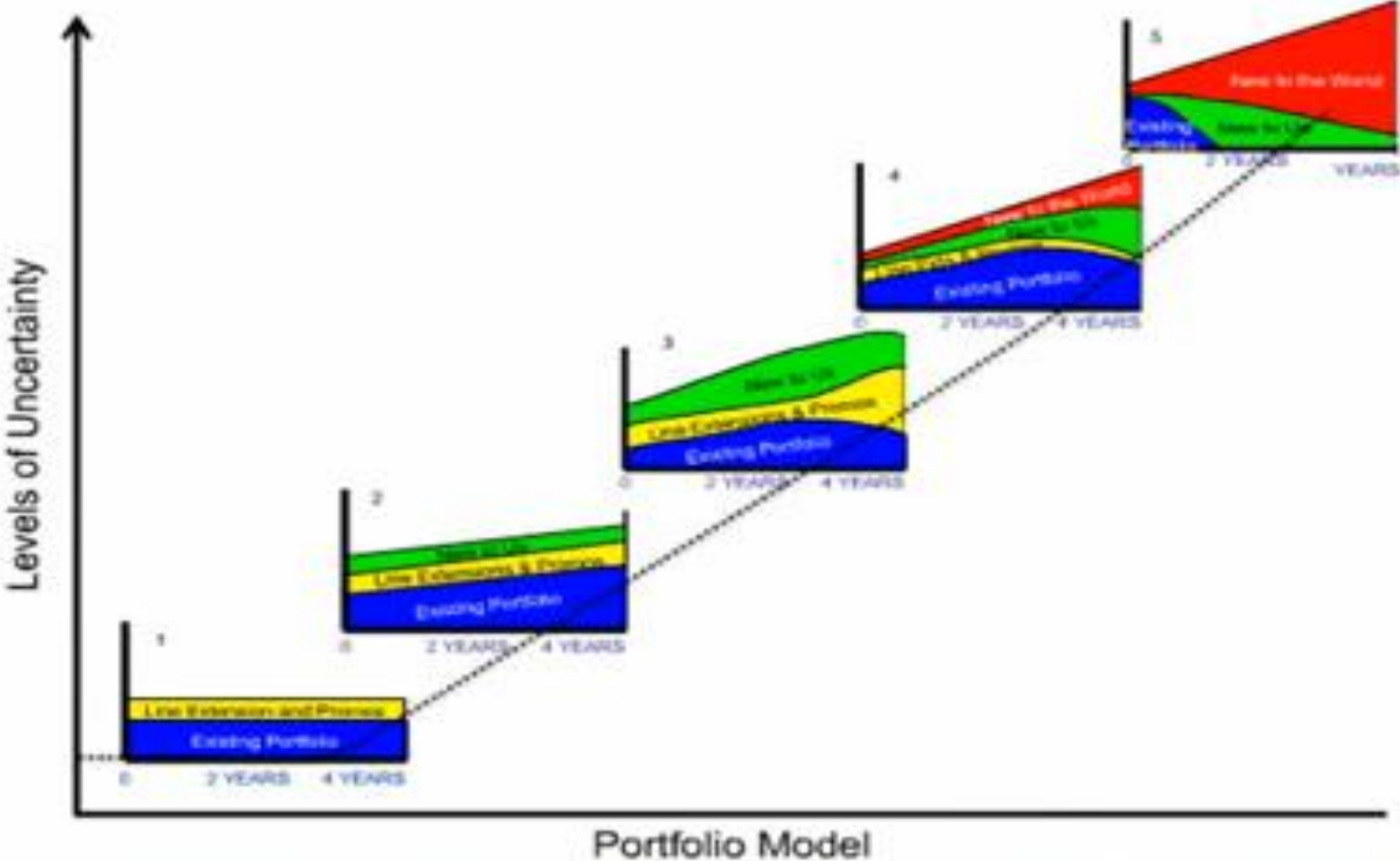


# WHICH ONE LOOKS LIKE YOUR FUTURE PORTFOLIO ?

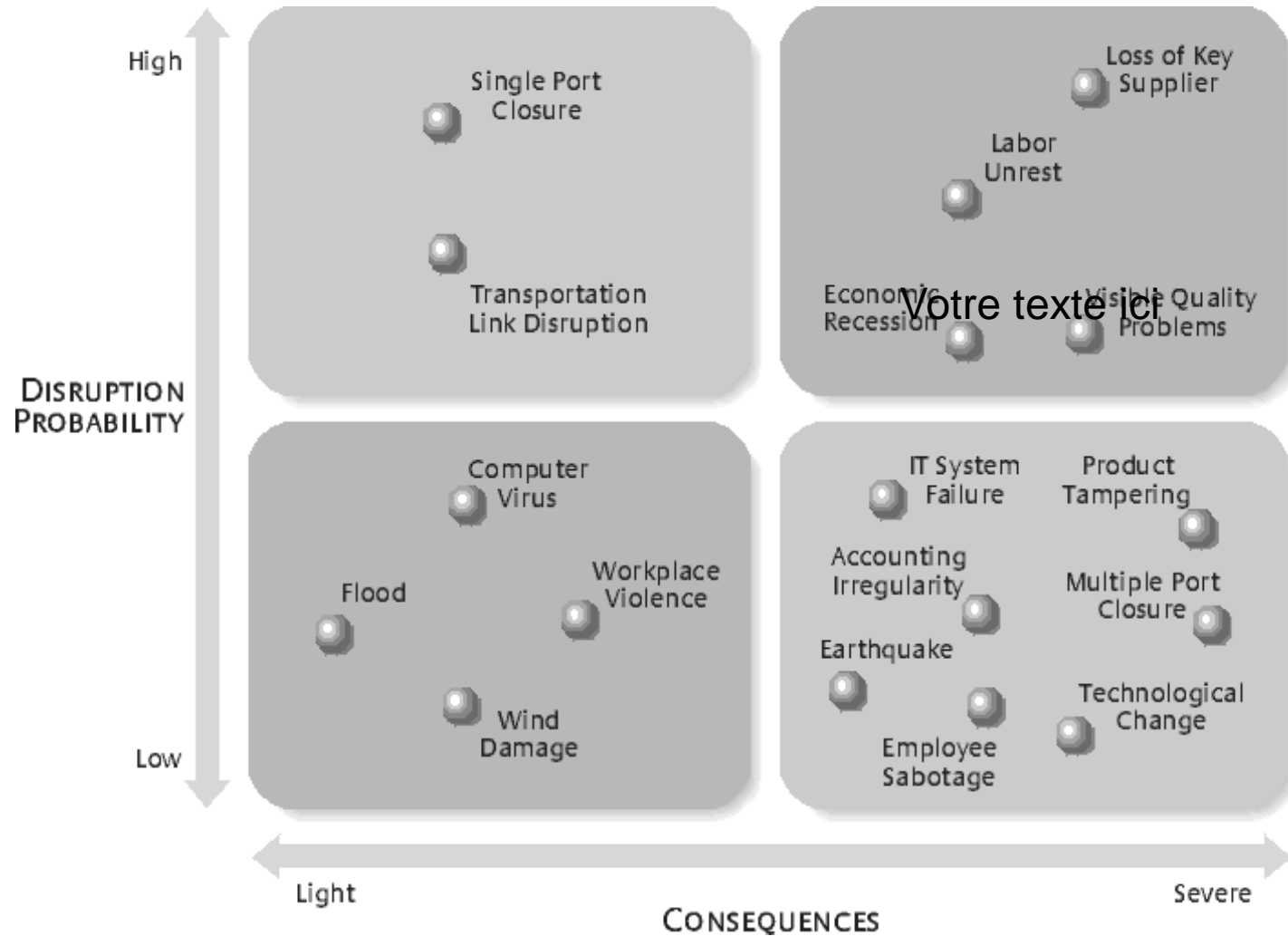




