

Six Sigma and the Value-Add Management Accountant

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The Association of
Accountants and
Financial Professionals
in Business

IMA website: www.imanet.org

Six Sigma Experience - Polling Question #1

How familiar are you with Six Sigma?

- A. Not at all.
- B. I have heard about Six Sigma.
- C. I have used Six Sigma in one project or have been on a Six Sigma team.
- D. I am an expert in Six Sigma and have led many projects.

AGENDA

- Define Six Sigma
- Six Sigma Inspection Exercise
- Six Sigma Management System & Success at Cummins
- Six Sigma Process Improvement & (Re)Design
- IRS Interest Assessment Calculation Project Example
- Six Sigma and the Value-Add Management Accountant
- LTRC IMA Long-Term Strategy Work Using Six Sigma

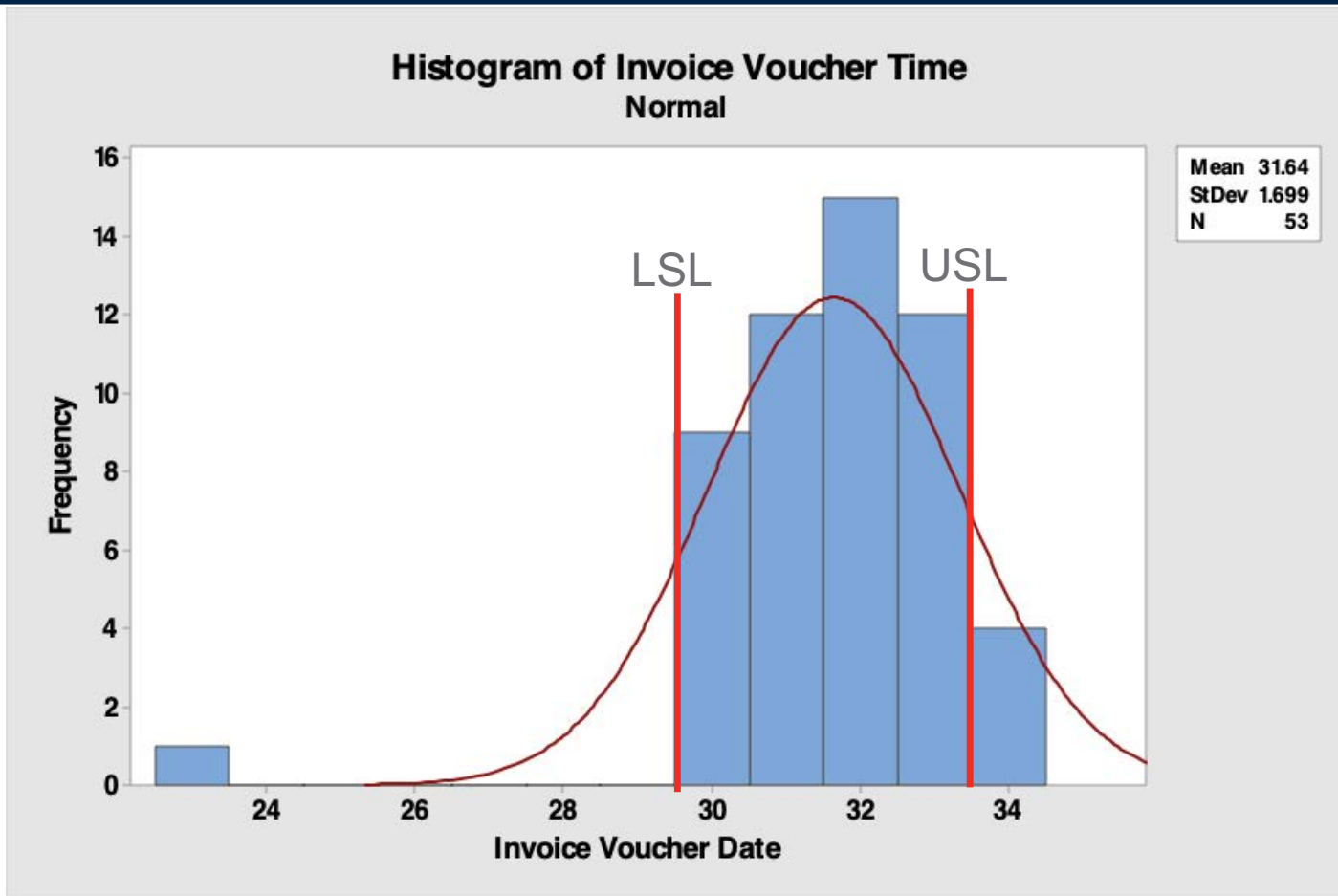
Six Sigma Defined

What is Six Sigma?



