



# *Operational Excellence in the Era of Digital Transformation*

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- Lean Six Sigma Master Black Belt
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- Over 5 years of teaching and research experience.

## Operational Excellence

- The Integrated System
- The Impact of Technology

## Digital Transformation

- Digital Transformation to AI Transformation

## A Proposed Roadmap

## Conclusions



# What is Operational Excellence?

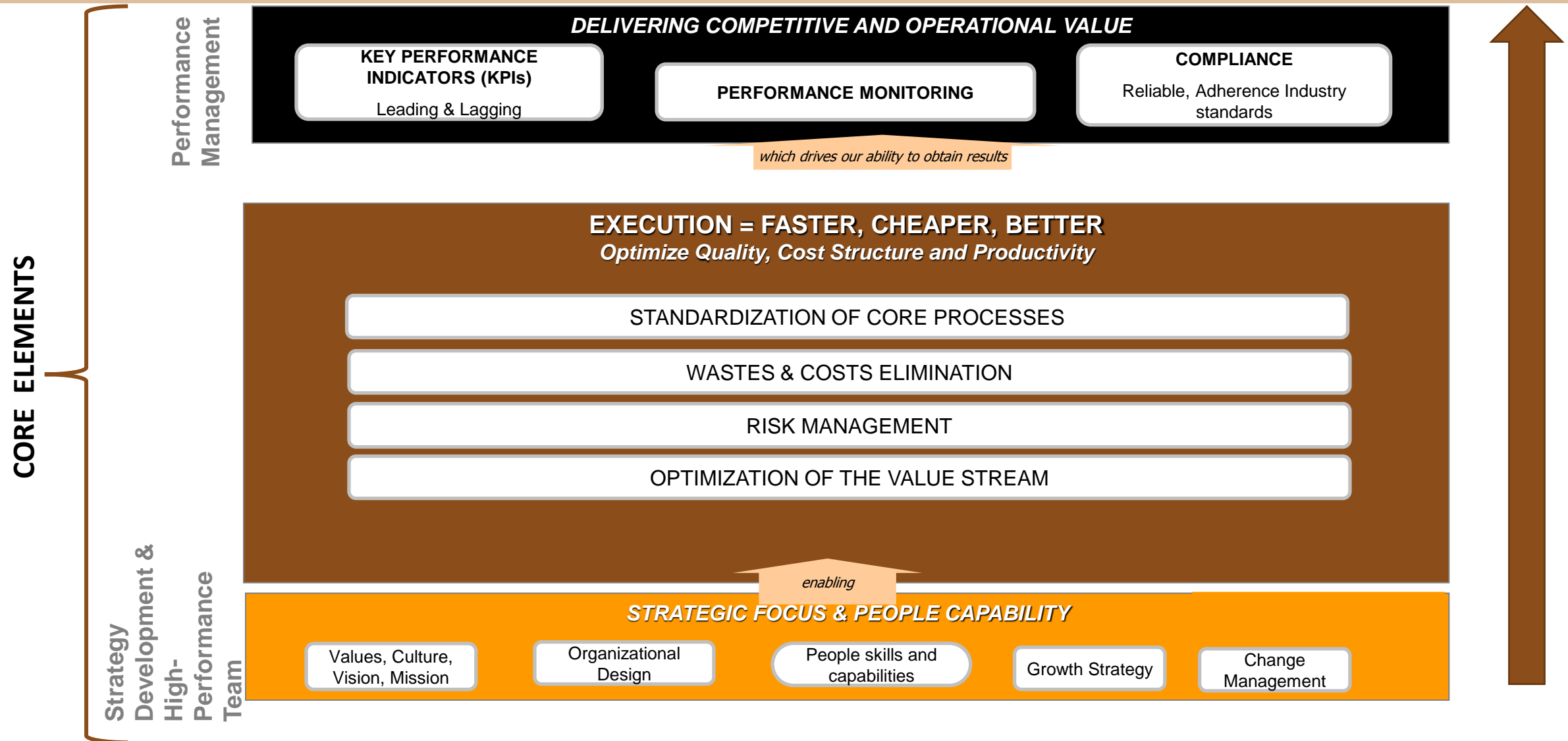


- The design and performance of integrated systems and processes that create superior strategic, competitive and operational value through efficiency, speed, flexibility and cross purpose adaptability.
  - Operational Excellence is central to creating and sustain strategic advantage
  - High performance organizations exhibit operational excellence
  - Operational Excellence is a state in which organization exist, it is a continuous optimization process
  - Operational Excellence is NOT a project with a beginning and an end

