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# EVALUATING & REALIZING ROI FOR TECHNOLOGY INVESTMENTS

Presented By:

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As part of a college capstone project, Bob Pozesky identified and implemented process improvement concepts at a Lancaster County corporation. More than two decades later, Bob remains focused on delivering tangible results and improved performance for companies and organizations throughout the Mid-Atlantic.

Leading RKL's Operations Consulting Practice, Bob helps clients ranging from small family businesses to Fortune 100 companies accelerate business transformation and growth through improved execution. Thanks to his background in operational leadership and performance improvement, Bob is an in-demand and highly respected consultant for projects related to business expansion, new product development, ERP integration, inventory control and more.

Bob also heads up RKL's Manufacturing & Distribution Industry Group, where he leads a diverse team of financial professionals and business consultants focused on helping companies in this sector keep pace with economic changes and uncover new opportunities for profitability.

### EDUCATION

B.S. Industrial Engineering, Penn State University

M.Eng. Operations Research and Industrial Engineering,  
Penn State University

Certified Manager of Quality/Organizational Excellence  
(ASQ)

Six Sigma Black Belt

Project Management

### PROFESSIONAL ACTIVITIES & MEMBERSHIPS

- American Society for Quality (ASQ), Senior Member
- Manufacturing Day Planning Committee
- Big Brothers and Big Sisters, Past Board Member
- Manos House, Past Board Member

### PERSONAL

Bob and his wife, Oneida, reside in West Hempfield and have two grown sons. In his free time, Bob enjoys cycling, hiking, skiing and traveling.

*“Clients typically understand the opportunities and issues facing their businesses. That is why Operations Consulting focuses on helping clients execute around those opportunities and issues to drive results and growth and realize their strategic goals.”*

# ➤ Agenda

- Current Automation and Technology in M&D
- Transitioning from a Traditional ROI Approach to a Holistic Approach
- ROI Aligned to Today's M&D Business Realities
- Execution as the Key to Realizing ROI
- Discussion/Q&A/Takeaways

# ➤ Automation & Technology in M&D

- Automation

## STRATEGIC

3D Printing/  
Additive Manufacturing

Robot(s)/Cobot(s)