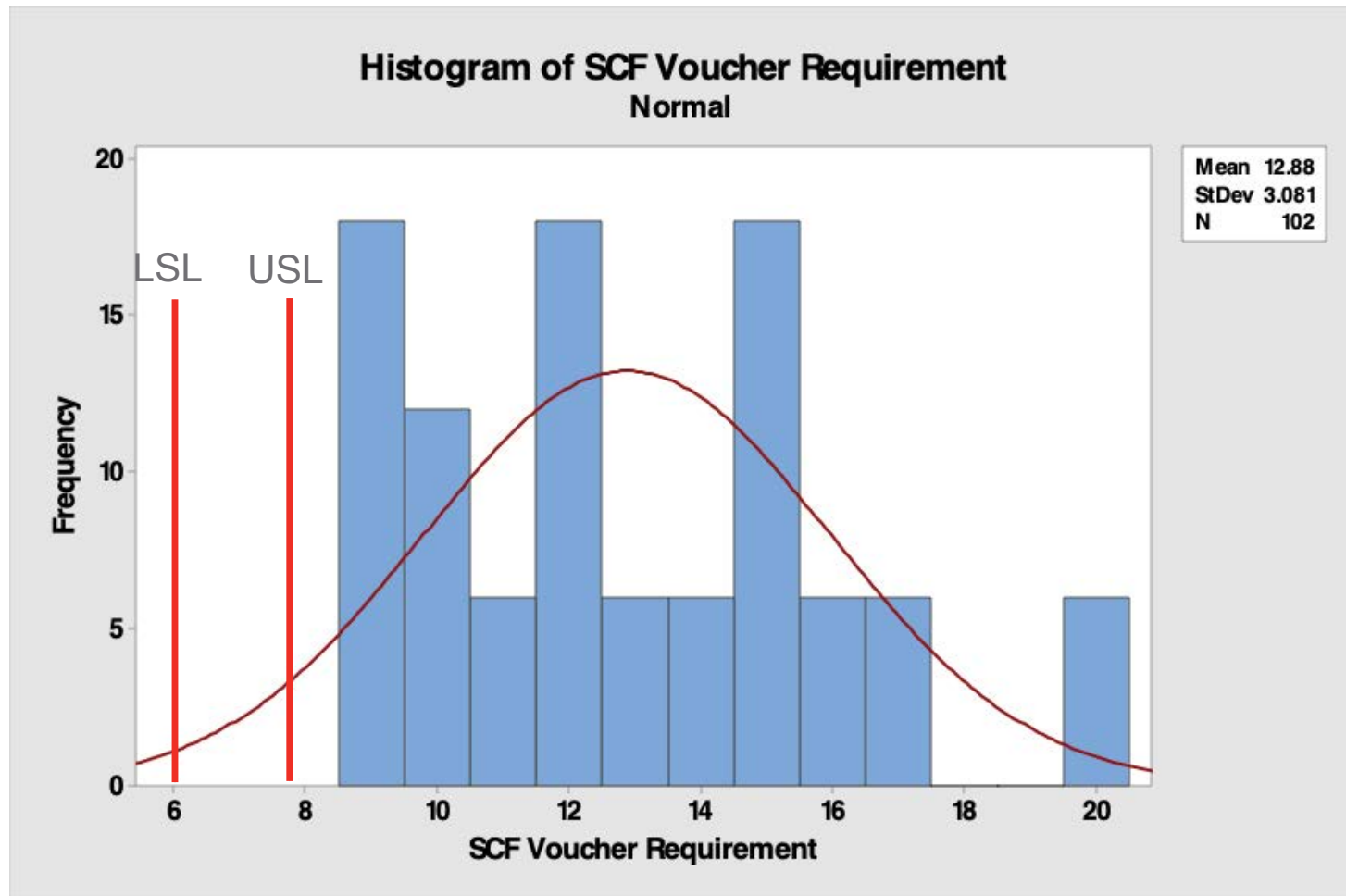
Six Sigma is a disciplined, **data driven** approach and methodology for **eliminating defects** by reducing variation and eliminating waste in any process.