# UNCERTAINTY BY PORTFOLIO MODEL



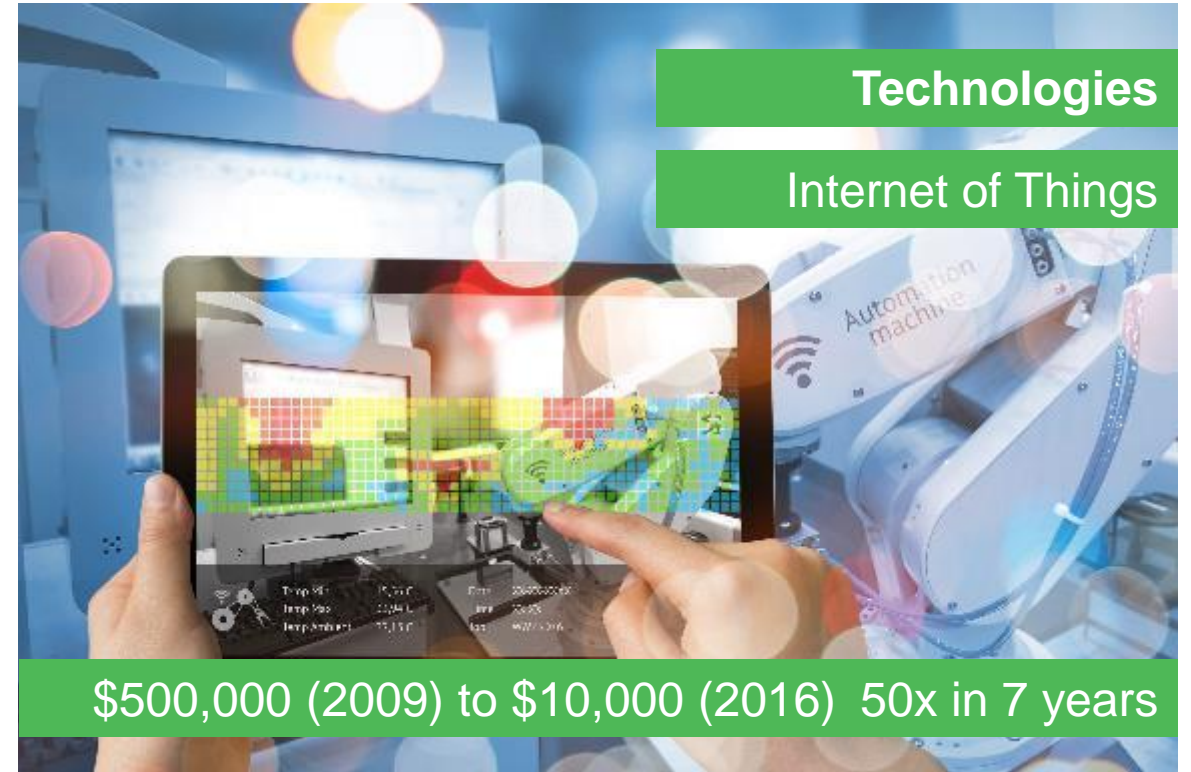
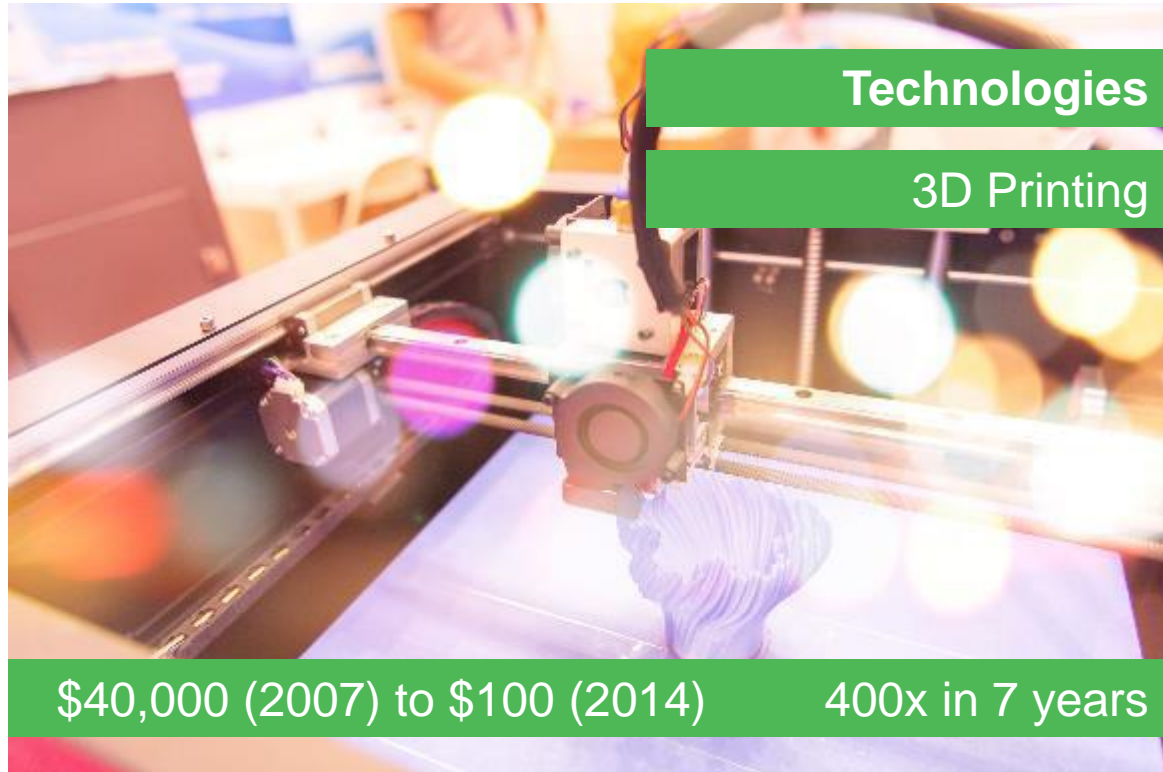
# OTHER UNCERTAINTIES AND ITS IMPACTS