AS/RS

5 Axis-CNC & Robot

Machining Center

Video/Visual  
Inspection

5 Axis-CNC

Robot/Cobot

CNC & Robot

Cobot

QC/Statistical  
Process Control  
Software

CNC

Robot

## TACTICAL

PLCs

Packing &  
Box Folding

Unloading

# ➤ Automation & Technology in M&D

- Information Technology

## STRATEGIC

Decision Support System/  
Analytics/AI

Supply Chain Blockchain

Customer Data

Supply Chain EDI

Automatic

KPM Dashboards

Truck Routing

ERP

Optimized Scheduling

Pick Routing

WMS

CRM

Intranet/  
Sharepoint

PLC interface

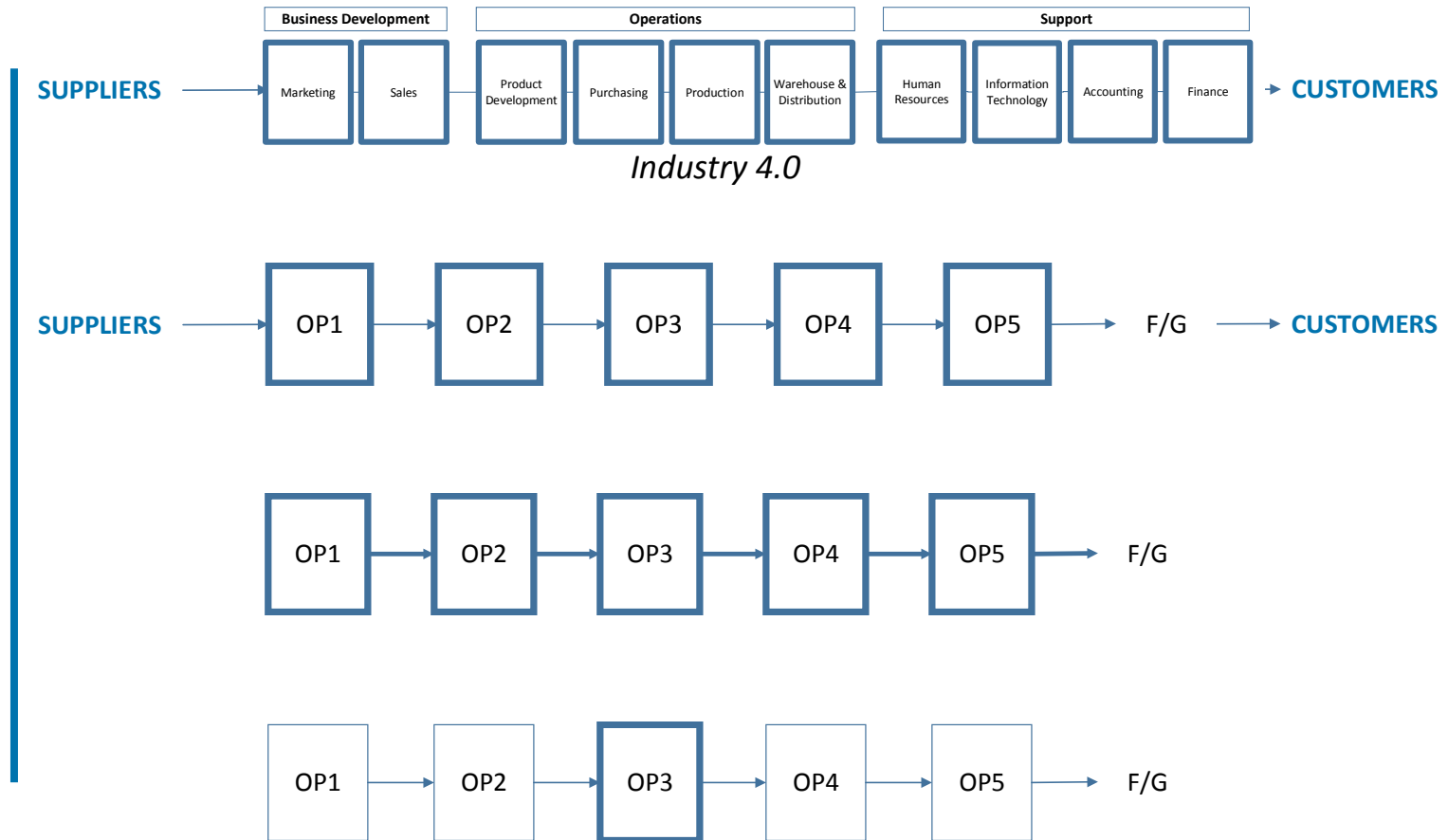
## TACTICAL

Electronic Driver Logs

Barcode Scanning

# Automation and Technology in M&D

- Integrated Automation and Technology



## ➤ The Need for a Robust ROI Process

- The number of opportunities for automation and technology are growing every day
- Competitive pressure to adopt more technology
- May feel like there are too many options/solutions; Unsure where to start
- Beyond financial justification
  - How to prioritize and leverage limited resource
    - Time (evaluate, implement)
    - Time & Talent so not a distraction from maintaining current business
    - New skills
  - Test that investments will result in an overall business benefit
  - Establish a multi-year capex plan
- We operate under the realities of today's business environment and our ROI process should align to that reality.

# ➤ The Need for a Robust ROI Process

Historically, ROI was overly simplistic for today's competitive landscape

- Considered only Hard Savings
  - Cost Avoidance & Risk Mitigation
  - Labor and Benefit Reduction
- HIPPOs played too big of a role
- Soft Savings were discounted or not considered at all
  - No Indirect Costs
  - No Overhead
  - No Intangibles (like increased capacity)
  - Perceived as trying to strengthen a weak business case
- Was there an impact on Income Statement or Cash Flow?
  - Cost Avoidance should be discounted
  - Weak follow through on RIF/reallocation of staff and promised new sales



# ➤ The Need for a Robust ROI Process

- Things have changed and evolved
- The overall M&D business environment is more demanding than ever
- Labor Cost as a % of Expense is lower
- Material % is higher
- Through Theory of Constraints and Lean Six Sigma we understand:
  - Processes/Department are not in silos; Dependent
  - High performing companies have adopted a system-wide view
    - Balanced Scorecards
    - Rockefeller Habits, EOS, Malcolm Baldrige National Quality Award
    - Integrated Performance Management Systems
    - Valuation for Succession Planning
- M&D landscape is more complex

