

How To Combine Behavioral Science With Best-In-Class Process Analysis to Achieve Sustainable Results

BEHAVIORAL LEAN SIX SIGMA

KURM CONSULTING INC.

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Kurm Consulting

Created in coordination with

accomplir
Collaborative Accomplishment & Sustainability

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AGENDA (ALL TIMES IN EASTERN)

- ❑ 6:00 - 6:10 Virtual Networking
- ❑ 6:10 - 6:25 Welcome & Introductions
- ❑ 6:25 - 7:25 Presentation and Q&A
- ❑ 7:25 - 7:30 Wrap Up

QUICK INTRODUCTION

Founded a process excellence consultancy in 2016 that currently serve clients in financial services, manufacturing, logistics, mining, pharmaceuticals, consumer goods, energy & service sector

Seasoned process excellence executive with 20+ years leading organizations in process & project management disciplines

Formerly the Head of Business Process Management for a global financial institution and numerous years as Process Improvement Director for various Fortune 500 companies

An avid family traveler and explorer of the great outdoors!!

Kurm Consulting



Alexander Kurm, B.Eng
Certified Lean Six Sigma
Master Black Belt

LEARNING OBJECTIVES

In this session you will learn:

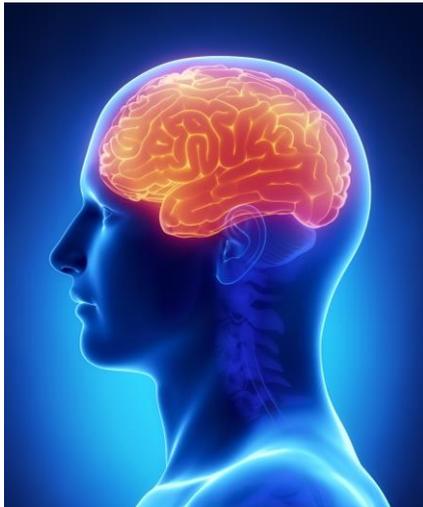
1. The basics of Behavioral Science & Management.
2. A brief overview of how Lean Six Sigma & Behavioral Management techniques can be combined to drive meaningful change.
3. How to pinpoint critical behaviors for a given process change.
4. The importance of focusing on consequences to achieve sustainable process improvements.

BEHAVIORAL MANAGEMENT

+

LEAN 6 SIGMA

(behavior = anything we say or do)



WHAT IS LEAN SIX SIGMA?

What is Lean?

A philosophy developed by Toyota focused on improving the 'flow of value' through a process for a given customer

Flow is achieved through the relentless elimination of waste



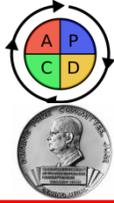
What is Six Sigma?

A philosophy made famous by General Electric (via Motorola & Allied Signal) that focuses on reducing the amount of variation that a customer will encounter for a given process

A Six Sigma process delivers an extremely consistent product/service with very few errors or defects (3.4 defects per million)



Process Analytics (Six Sigma) Journey



Quality Philosophy:

Juran – Managing for Quality (1950s)
 Deming – PDCA / Quality Philosophy (1950s)
 Deming Prize Established (1960)

Six Sigma Evolves:

Motorola – 1st Gen Six Sigma
 GE / Allied Signal – 2nd Gen Six Sigma
 Lean Six Sigma – 3rd Gen Six Sigma
 DMAIC is adopted for LSS

Lean Six Sigma Evolves:

Methodology Agnostic:
 Process Excellence
 Operational Excellence

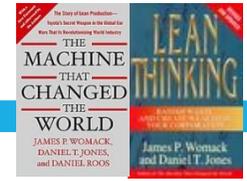
The Science of Work:

Taylor and Scientific Management (1911)
 Fisher – Statistical Methods (1920s)
 Shewart – Control Charts (1920s)



Lean Evolves:

Lean Concept Introduced (1987)
 The Machine that Changed the World (1990)
 Lean Thinking (1996)



Incorporating Human Behaviors?