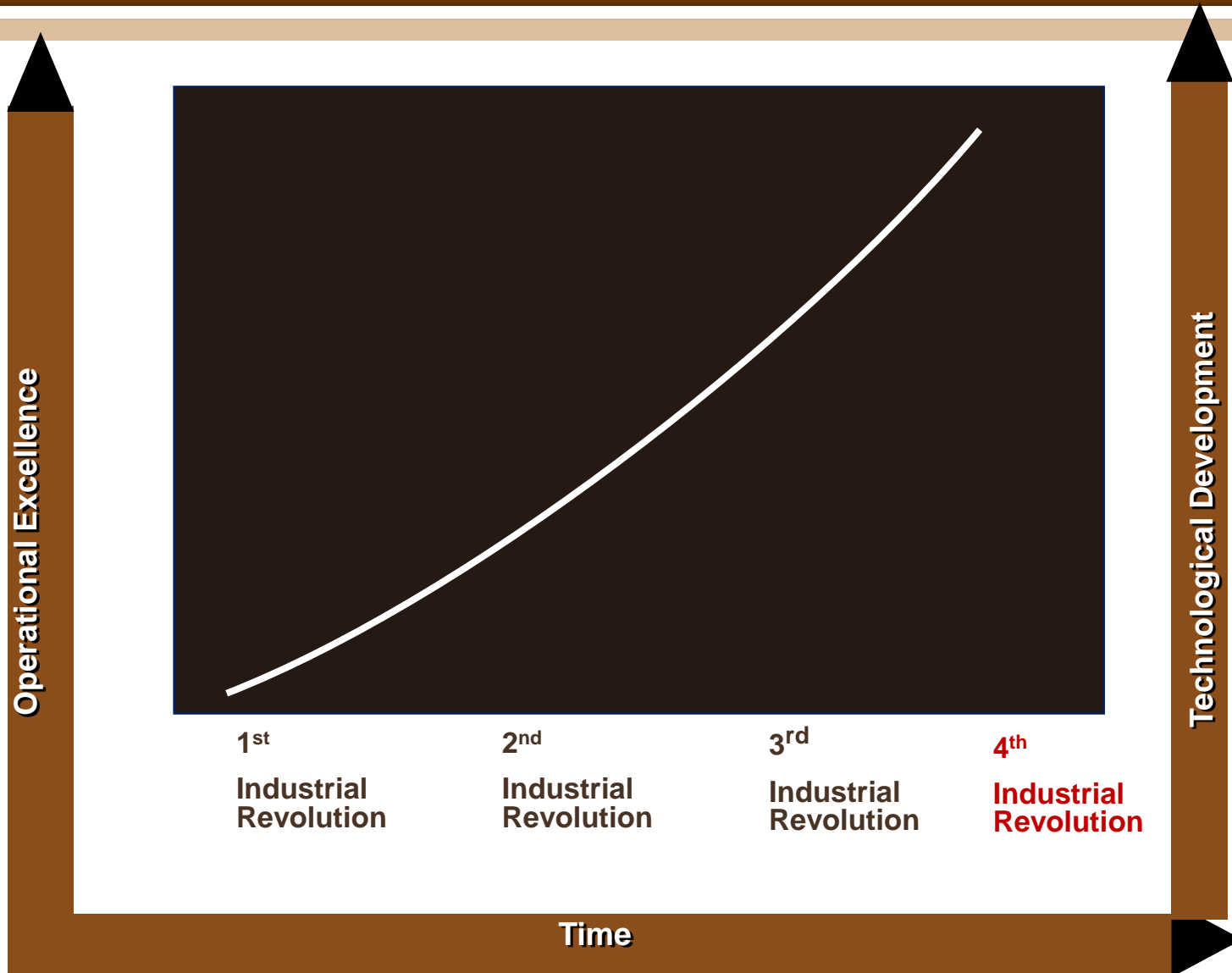


Source: Operational Excellence, Mitchell, John S.