Variation vs Target (Original Specification)



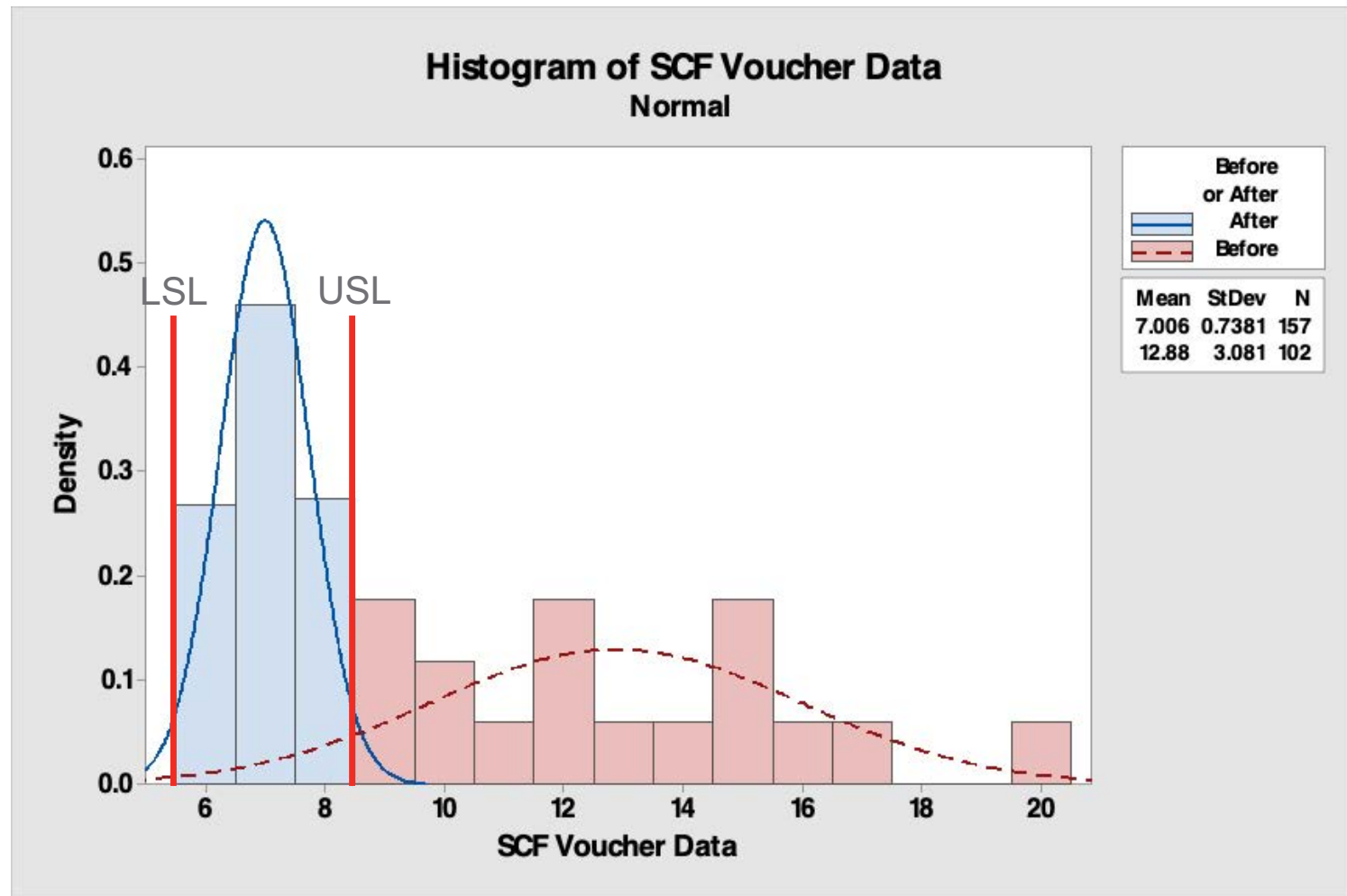
LSL = Lower Specification Limit
USL = Upper Specification Limit

Variation vs Target (Customer Expectation)



LSL = Lower Specification Limit
USL = Upper Specification Limit

Variation vs Target (Improved Process)



LSL = Lower Specification Limit
USL = Upper Specification Limit

Deming's Philosophy On Processes

“85% of the reasons for failure to meet customer requirements are related to deficiencies in systems and processes...rather than the employee. The role of management is to **change the process** rather than badgering individuals to do better.”