Behavioral Science & Mgmt Techniques?

Lean Software Development



Software Engineering Today:

AGILE (2000s)
 Kanban/Scrum
 IIBA Established (2003)
 The Lean Start Up (2010s)

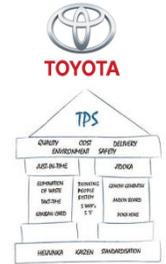
Process Flow (Lean) Journey

The Industrial Revolution:
 Moving Dis-Assembly (1880)
 Concept of Jidoka (1900)
 Henry Ford and the Assembly Line (1915)



Lean At Toyota:

Toyota Motor Co. Established (1937)
 Concept of JIT (1938)
 Kanbans and SuperMarkets at Toyota (1950s)
 Toyota Wins Deming Prize (1965)
 Toyota Production System (TPS) Formalized (1970)
 The Lean Management System (e.g. Scrum is introduced)



Pre-Industrial Revolution:
 Flow Production (1500s)
 Concept of Inter-Changeable parts (1780)
 High-volume Interchangeable Parts (1830)



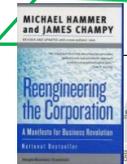
The early days of Industrial Engineering:

Gilbreth's Motion Studies (1920s)
 American Institute of Industrial Engineers Est. (1948)
 Operations Research (1950s)
 Decision Support Systems (1960-1975)



Process Re-Engineering Today:

Business Process ReEngineering (1990s)
 Rummler-Brache & BPM (1990s)
 Business Process Management (2000s)



BEHAVIORAL LEAN SIX SIGMA



Lean

Increased Flow of Value



Six Sigma

Tremendous Consistency



Behavior Mgmt.

Sustained Behaviors & Habits

BEHAVIORAL LEAN SIX SIGMA

A blended approach of sound behavioral science & management techniques with the robust methodologies of process analysis & improvement

The result is a methodical approach to analyze human behaviors in the context of business processes to enable sustainable change

The “Behavioral” components of Behavioral Lean Six Sigma was co-developed by behavioral experts Paul Fjelsta, Patricia Floyd at [accomplir™](#)

BUT FIRST...

WHAT IS BEHAVIORAL SCIENCE & MANAGEMENT?

Behavior Analysis is the study of the environmental events that change and/or sustain voluntary human behavior.

Applied Behavioral Science is the practical application of Behavior Analysis to everyday behavior challenges with a goal of understanding their causes and the impact on future occurrences.