# Integrated System

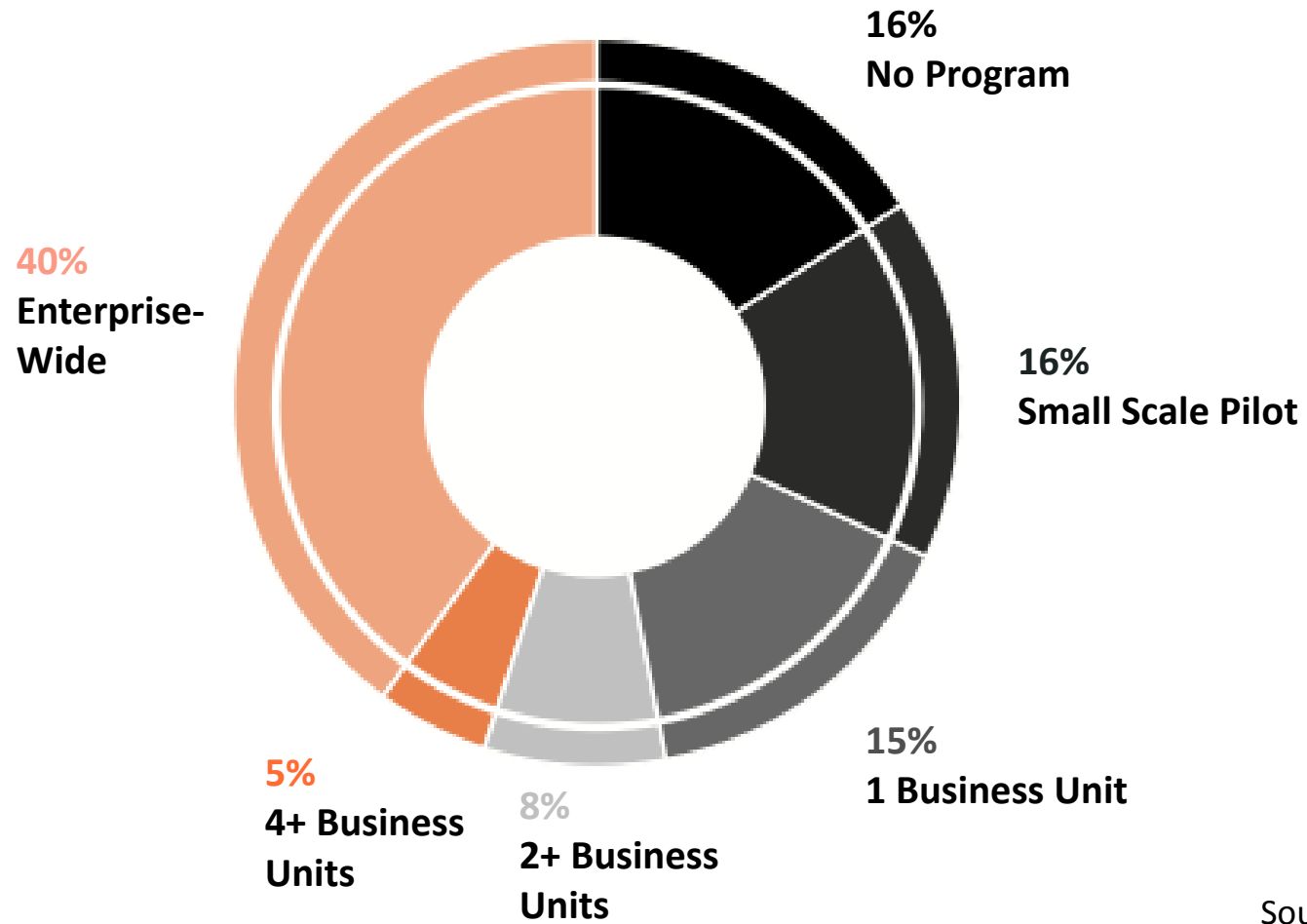


# Advancement in Operational Excellence



From the application of water & steam to mechanize production to the digital revolution.