Source: SCM World 2015

- **Philips chip plant fire:** Ericsson impact ~\$2.3bn - 2000
- **Ford Tire recall:** 13m tires, ~\$3bn - 2001
- **9/11:** Airlines lost ~\$55bn over a decade - 2001
- **Toyota recall:** 9m vehicles, ~\$2bn cost - 2009
- **BP Gulf Coast Oil Spill:** ~\$40bn - 2010
- **Japan Tsunami:** 20% of world's semiconductors
- **WD, Seagate et. al. Thailand Floods:** 4-7% global output
- **Pharma recalls:** GSK recalls 600,000 Ventolin inhalers - 2017
- **Lactalis:** baby milk recalls ~12 millions boxes - 2018

# THE COST OF TECHNOLOGY DECREASES

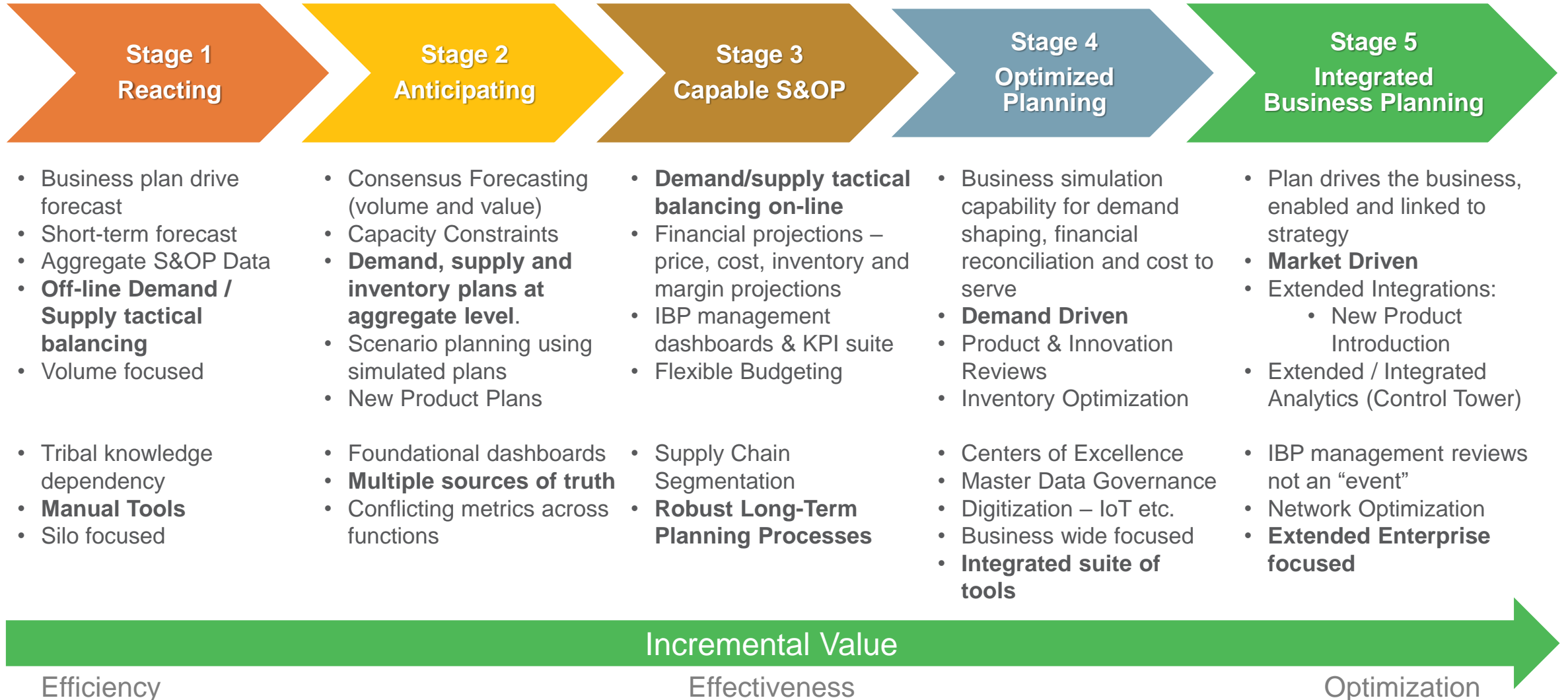


Source: Harvard Business Review 2015 and 2017