- W. Edwards Deming

Six Sigma Focuses On Change

What is Six Sigma?

Simple:

- Eliminate variation and defects

- Eliminate the opportunity for variation and defects

- Eliminate non-value added activities

Complex:

- Vision

- Metric (Standard of measurement)

- Benchmark

- Philosophy

- Method

- Tool for: **Customer Focus, Breakthrough/Continuous Improvement, People Involvement**

- Aggressive Goals

Practical Meaning

99% Good (4S)

99.99966% Good (6S)

Postal System

20,000 lost articles of mail/hour

7 lost articles/hour

Airline System

2 short/long landings/day

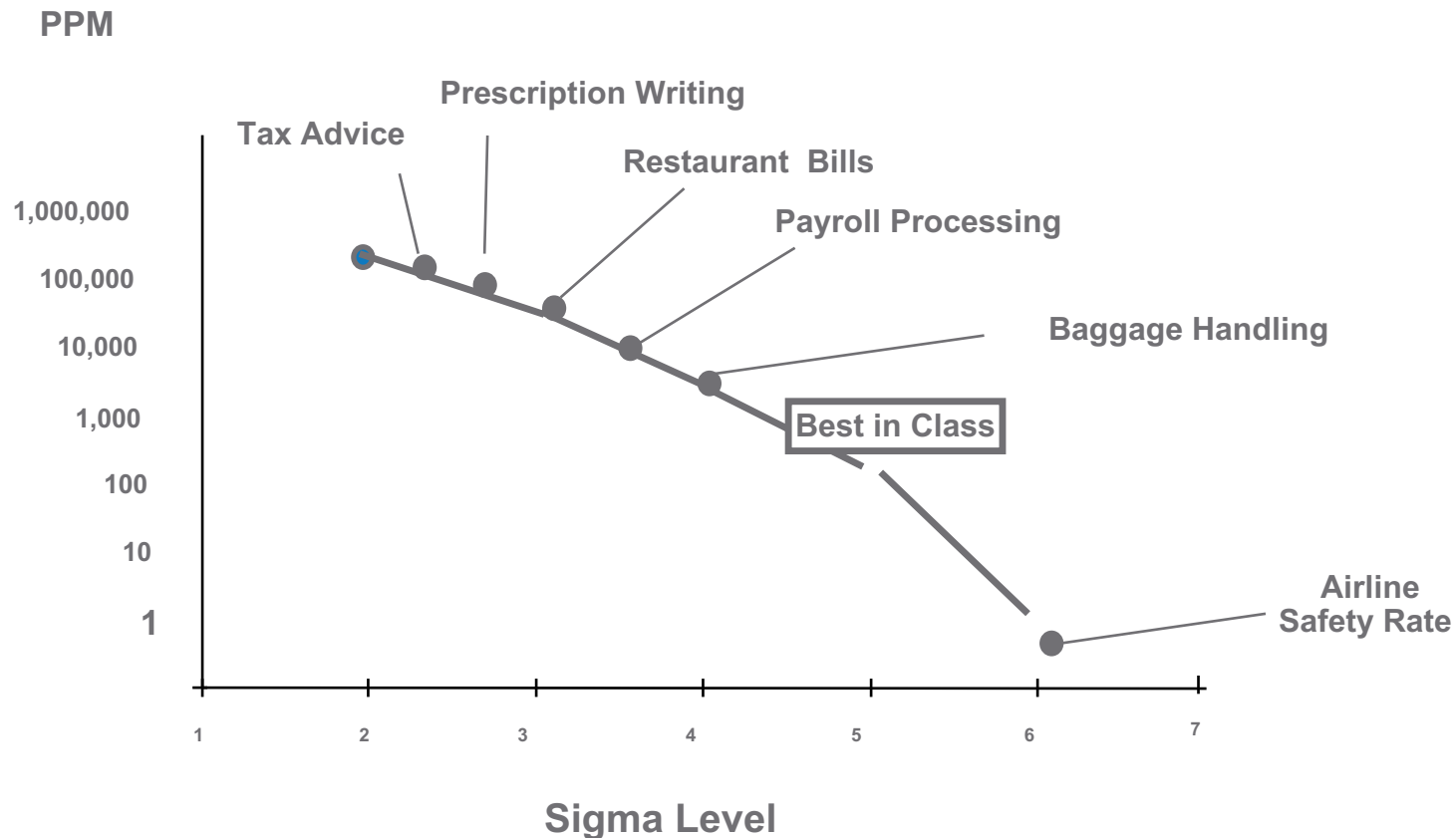
1 short/long landing/5 years

Medical Profession

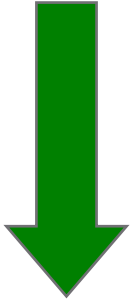
200,000 wrong drug prescriptions/year

68 wrong drug prescriptions/year

What Does 6 Sigma Mean In Your Daily Life?



Six Sigma Changes the Decision-Making Processes

Decision-Making Growth Path	Types of Problems You Will Normally Solve