# Current Scope of Operational Excellence Programs

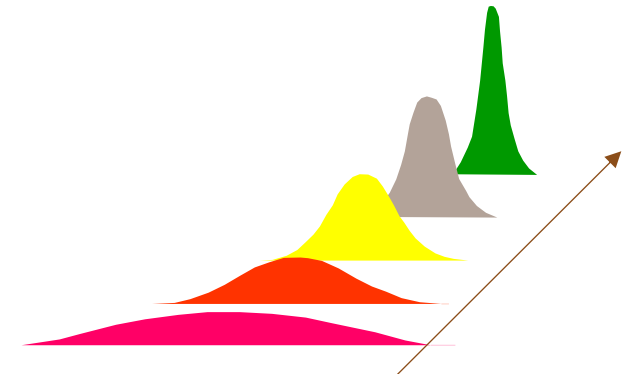
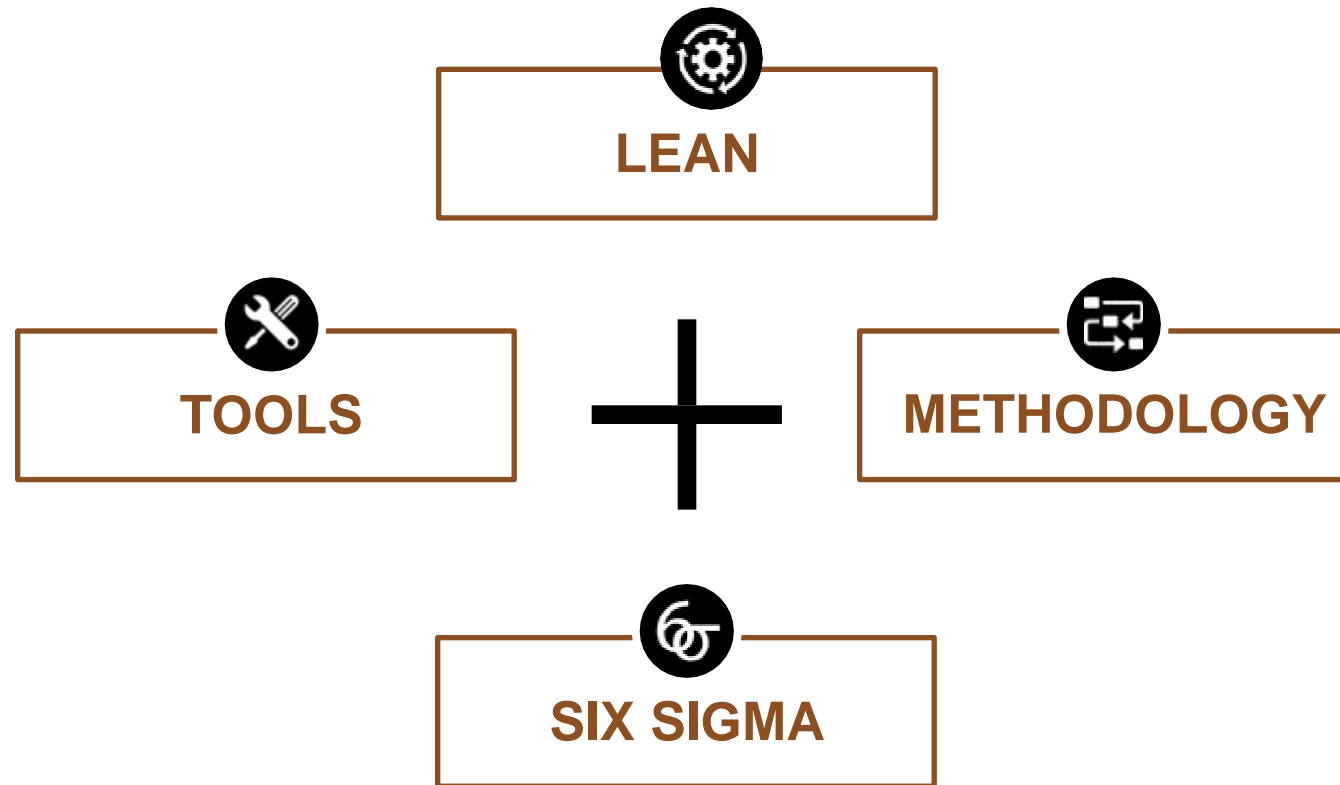


Source: 2020 - BTOES Insights - The Global State of Operational Excellence Research Report - FD-1