# PRACTICES TO IMPROVE YOUR S&OP

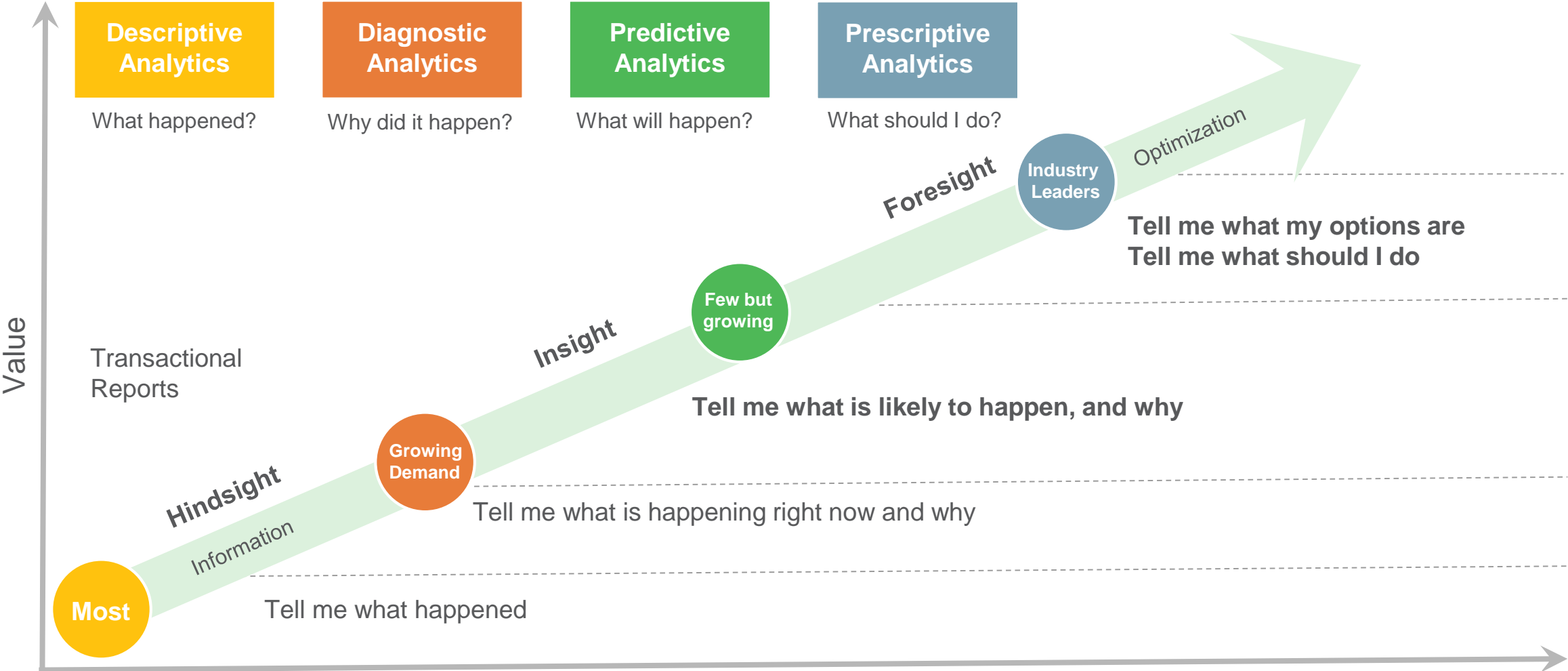
# INSPIRAGE S&OP MATURITY

Maturity Levels based on Gartner's recommendations

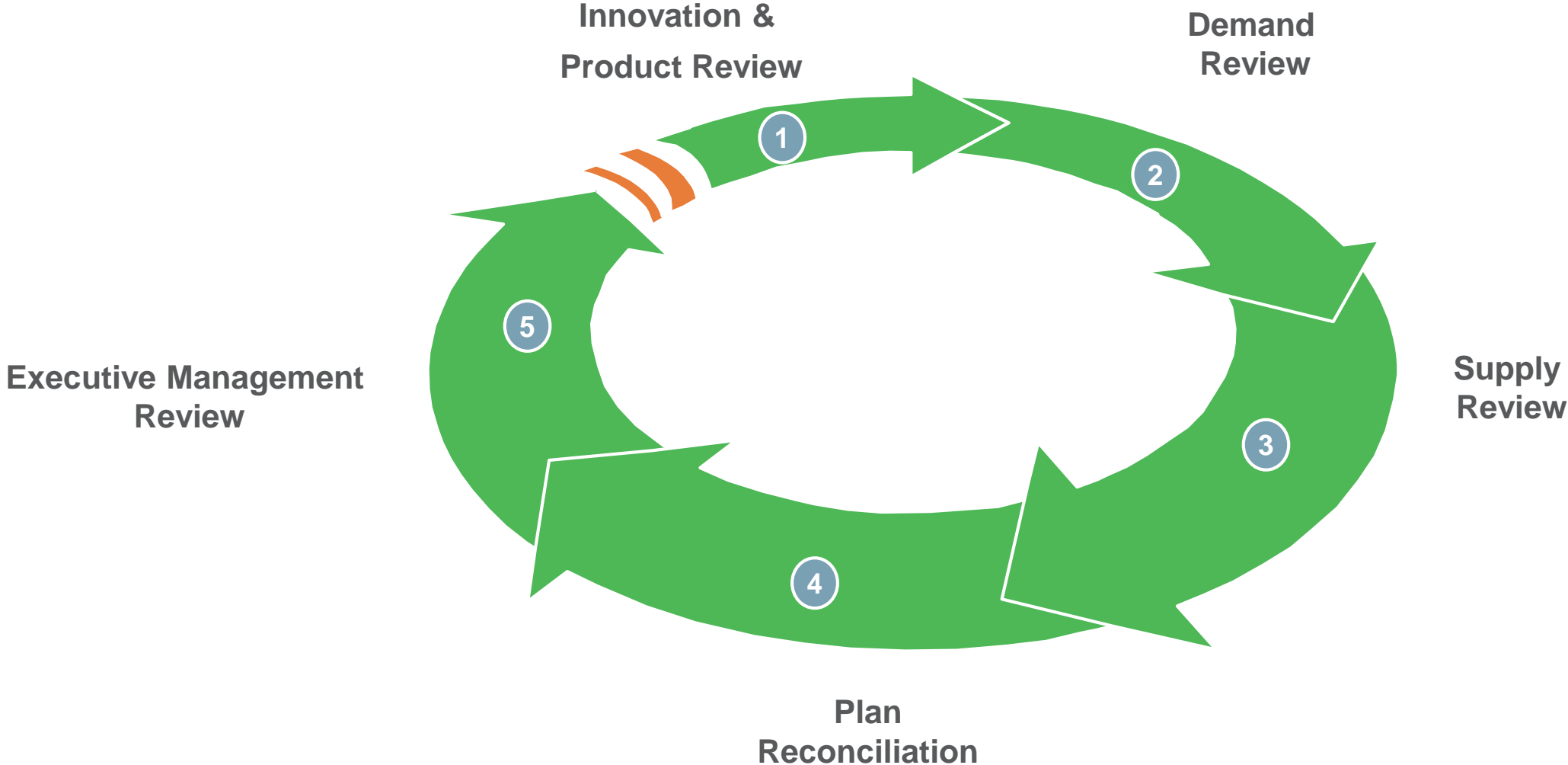


# ANALYTICS MATURITY MODEL

## WHAT OTHERS ARE DOING?



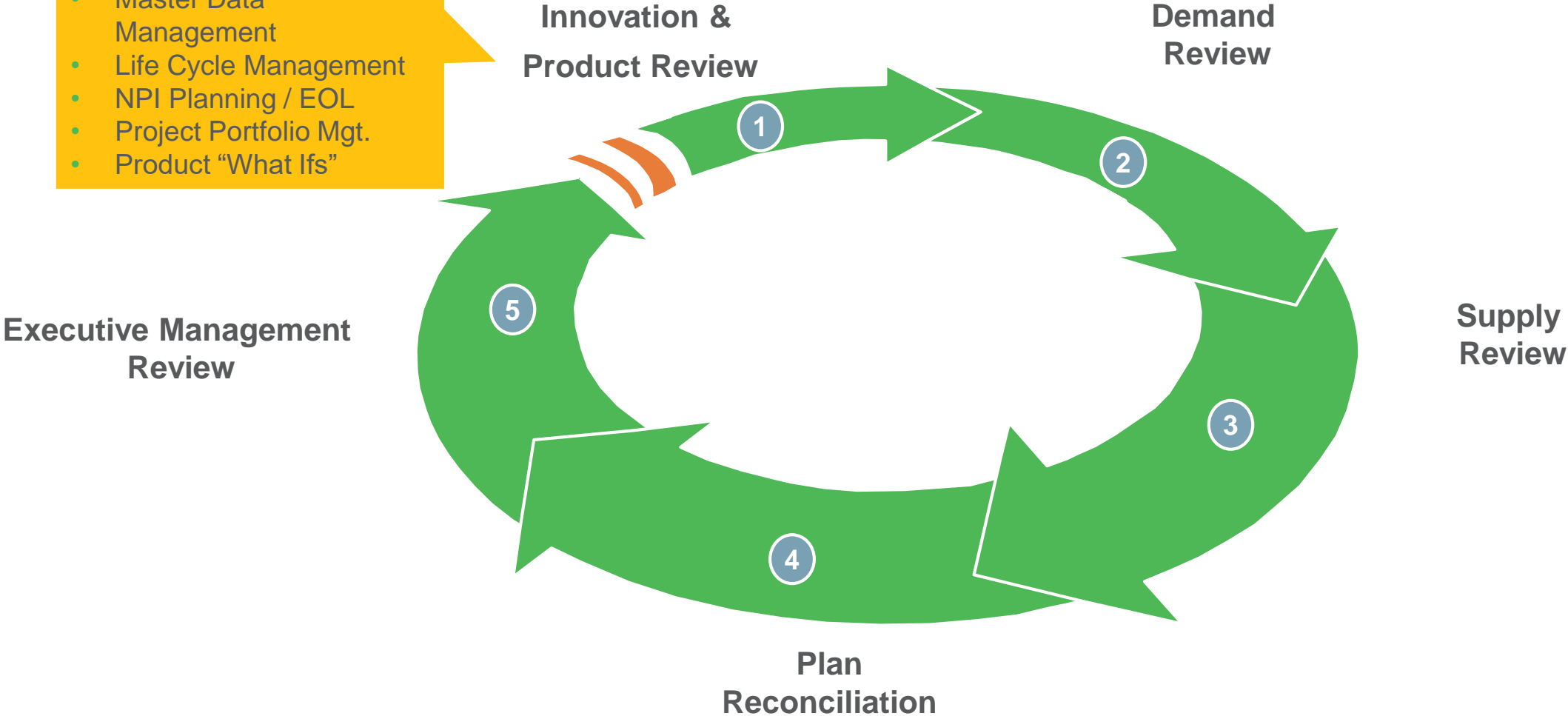
# 5 STEP IBP PROCESS





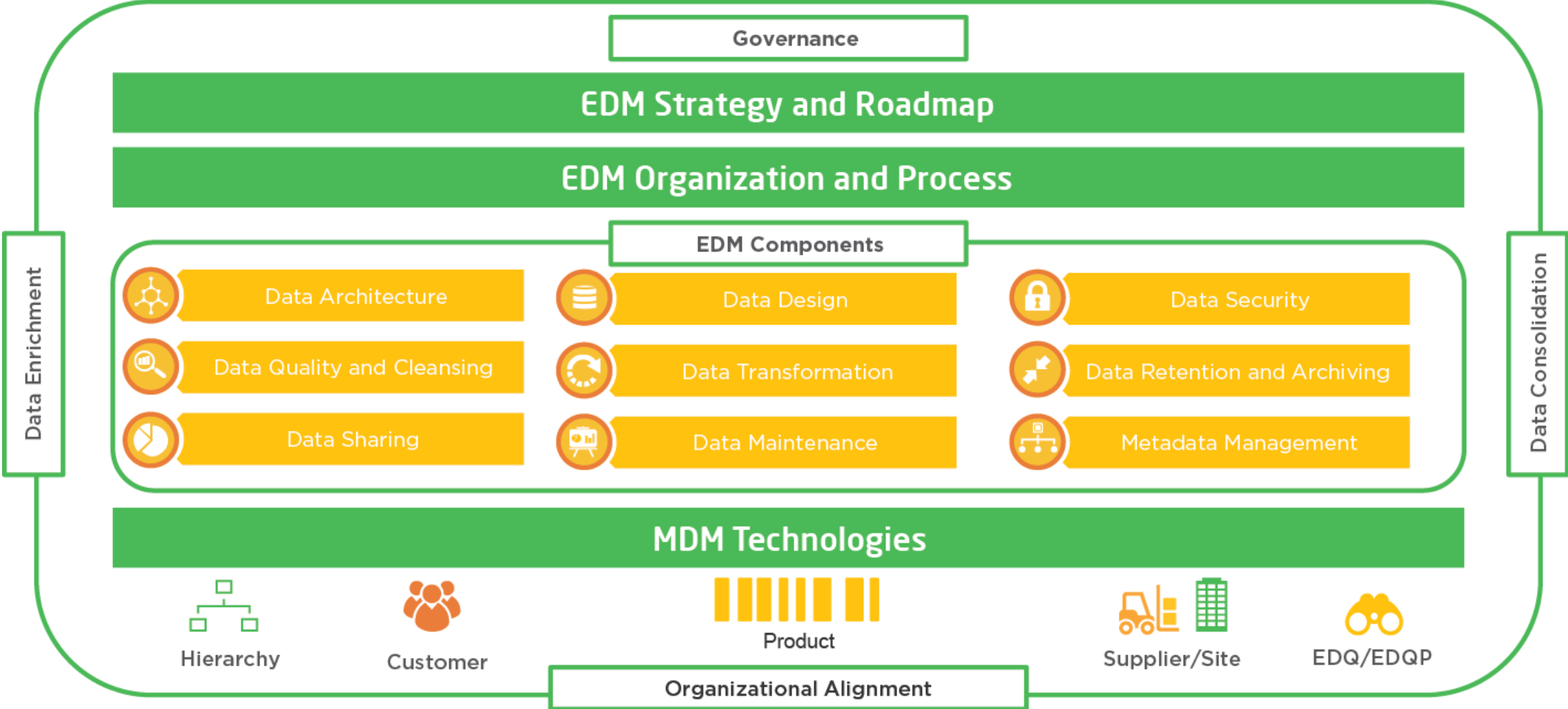
# 5 STEP IBP PROCESS

- Master Data Management
- Life Cycle Management
- NPI Planning / EOL
- Project Portfolio Mgt.
- Product "What Ifs"



# ENTERPRISE DATA MANAGEMENT

Leading Practices



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# PRODUCT REVIEW PRACTICES



- **Forecast new products**
  - Chaining
  - Shape Modelling
- **Prioritize Projects**
- **Product succession and life cycle management**
  - Phase In / Out
  - Cannibalization
- **Long-Term Planning**
  - Statistical
  - Opportunity
  - Capex / Financial
- **Attach rate review & adjustments**
  - Calculate dependent demand

# 5 STEP S&OP / IBP PROCESS

- Master Data Management
- Life Cycle Management
- NPI Planning / EOL
- Project Portfolio Mgt.
- Product "What Ifs"

**Innovation & Product Review**

**Demand Review**

- Demand Plan Performance
- Statistical Forecast
- Consensus Demand
- Demand Management
- Demand "What-Ifs"