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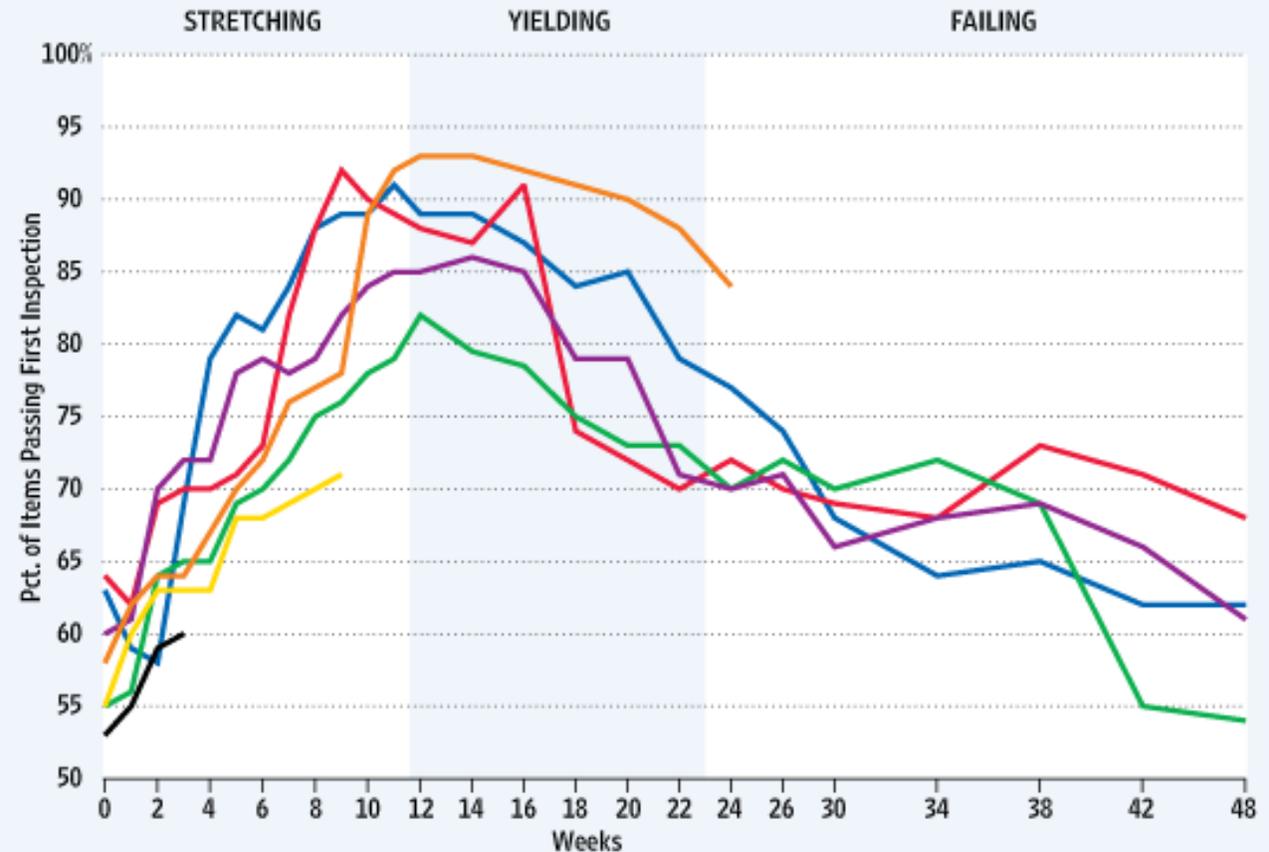
WHY SHOULD WE FOCUS ON BEHAVIORS?

A growing trend of projects, process improvement work, software implementations etc. that are not achieving a sustained level of performance over time

What does this have to do with behaviors?

Back Where They Started

Process-improvement programs often follow the same pattern that a metal spring does when it is pulled with increasing force: They progress through "stretching" and "yielding" phases before failing entirely. Here's a look at the life cycle of seven projects at an aerospace company, with the percentage of items passing first inspection rising initially before turning back down and then returning roughly to original levels.



Note: Data collection and analysis stopped prematurely for some of the projects, a possible sign that the teams were unable to continue with process improvements.

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COMMON REASONS WHY PROJECTS FAIL...

- Projects NOT tied to the organization's strategy or critical business issues
- Not having a clear charter, objectives, scope, measures, & sponsorship
- Lack of clear accountability for results
- No agreed upon success criteria to guide the Future-State design
- Failure to drive the redesign down to the Performer Level, redesigning key jobs & their performance support systems
- Failure to anticipate implementation resources at the outset of the project
- Failing to understand that improved processes need to be managed
- Inadequate leader engagement & role clarity to own implementation & sustainability
- **No scientific basis (or theoretically sound basis) for understanding / analyzing / improving behavior affecting performance**

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THE IMPORTANCE OF BEHAVIORS

Behaviors are at the core of everything we want to do

We do not spend enough time understanding behaviors and what drives them

Thus, our efforts fall short OR are not sustained in the long term



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WHAT CAN WE LEARN FROM APPLIED BEHAVIORAL SCIENCE?