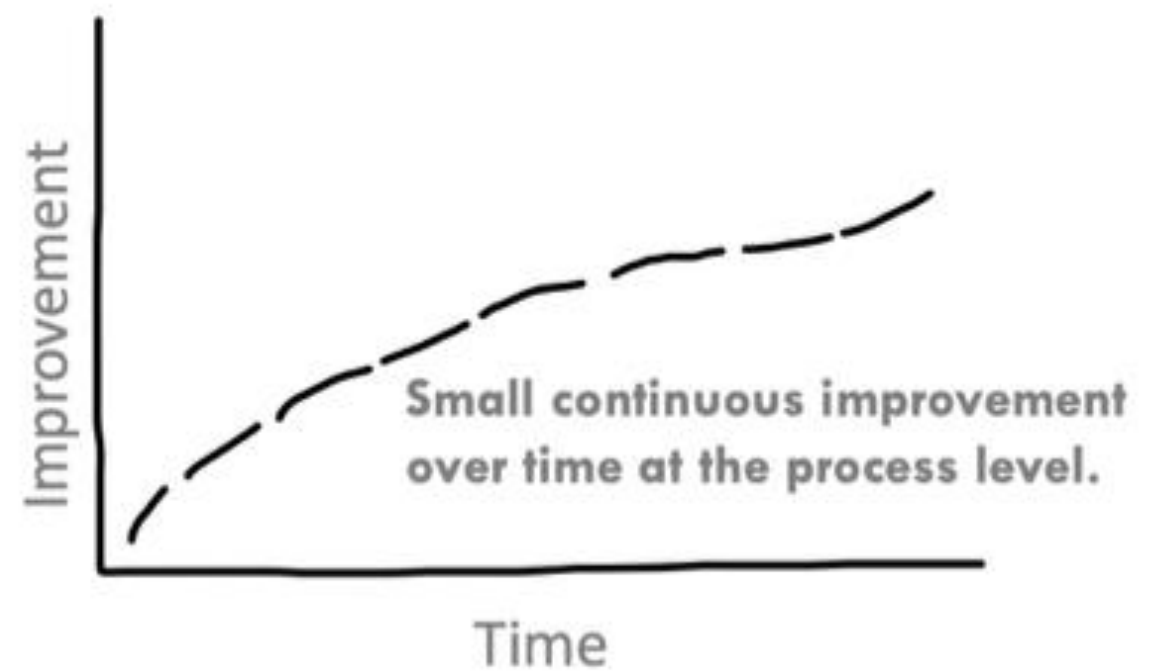


# An Approach to Process Excellence

## A Continuous Improvement Methodology



# Impact of Incremental Continuous Improvement



Source: OPEX in times of digital disruption, ASQ Lean Six Sigma conference 2019

# Impact of Technology



Source: OPEX in times of digital disruption, ASQ Lean Six Sigma conference 2019

# Combined Impact of Continuous Improvement and Technology



Source: OPEX in times of digital disruption, ASQ Lean Six Sigma conference 2019

“The rate at which organizations learn may soon become the only sustainable source of competitive advantage.”

Peter Senge



The integration of digital technology and competencies brings about organizational, cultural and operational change.



# Digital Transformation



## People

- Customer relationship
- Work augmentation
- Remote working
- Team collaboration ( broader, faster communication)
- People competencies & skills



## Performance Management

- Data-driven decision making
- Increased transparency



## Process Excellence

- Standardization
  - Automation
  - Efficiency



## Strategy

- Technology enabled
- Digitally modified business models
- Digital globalization