<ol style="list-style-type: none">1. Intuition, gut feel, I think ...2. We have Raw Data and look at it.3. We make graphs/charts of the data.4. We use advanced statistical tools to evaluate the data.	<p>Simple</p>  <p>Complex</p>

How many times have you heard this?
“I think the problem is...”

Six Sigma Inspection Exercise

The Inspection Exercise – Polling Question #2

Count the number of times the 6th letter of the alphabet appears in the following text:

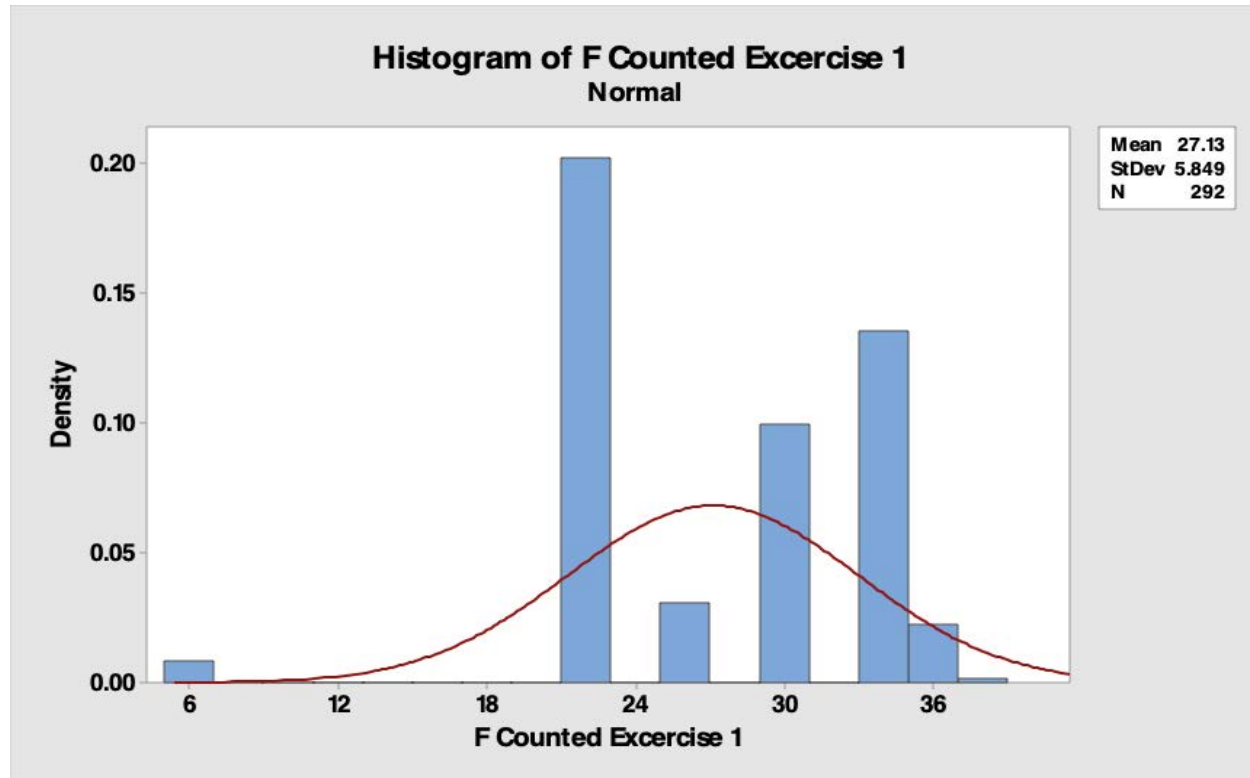
The necessity of training farm hands for the first class farms in the fatherly handling of farm live stock is foremost in the eyes of the farm owners. Since the forefathers of the farm owners trained the farm hands for first class farms in the fatherly handling of farm live stock, the farm owners felt they should carry on with the family tradition of training farm hands of the first class farmers in the fatherly handling of farm live stock because they believe it is the basis of good fundamental farm management.