APPLIED BEHAVIORAL SCIENCE EXPLAINS, IN PART, WHY MOST PEOPLE DO WHAT THEY DO



- **Trigger or prompt the behavior**
- **Enable the behavior**

Examples of Antecedents:

- Leader / other's requests
- Previous consequences

Typical Change Management:

- Communications
- Stakeholder Management
- Skill development/training

- **Anything we say or do**
- **Can be directly observed & measured**

Examples of Behavior:

- Completing a form
- Answering the phone
- Asking questions
- Performing a task
- Reviewing metrics

- **Encourage or discourage future behavior**
- **Are meaningful to performer**

Examples of Consequences:

- Feedback from Leaders / others
- Data / scorecard displays
- Pay increases, promotions
- Quarterly performance reviews
- Tangible awards – cash, mugs, T-gift cards

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IT CAN BE DIFFICULT TO PINPOINT A BEHAVIOR

Specific: factual, descriptive, context

Observable: you can see and/or hear it

Measurable: you can count how many, how often, how much

NOT:

- *General / Vague*
- *Judgmental*
- *An assumption*
- *A label*

Example:

Operator collects a sample of xyz product for analysis once per week

(note this can be observed & measured)

NOT:

- Operator lacks skill to properly sample (**judgment**)
- Operator is too busy to sample product properly (**assumption**)
- Operator is a poor performer and doesn't sample product properly (**label**)

CAN YOU PINPOINT THE BEHAVIOR?

She is a terrific manager

He starts tasks without being asked

He needs an attitude adjustment

They don't have any pride in their work

He loves to gossip

Her reports are in before the deadline every time

Most people think he's a great guy

He arrives late and leaves early

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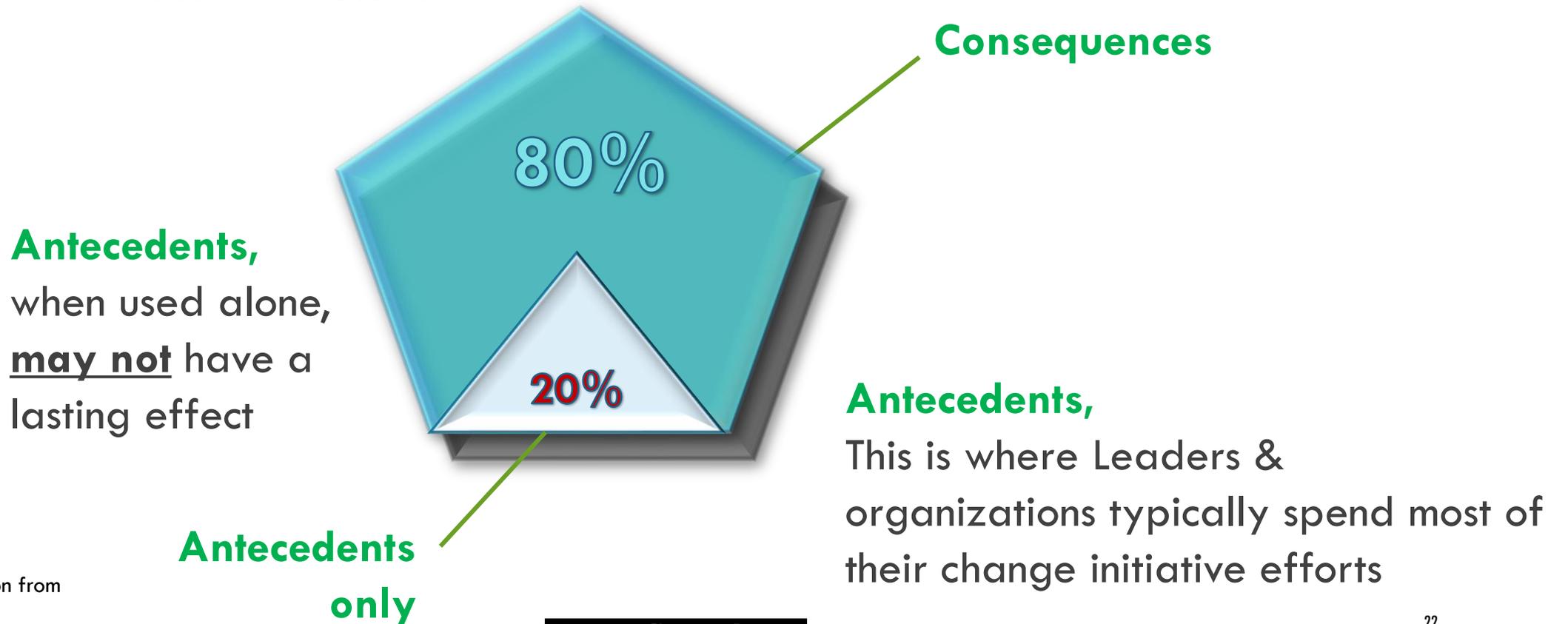
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IMPORTANCE OF CONSEQUENCES ON BEHAVIOR