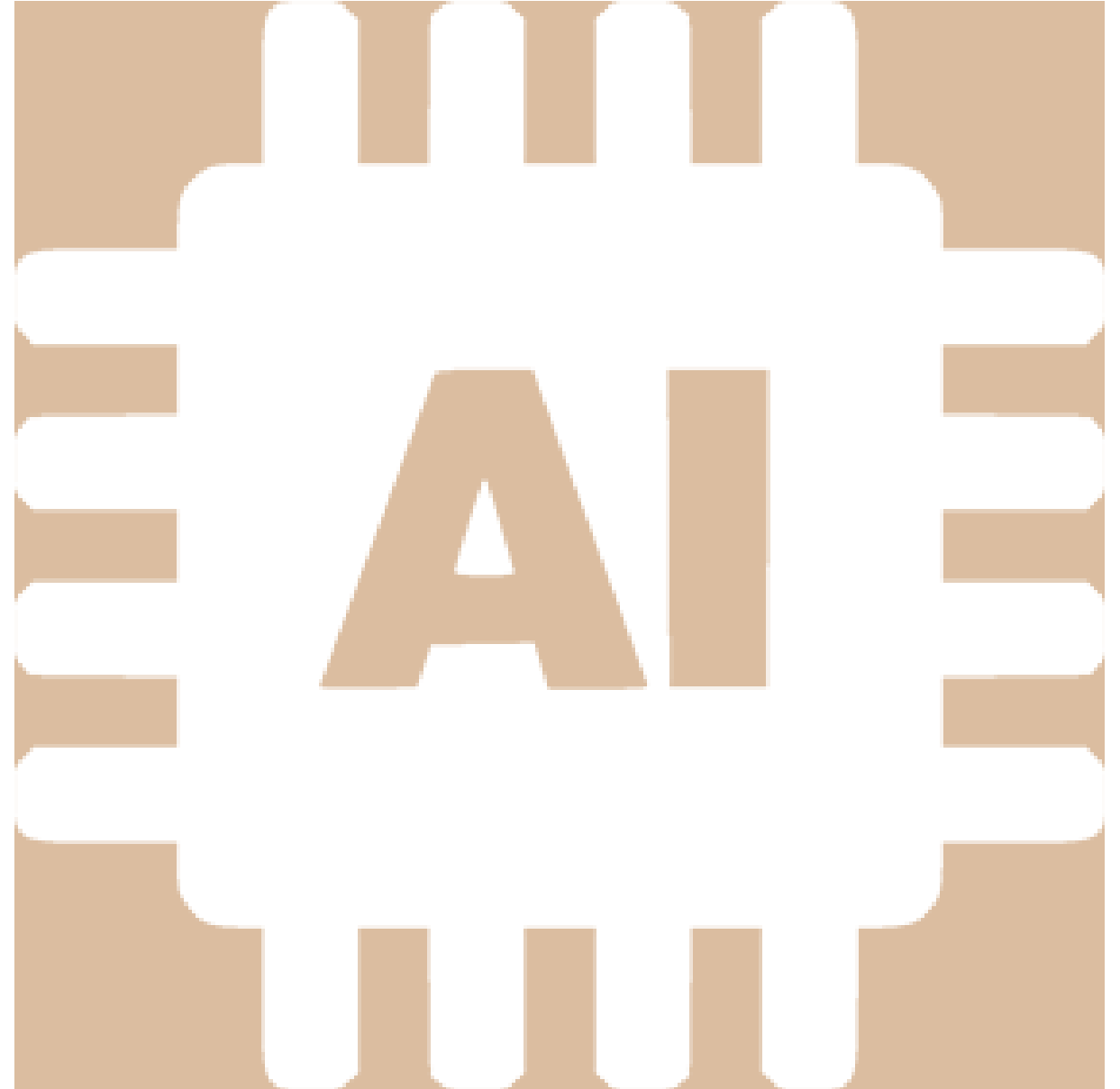
## Digital transformation is an essential first step towards innovation enable by artificial intelligence (AI)