# ➤ M&D Business Environment

- Revenue
  - Global competition
  - Pricing pressure & commoditization
  - Extended A/R terms
- Expense
  - Healthcare premiums
  - Wage pressure
  - Transportation costs
  - Regulatory requirements
  - Aging equipment and facilities
- Customer Service
  - Customers carrying less inventory
  - Smaller orders
  - Shorter lead times, tighter delivery dates

# ➤ M&D Business Environment

- Quality
  - Tighter specs
  - More products and features
  - More testing and vendor reporting
  - Customers rejecting whole pallets or orders
- Employees
  - <4% unemployment rate, retention/turnover
  - Silver Tsunami
  - New employee pipeline
  - Training and development
- Succession
  - How to maximize valuation of business
  - Consistent and growing EBITDA; > competition
  - Key investments

# ➤ A Holistic Approach to ROI

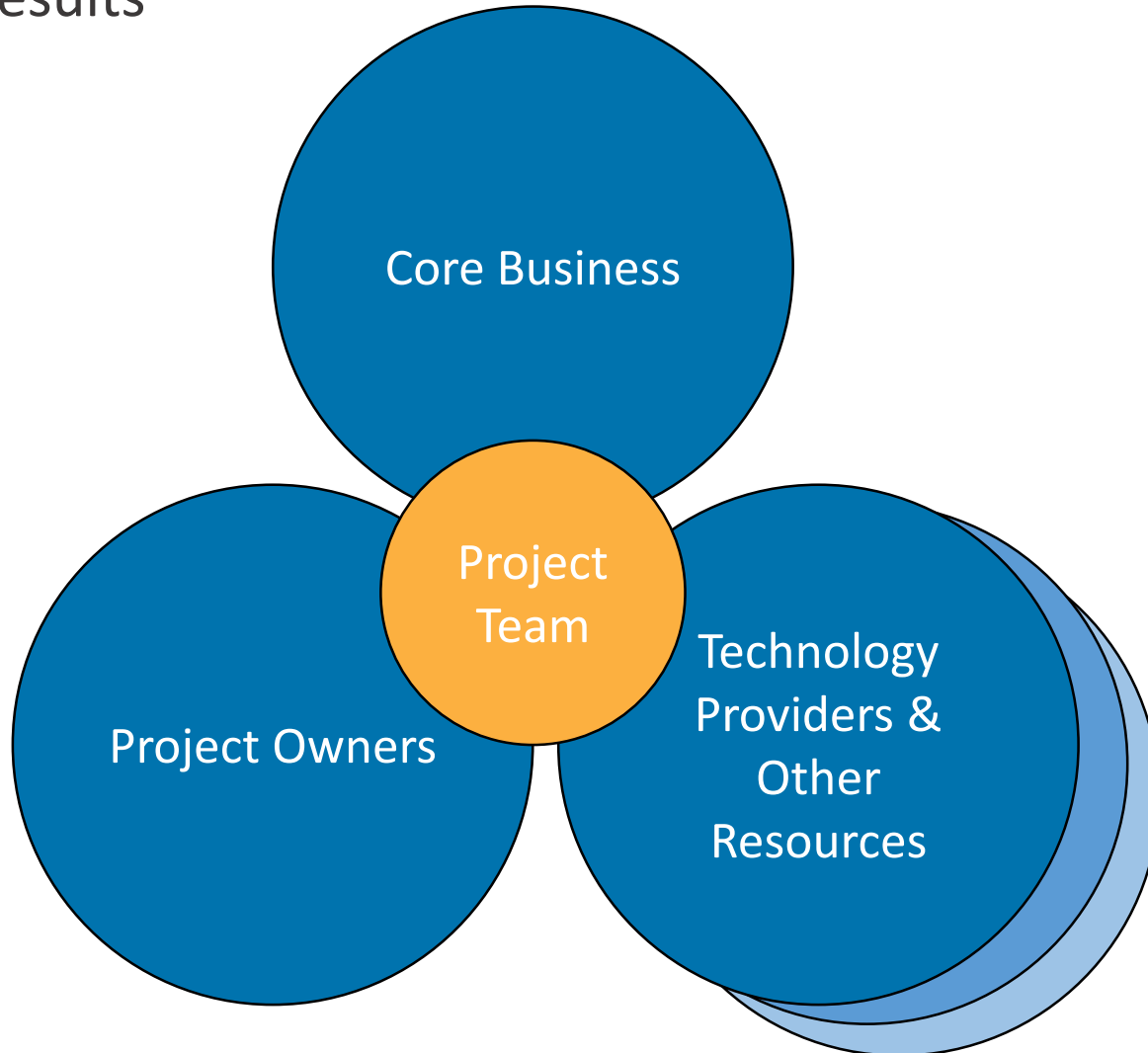
- Holistic

...concerned with wholes or with complete systems rather than with the analysis of...parts

*source: Merriam-Webster*

## ➤ A Holistic Approach to ROI

- Starts with a cross-functional structure aligned with the expected results



# ➤ A Holistic Approach to ROI

1. Define the Problem/Opportunity
2. Measure and Analyze
  - Enough but not so much we experience analysis paralysis
  - Using the right metrics
  - Aligned with Strategy and the Business Environment
  - While expecting tangible ROI
3. Improve (Implement)
4. Control (Realize the ROI and sustain the improved performance)

# ➤ A Holistic Approach to ROI

- Define the problem/opportunity using a Project Charter

Project Charter									
Project									
Date									
Project Background									
Problem/Opportunity Statement									
Project Goals									
Performance Metrics: What measures will tell you if you are successful.						Performance Metrics			
						Current	Goal	Final	% Change
Projected Benefits									
Project Team									
Team Lead:									
Team Champion/Sponsor:									
Process Owner:									
Team Members:									
Subject Matter Experts:									

# ➤ A Holistic Approach to ROI

- Some updated definitions
  - Hard Savings – savings and benefits you actually realize when and why you expect to realize them
  - Soft Savings – savings and benefits talked about and calculated but left on the table usually as the result of poor planning or execution
- The challenge is to realize the “Soft” Savings
  - How soft are soft costs?
  - How soft are soft opportunities?
  - What needs to be done to turn these into hard dollars?