Applied Behavioral Science proved that **Consequences** have a significantly greater impact on behavior change than **Antecedents** alone



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INFLUENCING BEHAVIOR BY LEVERAGING CONSEQUENCES

People need at least

3-5:1

encouraging to discouraging
consequences

**But, with larger
transformations...**

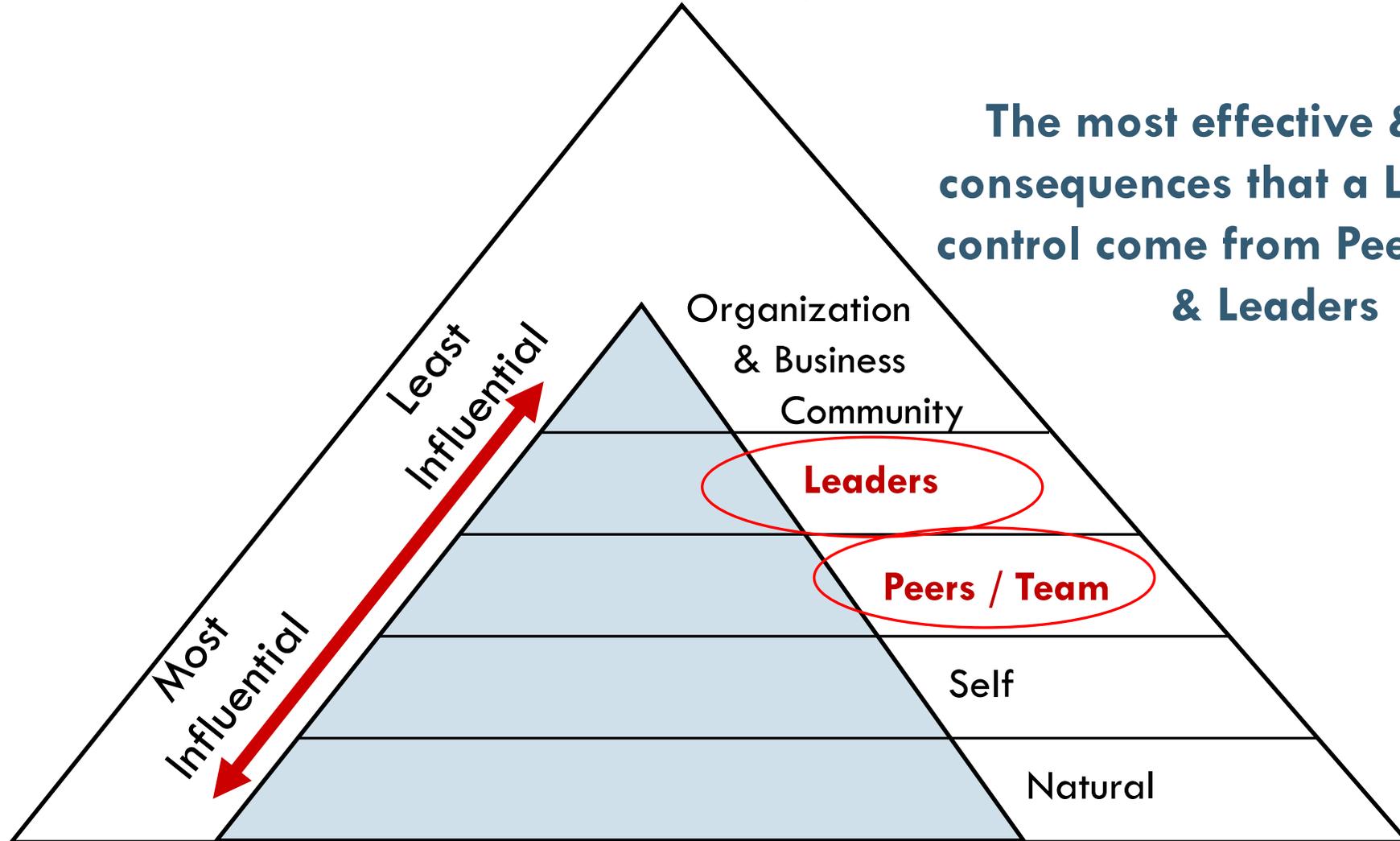
People may need

6-10:1

encouraging to discouraging
consequences

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THE IMPORTANCE OF CONSEQUENCE PROVIDERS



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WHAT MAKES A CONSEQUENCE POWERFUL?

What **Impact** does the consequence / feedback have on the performer's behavior?

- Does it increase or decrease the behavior?



How **Specific** is the consequence/feedback?

- The more specific (pinpointed), the more effective

How **Important** is the consequence to the performer?

- It is the performer who determines importance, not the Consequence Provider



How **Timely** is it when the consequence/feedback occurs?

- As soon after the behavior as possible; ideally, immediately or within 24 hours of the behavior



4-TYPES OF CONSEQUENCES & THEIR IMPACT

Behavior Increases



R+ / Positive Reinforcement

a motivating/ reinforcing consequence is *provided* to the performer after the desired behavior is exhibited, making the behavior more likely to happen in the future

R- / Negative Reinforcement

a negative consequence is *removed* after a particular behavior is exhibited, making the behavior more likely to happen in the future

Behavior Decreases

P / Punishment

a negative consequence is *provided* to the performer after an undesired behavior is exhibited, OR when a certain desired consequence is *removed* after a particular undesired behavior is exhibited, making the behavior less likely to happen in the future.

E / Extinction