**Executive Management Review**

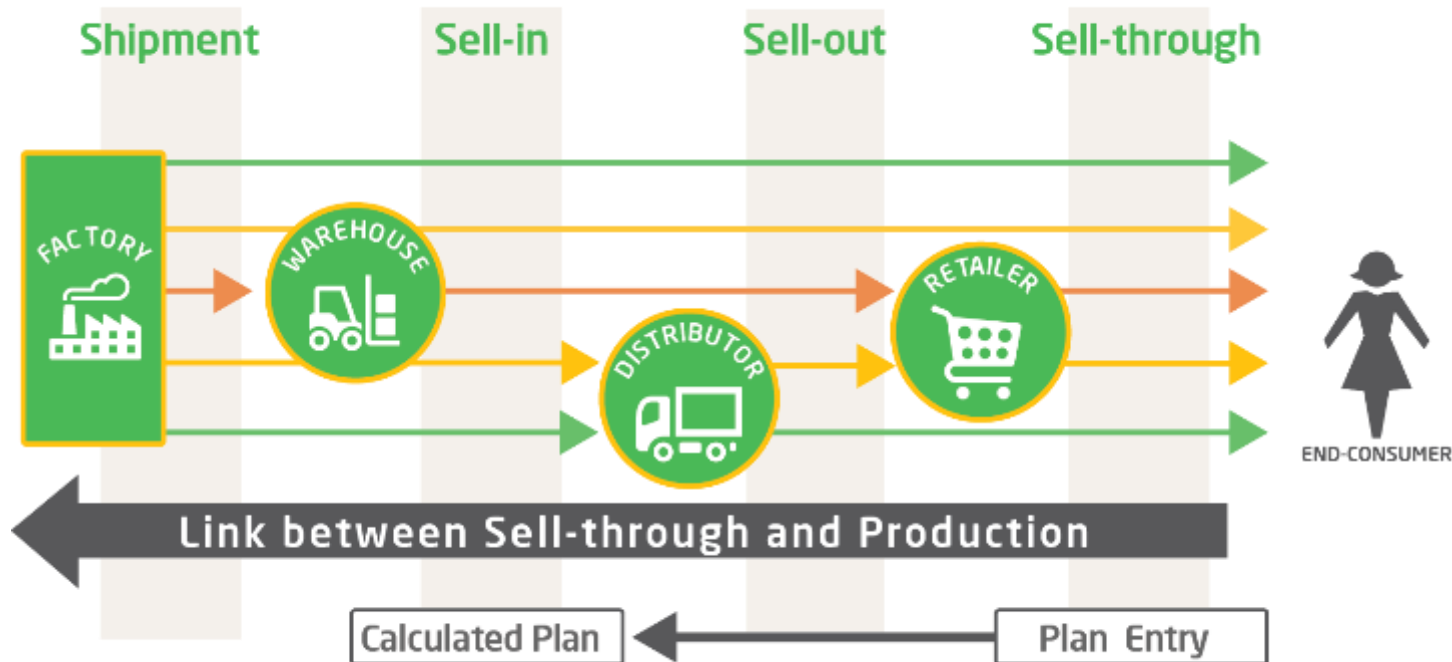
**Supply Review**



**Plan Reconciliation**

# DEMAND MANAGEMENT LEADING PRACTICES

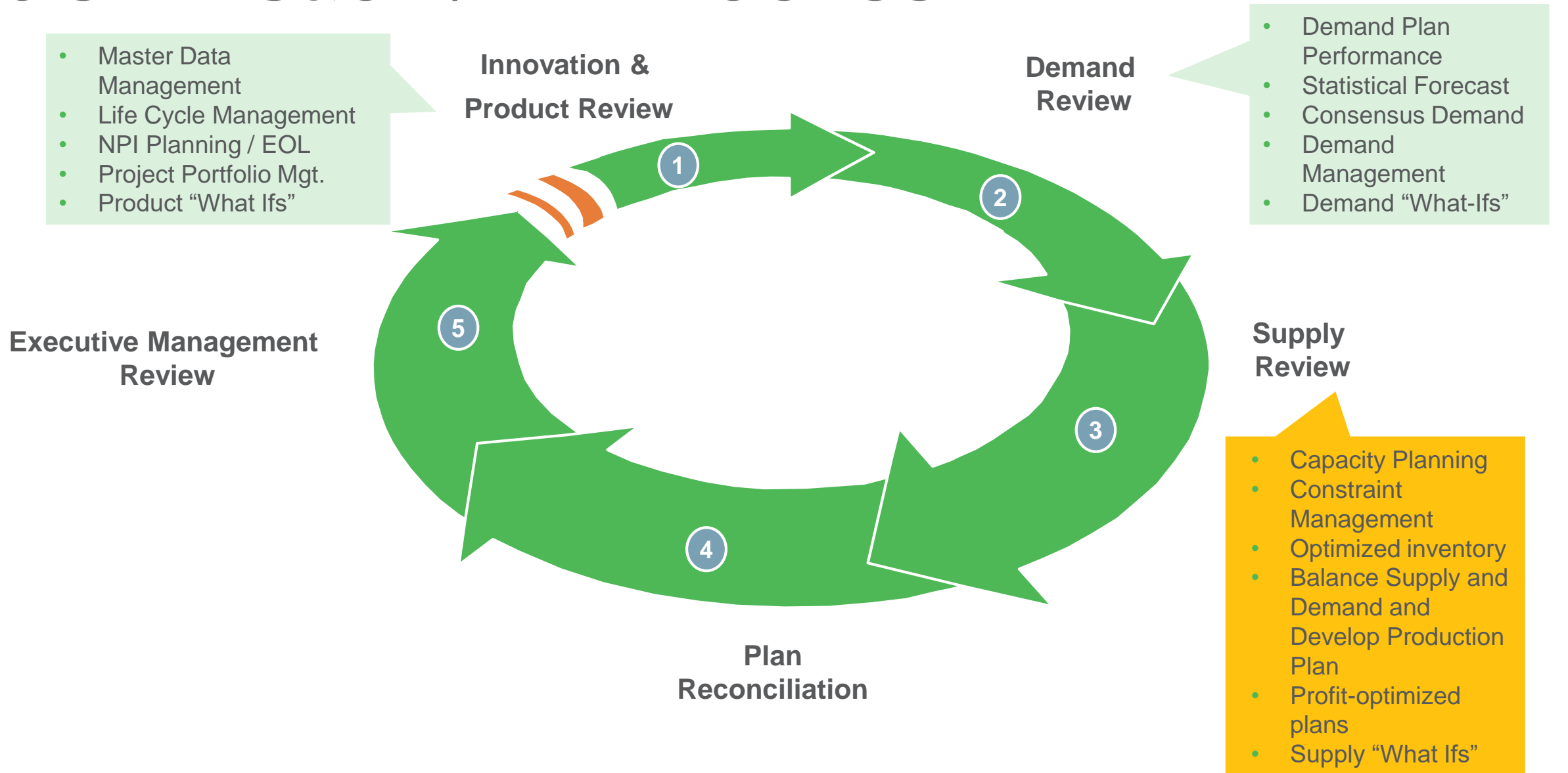
## Multi-Channel Planning with Sell-In and Sell-Through Allocation



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- **Demand Sensing**
  - Statistical Forecast Optimization
  - Get closer to consumption
- **Demand Planning**
  - Demand segmentation
  - Eliminate Bias
  - Forecast Value Add
  - Assumptions Measured & Tracked
  - Improve Collaboration
- **Demand Control**
  - Ad-hoc / Abnormal Demand
  - Demand shaping

# 5 STEP S&OP / IBP PROCESS



# SUPPLY MANAGEMENT PRACTICES

## Answering the tough questions:

- How do I manage my supply chain risk more effectively?
- What impact do changing costs have on my inventory, production and/or sourcing strategy?
- Can I meet demand profitably?
- Where should I hold how much inventory, when?
- Should I close down a facility?
- How could I react to a disruption in supply due to unforeseen events?
- What are my most profitable products to produce?
- What is the impact of mergers and acquisitions on my supply network and capital asset budget?