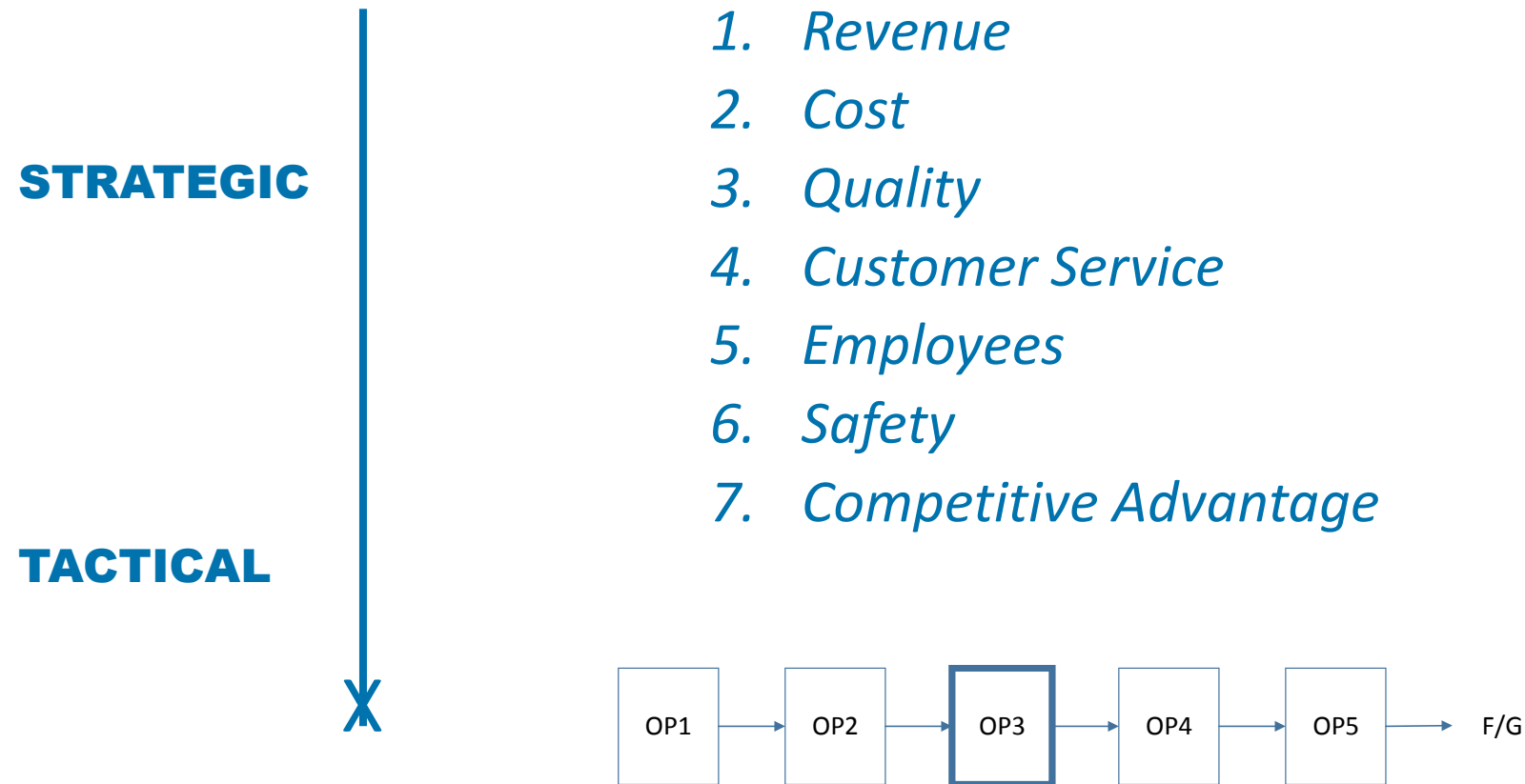
# ➤ A Holistic Approach to ROI

Analyze the impact on multiple criteria:

1. Revenue
2. Cost (Cost of Mfg/Distn, COGS)
3. Quality
4. Customer Service
5. Employees
6. Safety
7. Competitive Advantage

- Start with tactical benefits
- Build up to strategic benefits

## ➤ Example – Single Machine or Work Cell



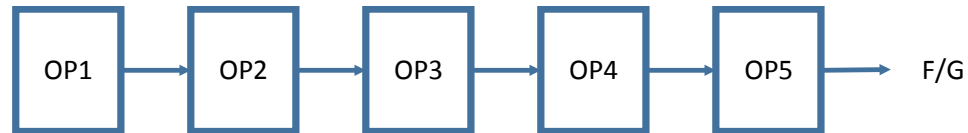
## ➤ Example – Entire Work Cell, Department, Workflow

1. *Revenue*
2. *Cost*
3. *Quality*
4. *Customer Service*
5. *Employees*
6. *Safety*
7. *Competitive Advantage*