an expected positive consequence is removed, making the behavior less likely to happen in the future eliminating a behavior by refusing to reinforce it

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LET'S WORK THROUGH A QUICK EXAMPLE

Possible Antecedents?

Example Behavior Observed:

Possible Consequences?

I-SIT?

Impact-Specific-
Important-Timely

??

A bank branch employee
completes all fields for the
online loan application

??

??

??

??

??

LET'S WORK THROUGH A QUICK EXAMPLE

Possible Antecedents?

- App training
- Business communication
- Sample form to use
- Manager requests use new app

Example Behavior Observed:

A bank branch employee completes all fields for the online loan application

Possible Consequences?

- App not submitted customer unhappy
- Manager reviews app & gives feedback
- App provides autocorrection
- Peer review & feedback prior to submission

I-SIT?

Impact-Specific-
Important-Timely

D-SIT

I-SIT

I-SIT

I-SIT

FOOD SAFETY CASE STUDY

A REAL-LIFE EXAMPLE...

Situation:

A global food company has found contaminated product was produced in a factory and sickened thousands of consumers. Numerous interviews and a thorough analysis were conducted and one critical behavior contributing to this problem is as follows:

“Quality Control Inspectors take bacteria samples **PRIMARILY** in areas where high bacterial loads **ARE NOT** expected to be found”

FOOD SAFETY CASE STUDY

(CURRENT STATE BEHAVIOR ASSESSMENT)

Antecedents

QC is asked to perform bacterial sampling

QC must perform samples within Regulatory req'ts

QC must follow procedure

Behavior Observed

Quality Control Inspectors take bacteria samples PRIMARILY in areas where high bacterial loads ARE NOT expected to be found

Consequences

Must provide monthly reporting to regulators

Weekly Zero +'s are celebrated

QC & site leadership is punished for finding +'s

Site is shutdown if + result is found & a lengthy audit process follows

I-SIT?