## • Supply Planning

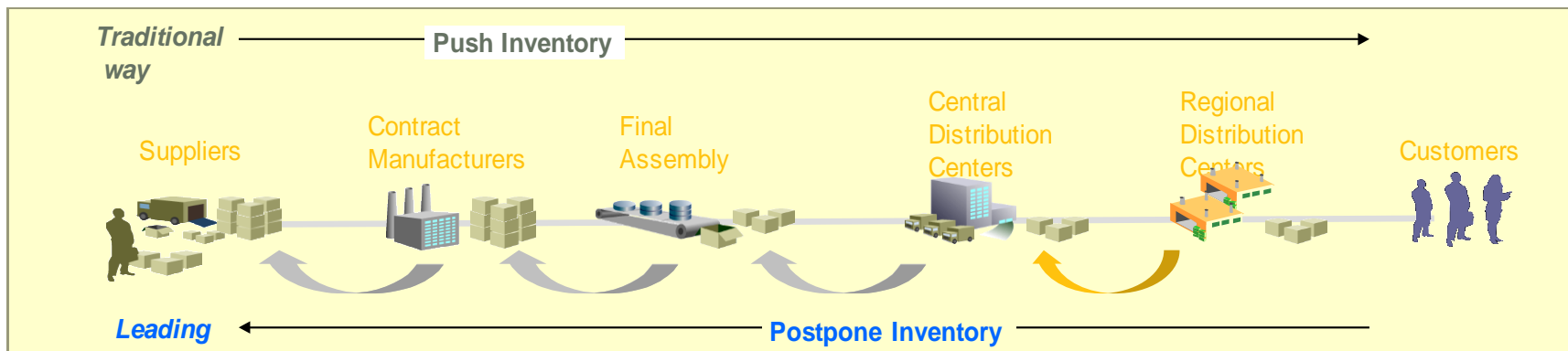
- Supply segmentation
- Mixed planning models
- Parameter and data management
- Alternates
- Scenarios

## • Supplier

- Collaboration
- Strategic Sourcing

## • Optimization

- Inventory
- Network Optimization
- IoT





# IoT USE CASES



## Traceability in Shop-floor

- 1 Automated Material Movement with In-Plant Traceability
- 2 Smart Production using Automated Material Transfer
- 3 Smart Production Augmented with Fingerprint-Of-Things
- 4 In-Plant Traceability Enabled by Fingerprint-Of-Things



## Shop-floor Exception Management

- 5 Quality Management
- 6 Maintenance Automation



## Cold Chain Management

- 7a Maintaining Pallet Temperature in warehouse [asset monitoring]
- 7b Maintaining Pallet Temperature in transit [fleet monitoring]



## Maintenance

- 8 Ship To Shore Container Crane & Roll Trailer Maintenance
- 9 Maintaining Pallet Temperature



( Analytics, Automation, Exception Monitoring)