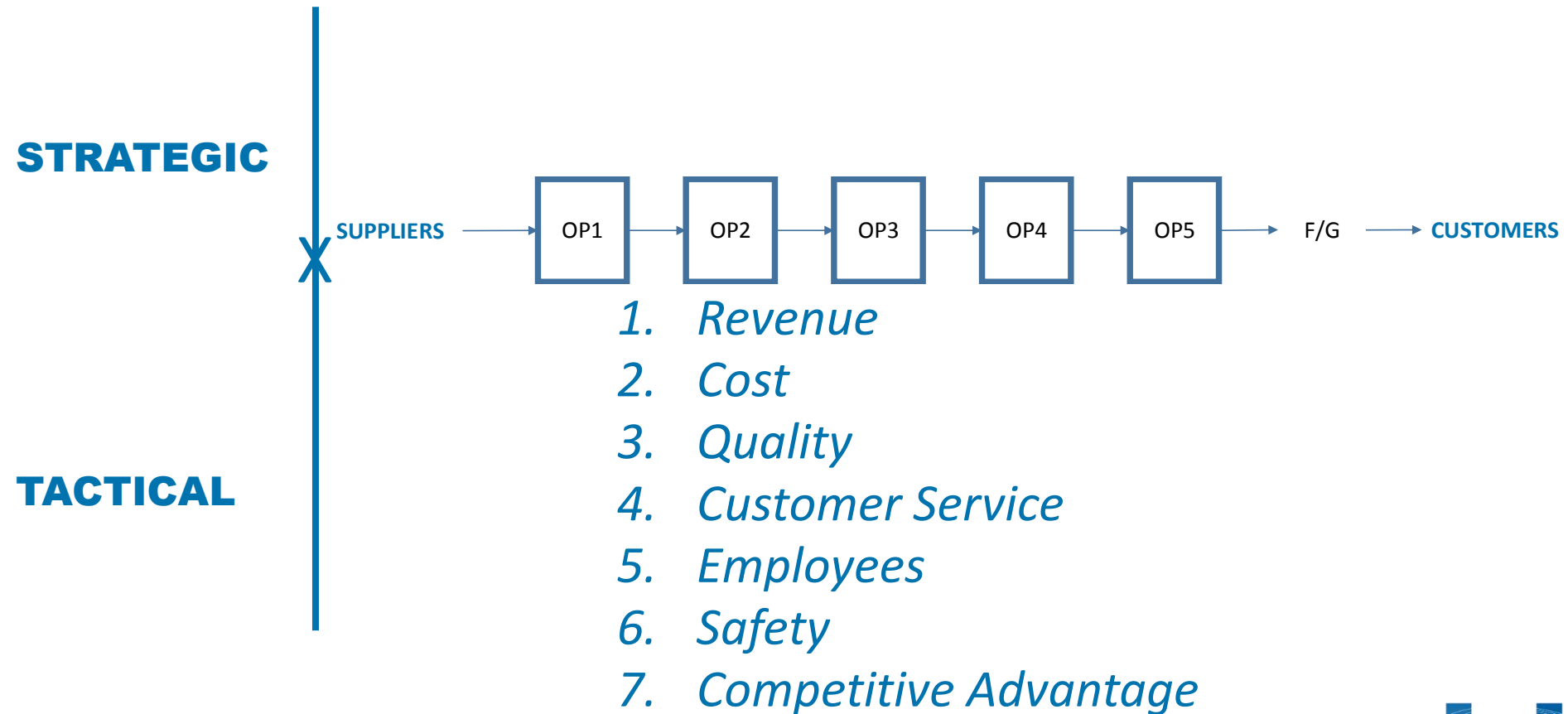
**STRATEGIC**

**TACTICAL**

X



## ➤ Example – One Supply Chain or Value Stream



# ➤ Multiple Supply Chains or Value Streams



## ➤ Other ROI Considerations

- R&D Tax Credit
- Changing Tax Regulations

# ➤ Analysis of Options

- Pro Forma
- Cost/Benefit Ratio, Payback Period, NPV over expected life

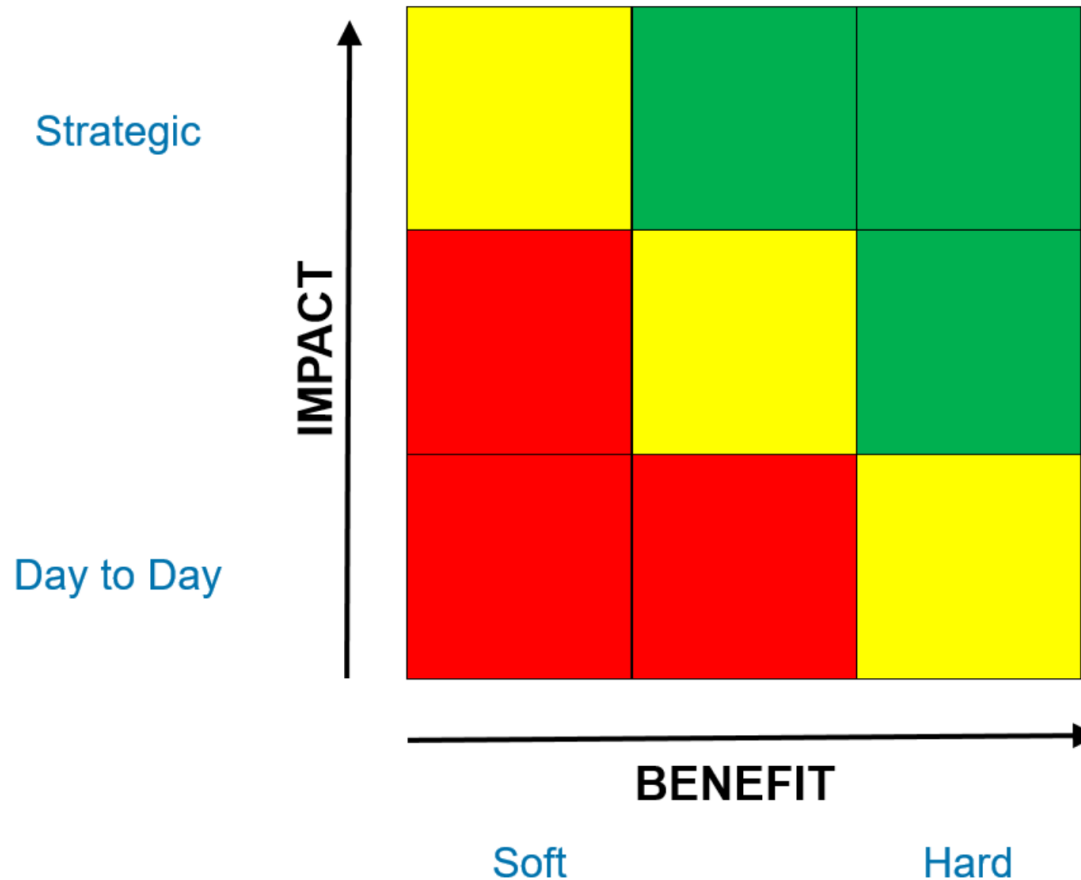
<b>Pro Forma</b>								
<b>Option X</b>								
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Totals
<b>Sales Revenue</b>	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
<b>One-Time Costs</b>								
Facilities	#REF!							#REF!
Installation	#REF!							#REF!
Training	#REF!							#REF!
Downtime	#REF!							#REF!
<b>Total One-Time Costs</b>	#REF!	-	-	-	-	-	-	#REF!
<b>Ongoing Costs</b>								
Equipment Payments	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Labor & Benefits	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Scrap	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Maintenance & Repairs	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
<b>Total Ongoing Costs</b>	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
<b>Total Costs</b>	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
<b>Cash Flow</b>	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
<b>Cost/Benefit Ratio</b>	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
<b>Payback Period</b>	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
<b>Discounted Cash Flow (NPV)</b>	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	

## ➤ Analysis of Options

- Side by Side comparison (literally)
- Option 1 should be No Change
  - account for any lost opportunities
- Include all of the details (R, C, Q, CS, EE, S, CA)
- Supporting documentation
  - Action Plans for:
    - Staffing
    - Training
    - Sales
    - Monitoring
- Written increases chance of success and helps get/keep everyone on the same page
  - If it's not written it's less likely going to happen



## ➤ Prioritizing Investment Opportunities



- Using open discussion to agree on goals (ROI) for the potential investment(s)
- Deciding which goals are most important at this time