Polling Question #2

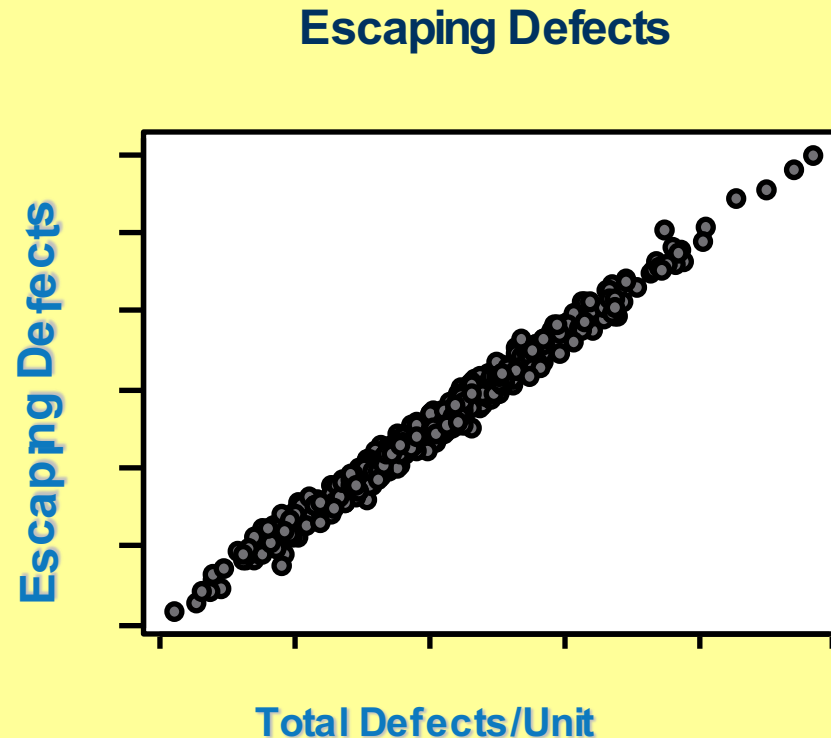
What is the number of times the 6th letter of the alphabet appears in this first inspection exercise?

- A. 6
- B. 12
- C. 18
- D. 24
- E. 30
- F. 36
- G. 38

Example of Inspection Exercise 1



Reality of Escaping Defects



No matter how good your inspection and test processes are, the more defects you create, the more defects escape to the customer.

The Inspection Exercise – Polling Question 3

Now count the number of times the 6th letter of the alphabet appears in the following text:

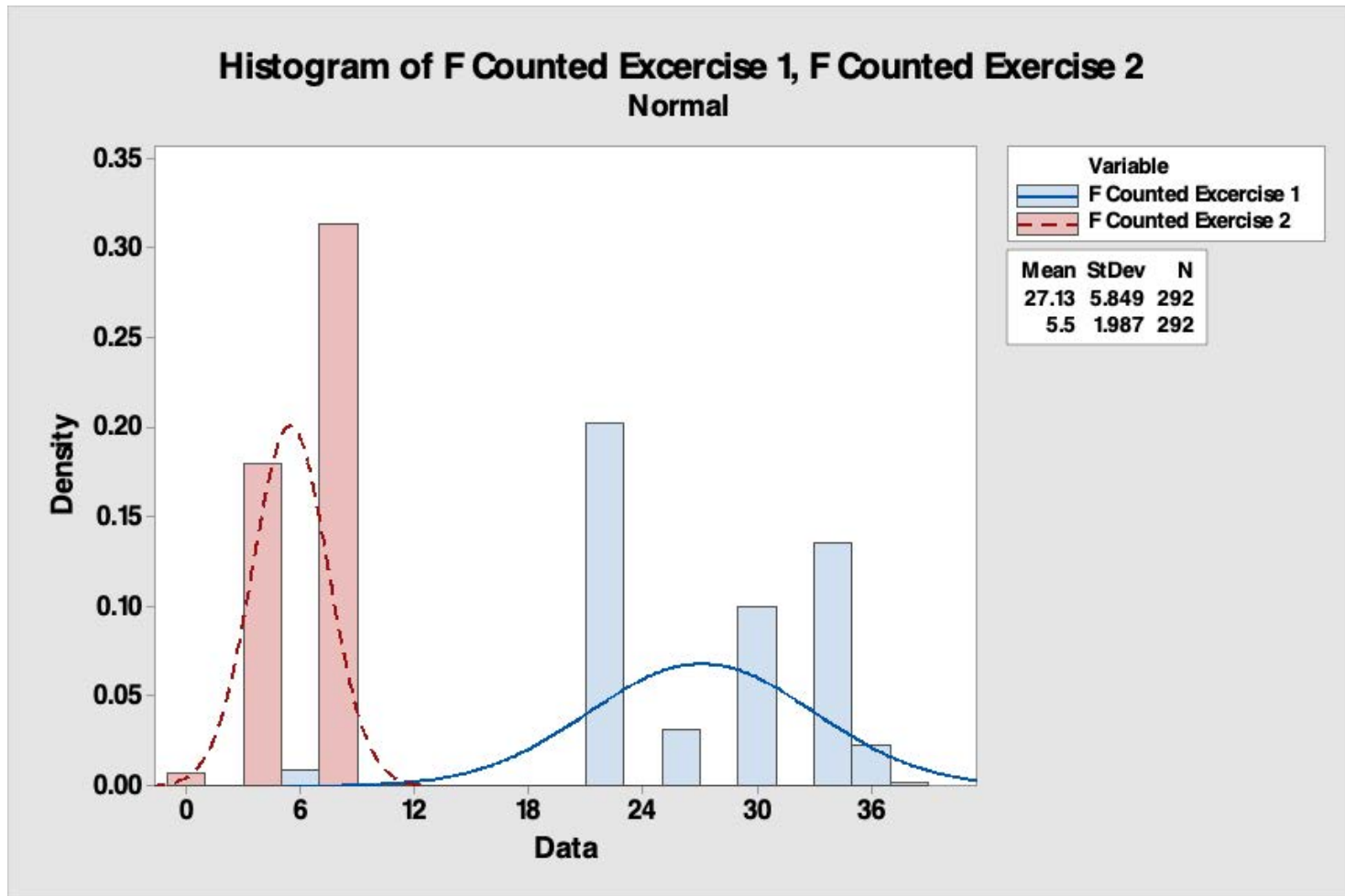
The necessity in training hired hands in the strange handling of valuable live stock in premier operations is a priority in the eyes of the operations owners. Since the ancestors of the owners trained the hired hands in premier operations in the strange handling of valuable live stock, the operations owners thought they should carry on with the happy tradition of training hired hands in the premier operations in the strange handling of valuable live stock because they believe it is the basis of good basic operations management.

Polling Question #3

How many times does the letter “F” appear in inspection exercise 2?