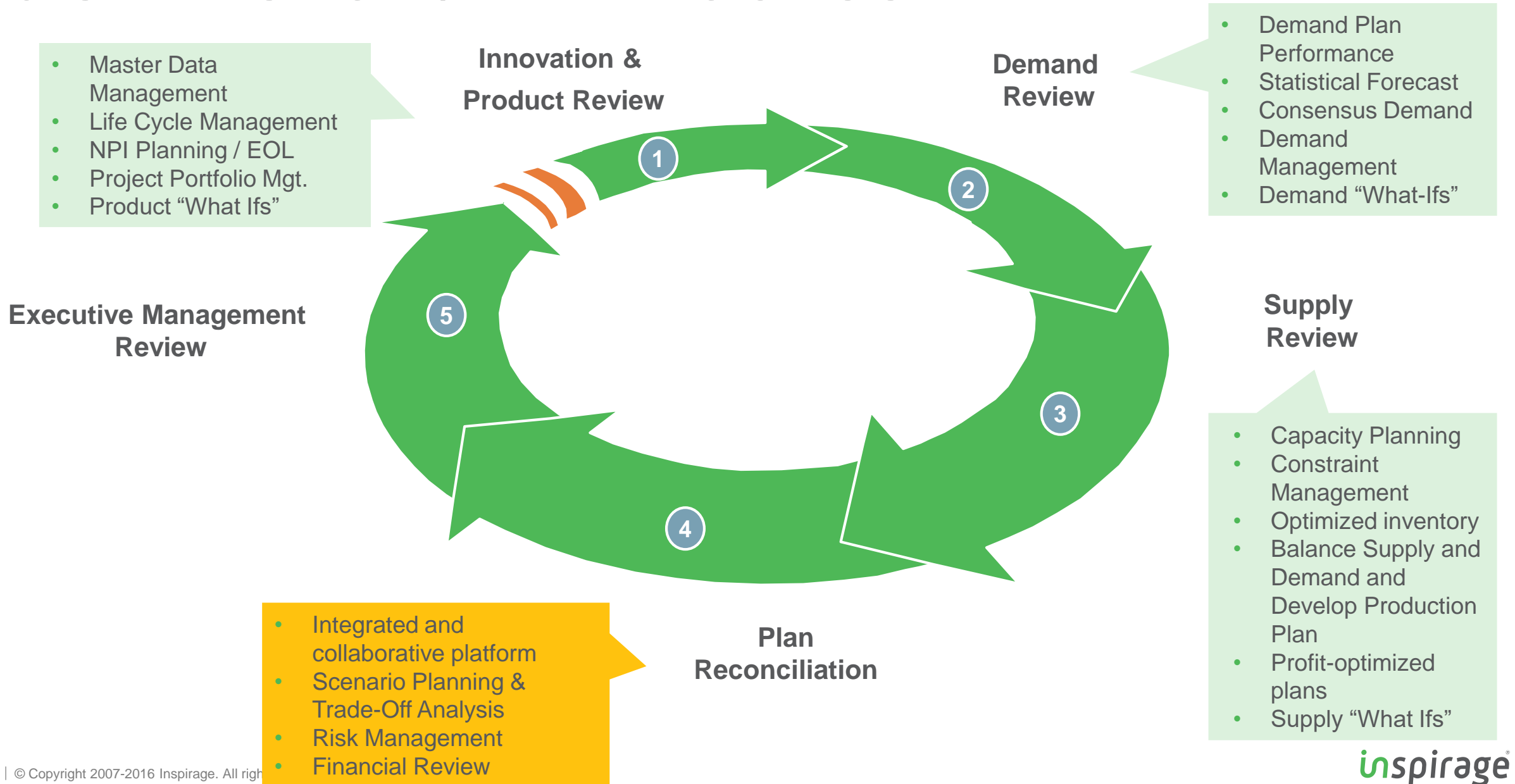
**Cost of Manufacturing**

**Cost of Quality**

**Quality Assurance**

**Cost of Service**

# 5 STEP S&OP / IBP PROCESS

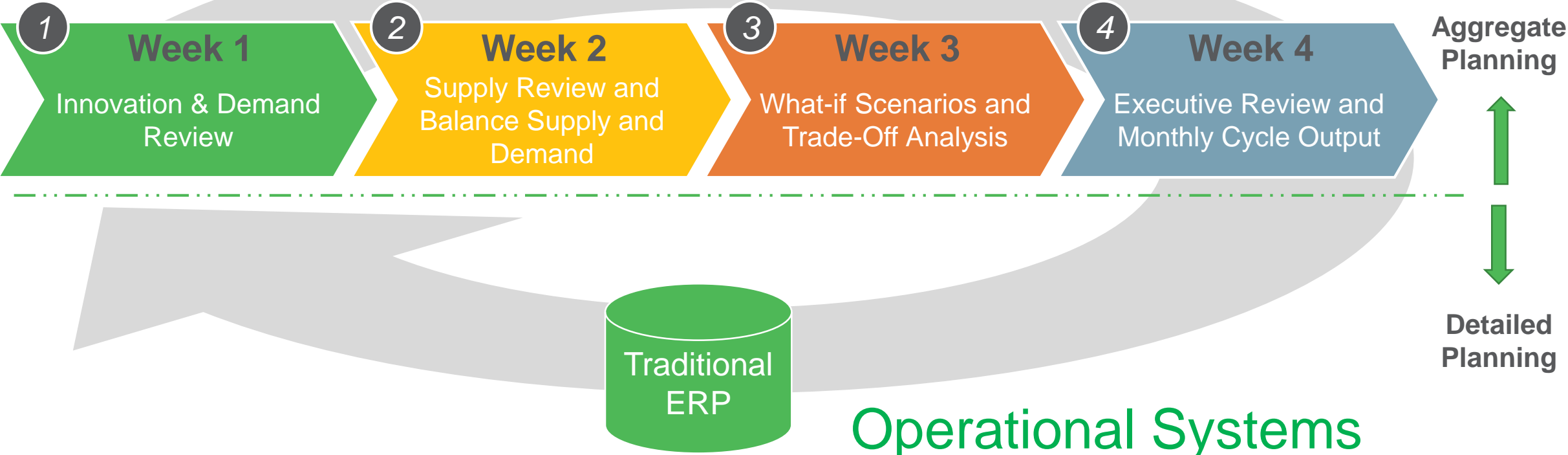


# PLAN RECONCILIATION CHALLENGES

## Collaborative Systems for Cross Functional Discussions



### Recurring Monthly Process



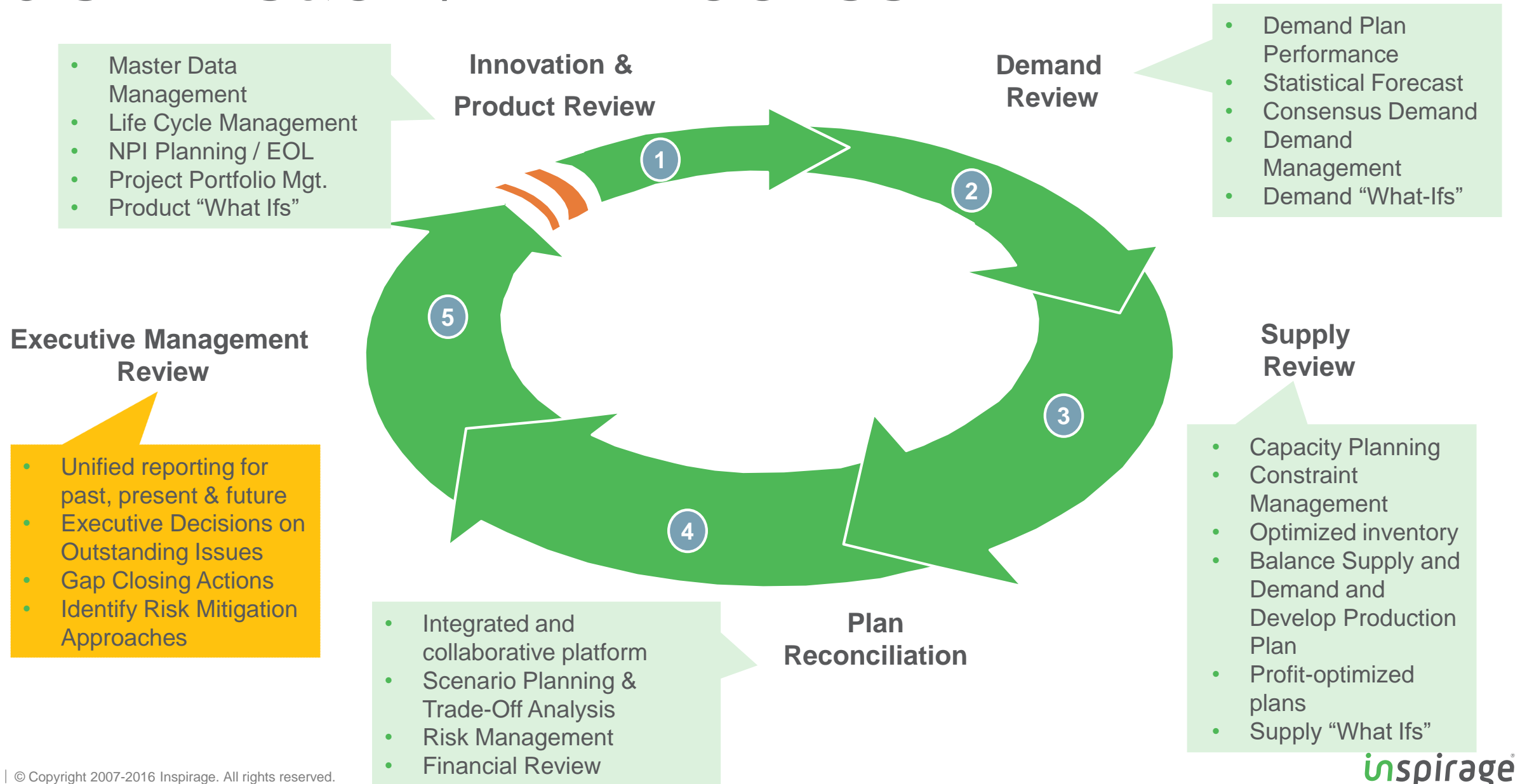
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## Supported Applications\*



\*Please note this list is not exhaustive and only includes some of the most common applications

# 5 STEP S&OP / IBP PROCESS



# EXECUTIVE REVIEW LEADING PRACTICES

## How CEO sees the business



VS.

## How Supply Chain sees the business



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### Latest Business Plan

- What has changed? One Pagers
- What are the assumptions?
- What is the impact of the change?
- 24 month - P&L, Balance Sheet, Cash
- What is the gap to plan?
- What are the Risks and Opportunities?

### Decision Support

- What are the gap closing opportunities?
- Which options to evaluate?
- Financial modelling of alternatives
- Decisions required - now and in the future
- Recommendations

# SUMMARY



# S&OP / IBP OPTIMIZES ENTERPRISE BY *RESOLVING COMPETING OBJECTIVES*