↑ I-ISI

↑ Yes-ISIT

↑ Yes-ISIT

↑ Yes-ISIT

FOOD SAFETY CASE STUDY (FUTURE STATE BEHAVIORS IDENTIFIED)

Antecedents

QC is asked to perform bacterial sampling in high-risk areas

QC must perform samples within Regulatory req'ts

QC must follow new procedure

Comm's: Risks of procedure deviations are shared with all employees

New Desired Behavior

Quality Control Inspectors take bacterial samples in ALL 'high risk' process areas

Consequences

Must provide monthly reporting to regulators

Every + finding is rewarded by site leadership (treasure hunt)

Site +'s shared with CEO daily

CEO/President provides feedback on all site + and ensures proper follow up

I-SIT?



ISI



Yes-ISIT



Yes-ISIT



Yes-ISIT

HOW IS BEHAVIORAL LEAN SIX SIGMA EXECUTED?

OUR CORE PROBLEM SOLVING METHODOLOGY



What is the problem?

What are the objectives?

Who is accountable for solving it?

What are the key behaviors?

How bad is the problem?

Where is the problem occurring in the process?

How does the process flow?

How are key behaviors being reinforced?

What are the possible process root causes?

What behaviors need to be stopped & how?

What are the critical 'new' behaviors needed

What process solutions do we have?

How can we implement them?

How can establish and reinforce the 'new' behaviors?

Did these changes work?

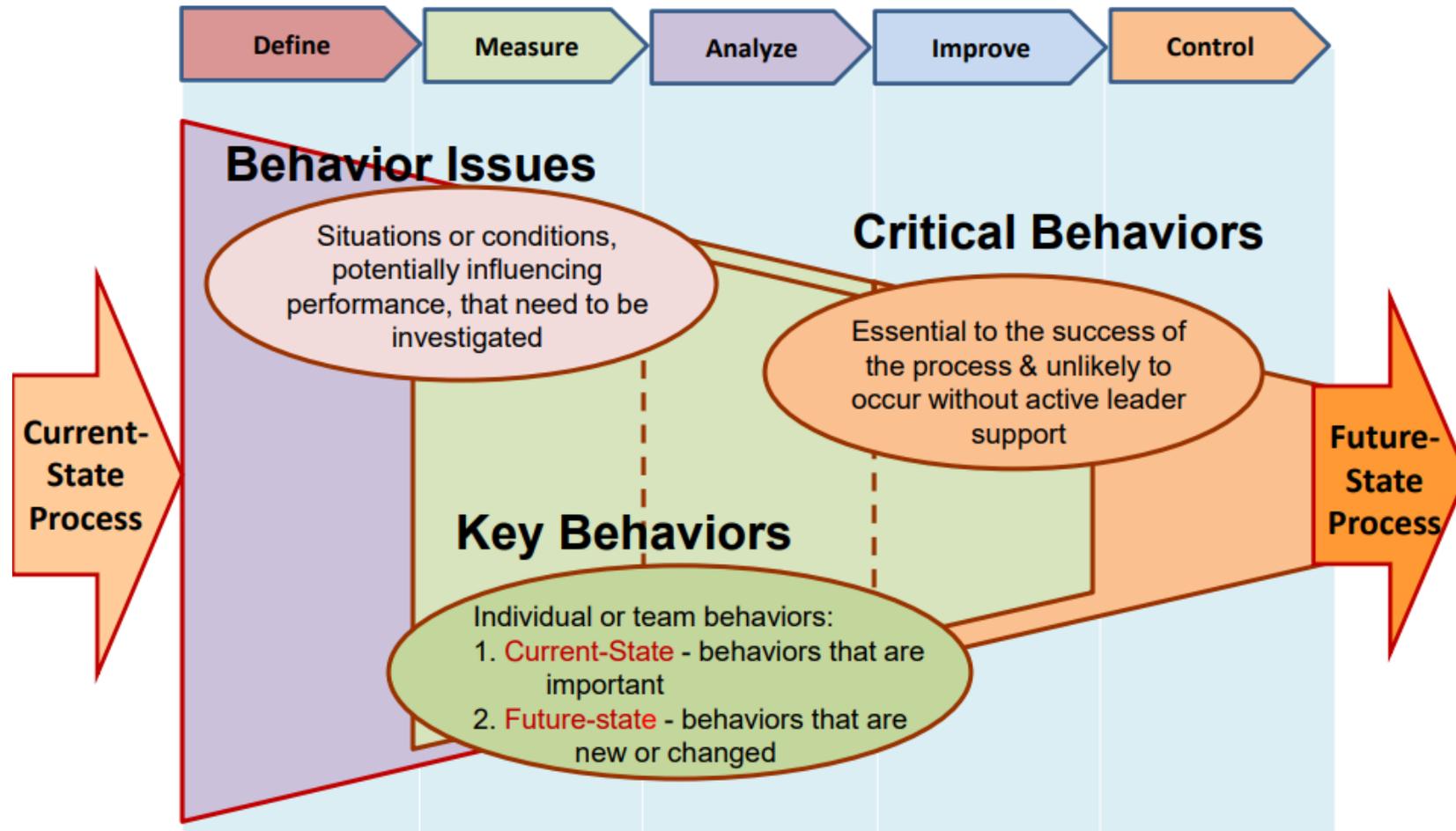
What process & behavioral components are needed to sustain the gain?