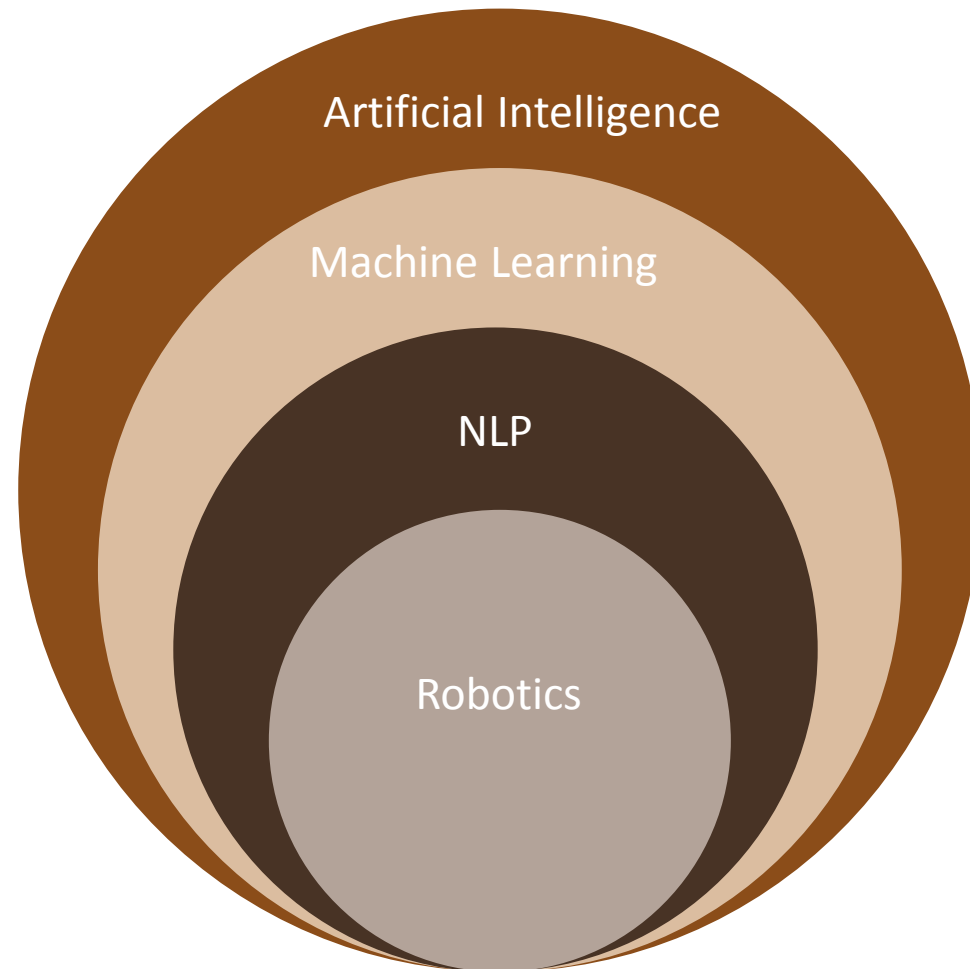




**“The** theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.”

-Oxford Languages





“The key element in any application of process improvement, be it Lean Six Sigma or Artificial Intelligence, is gaining not only the approval, but also the engagement of top and middle management.”

- Michael L. George

# Top 5 Operational Excellence-Focused Challenges

1. Changing & improving the company culture
2. Execution & sustaining operational excellence projects
3. Need for end-to-end business transformation
4. Keeping up with new technologies
5. Lack of/need for leadership



# Three generic strategies:

1

Cost Leadership

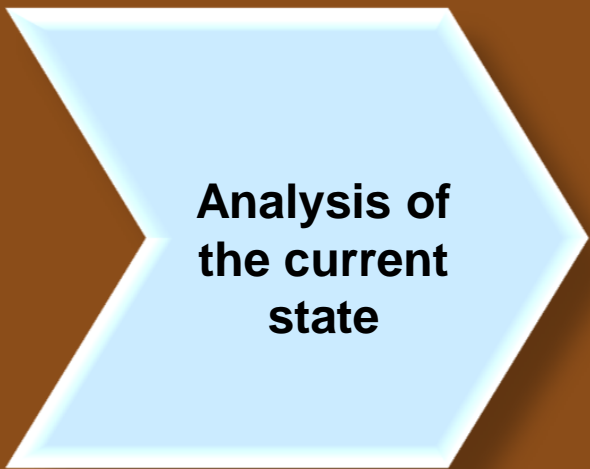
2

Differentiation

3

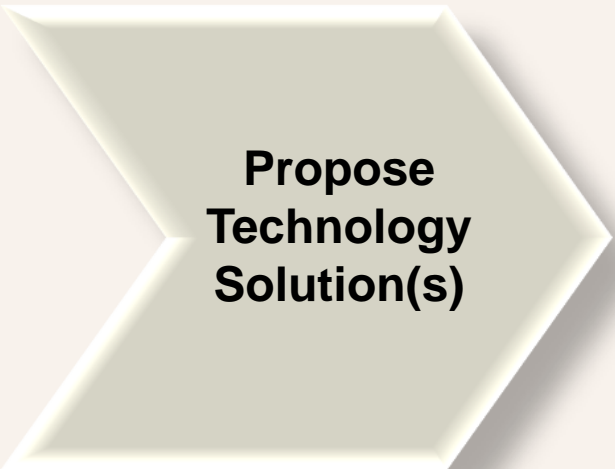
Focus

# A Proposed Roadmap



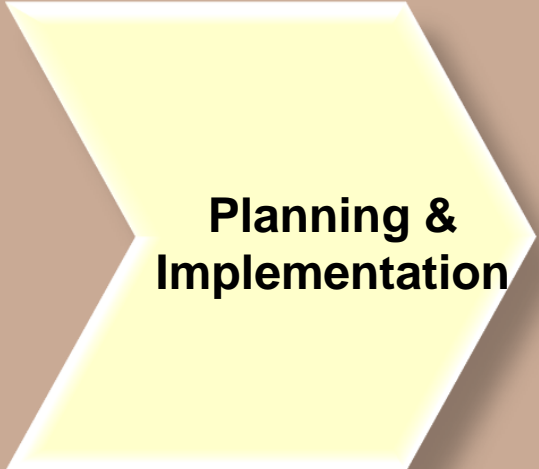
## Analysis of the current state

- Competitive strategy
- Current use of technology
- **Core business processes**



## Propose Technology Solution(s)

- Technical requirements
- Leadership requirements
- Management requirements
- **Customer benefits**