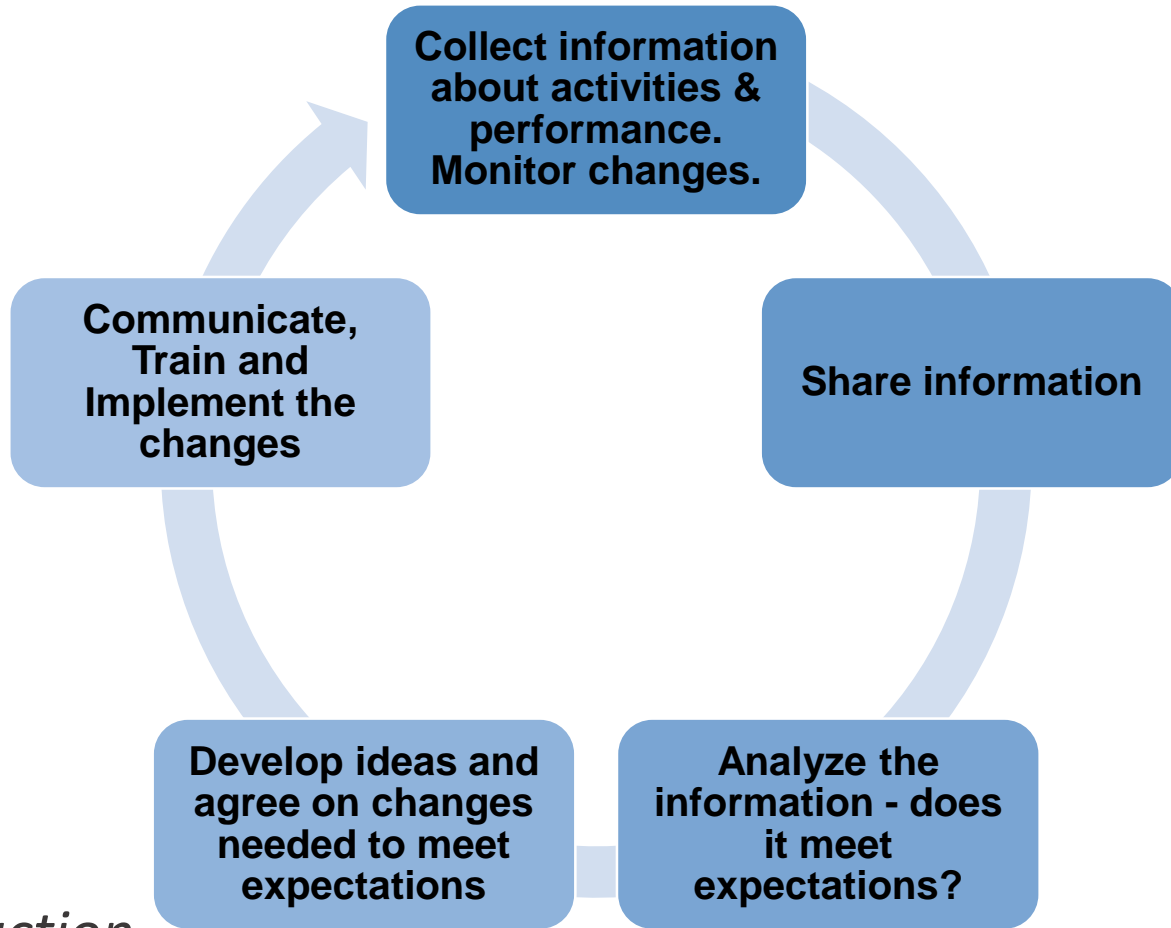
## ➤ Realize ROI

- Prepare to make changes identified in the ROI business case during implementation planning (ex. cross-training, staffing adjustments, Marketing and Sales Plans, etc.)
- Implementation costs do not exceed budget
  - Costs > Budget
    - lower cost/benefit ratio & NPV
    - slower payback
- Implementation meets timeline
  - Cost incurred during the delay gets tacked on to the end and extends payback
  - Missed opportunity cost of delaying the next investment

## ➤ Realize ROI

- Project Team is accountable for ROI at implementation and through a reasonable start-up period
  - Project Team fully transitions accountability to Process Owner and “Operations” Team (usually multiple departments)
- Process Owner and “Operations” Team is accountable for maintaining ROI
- Key Performance Measures and Feedback Loops are critical tools

# ➤ Feedback Loop



- Outcome is action
- The right KPMs keep focus on ROI
  - Can IOT be the data source? Can AI-driven analytics play a role?

## ➤ Summary

- Define the Opportunity – Align investment with strategy and business environment (project charter)
- Measure – System-wide view of the impact on R, C, Q, CS, EE, S, CA; Sales Plans, EE/Training Plans
- Analyze – Holistic, objective assessment of the investment; Discussion
- Improve – Prepare for the changes; Implement
- Control – Manage to realize ROI on the investment

# QUESTIONS & DISCUSSION

**THANK YOU!**

# FOCUSED. ON YOU.

*for more information or a deeper conversation  
please contact:*

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