What do we need to track?

What can we learn from this?

BEHAVIOR MANAGEMENT & DMAIC

- Behaviors are observed, managed and improved throughout the entire project
- Each phase of DMAIC has specific tools & deliverables from a behavioral aspect to ensure success



COMBINING TOOLS & CONCEPTS



Project chartering

Data gathering/
baselining

Root cause analysis
(Fishbone)

Kanban

SPC

Behavior impacts

Current-state Behavioral
Process Map

FMEA

5S

Leader-led
Control plan

Behavioral SIPOC

Key leader engagement plan

Behavioral disconnects

One-Piece Flow

Leader sustainability plan

A3

Process capability

ABC Behavior Analysis

SMED

Future-state Behavioral
Process Maps

8 Wastes

Regression & stat tools

Leader coaching plans

Tools:
Lean 6 Sigma
Behavioral

DEVELOPING YOUR BEHAVIORAL LEAN SIX SIGMA CAPABILITY

Training, Coaching, and Certification is provided for:

Process Improvement Professionals

Project Managers

IT Project Managers and Business Analysts

Change Management / Organization Design Professionals

Functional specialists (Operations Mgmt, Quality Management, etc.)

Yellowbelt, Greenbelt and Blackbelt training courses are offered (both in-person and online) as required. Certification is provided by Kurm Consulting Inc. on behalf of the Council for Six Sigma Certification (C.S.S.C.)



BEHAVIORAL LEAN SIX SIGMA PROFICIENCY



Advanced Training
Certified Blackbelt



All Yellowbelt & Greenbelt concepts plus the ABC's of Behavioral Science & Analysis to pinpoint key behaviors and determine how to influence them for project success. Advanced sampling techniques, power of test, sample size & detailed analytics. Measurement systems analysis (Gage R&R), Design of Experiment, advanced hypothesis testing & modeling techniques. **36+ hours live training & coaching**

Basic Training
Certified Greenbelt



Advanced Lean concepts, project management basics, intro to change management tools & behavioral science techniques for driving change. Detailed process mapping, intro to statistical tools, process capability & Z Score. Control charts & Statistical Process Control concepts. **16+ hours live training & coaching**

Entry Level
Certified Yellowbelt



Problem statements, chartering, process mapping, data gathering & 8 wastes. Root cause analysis tools, controlling your process & mistake proofing. **9+ hours live training & coaching**

[Click to Learn More](#)



THANK YOU!!

TIME FOR Q&A



Kurm Consulting

Process Improvement Training & Coaching Services

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