## Planning & Implementation

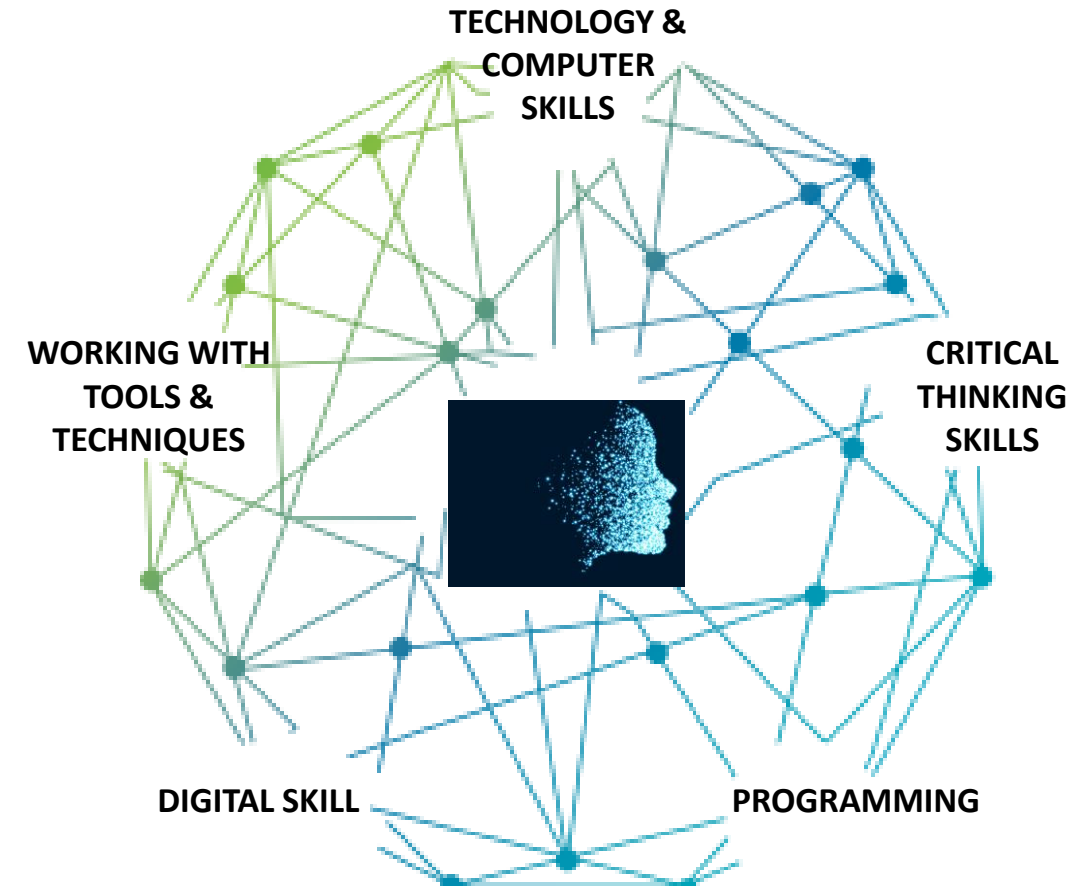
- Organizational change management
- Jobs & skills implications
- Ethical concerns



Considerations

## Skills Needed to Be Successful in the Fourth Industrial Revolution

- “A recent World Economic Forum study found human skills such as **critical thinking, creativity and originality, attention to detail, problem-solving, and people management** are expected to see an outsized increase in demand relative to their current prominence.”
- - *2018 Deloitte skills gap and future of work in manufacturing study*



Source: Deloitte analysis.

“The key challenge facing Operational Excellence programs remains squarely around changing & improving company culture, with over 53.1% citing it as their top critical challenge.”

- Source: 2020 - BTOES Insights - The Global State of Operational Excellence Research Report - FD-1



1. A holistic approach to operational excellence is required in order to realize the full benefits of the emerging technologies
2. A holistic approach to technology integration must be followed in order to realize sustainable benefits
3. Understanding of core business processes , through mapping and analysis, is foundational to digital transformation
4. Organizations must invest in raising the digital IQ of their employees, continuous learning and technology

**“Over the next decade, technology won’t replace managers, but managers who use technology will replace those who don’t. “**

**-P. Pennington**



# Questions?



**THANK YOU**  
FOR YOUR TIME