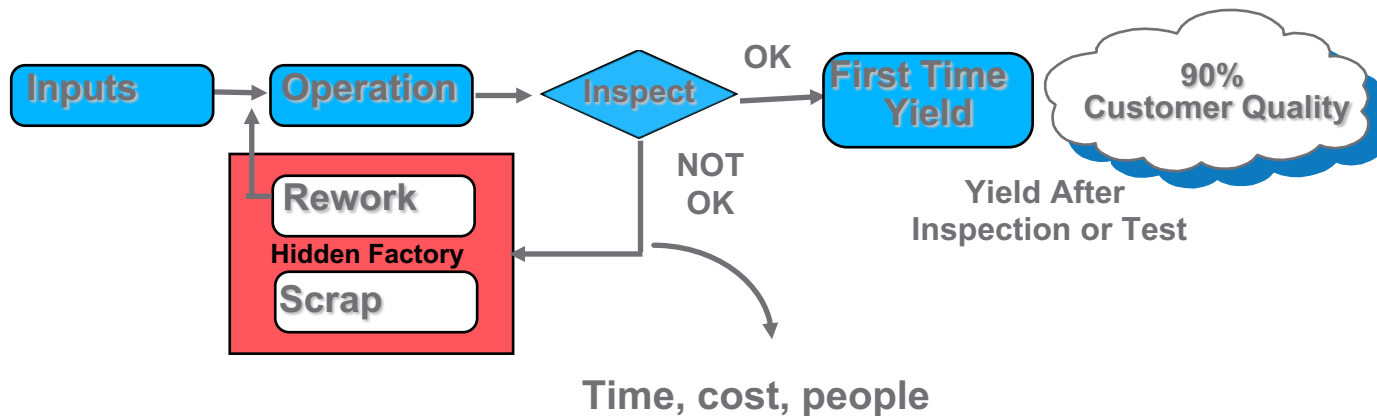
- A. 1
- B. 2
- C. 3
- D. 4
- E. 5
- F. 6
- G. 7
- H. 8
- I. 9
- J. 10

Example Comparison of Exercise 1 & 2



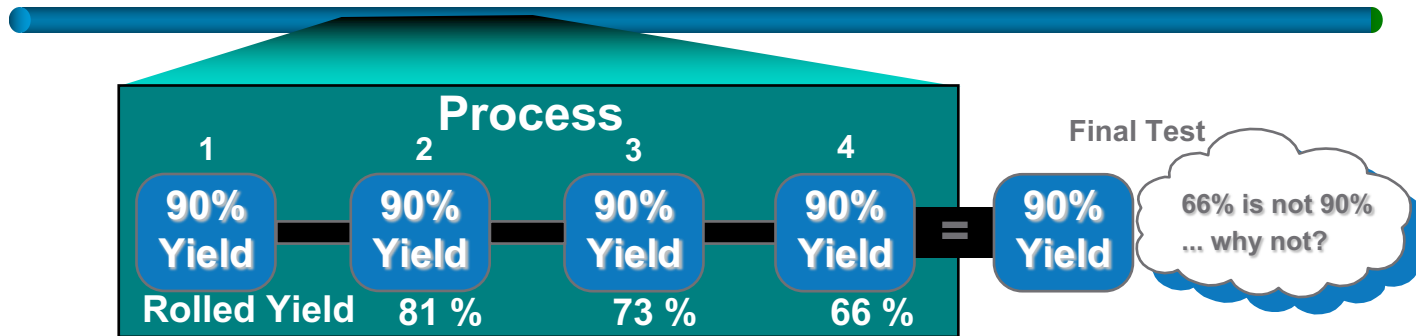
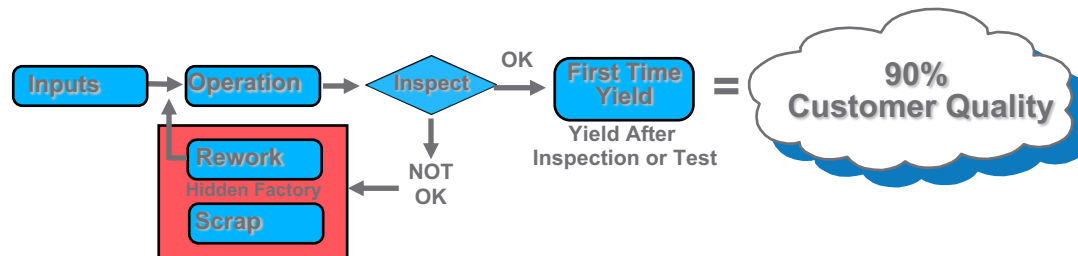
Defects and the Hidden Factory

Each defect must be detected, repaired and placed back in the process. Each defect costs time and money.



Manufacturing Variation Causes A "Hidden Factory"
Increased Cost - Lost Capacity

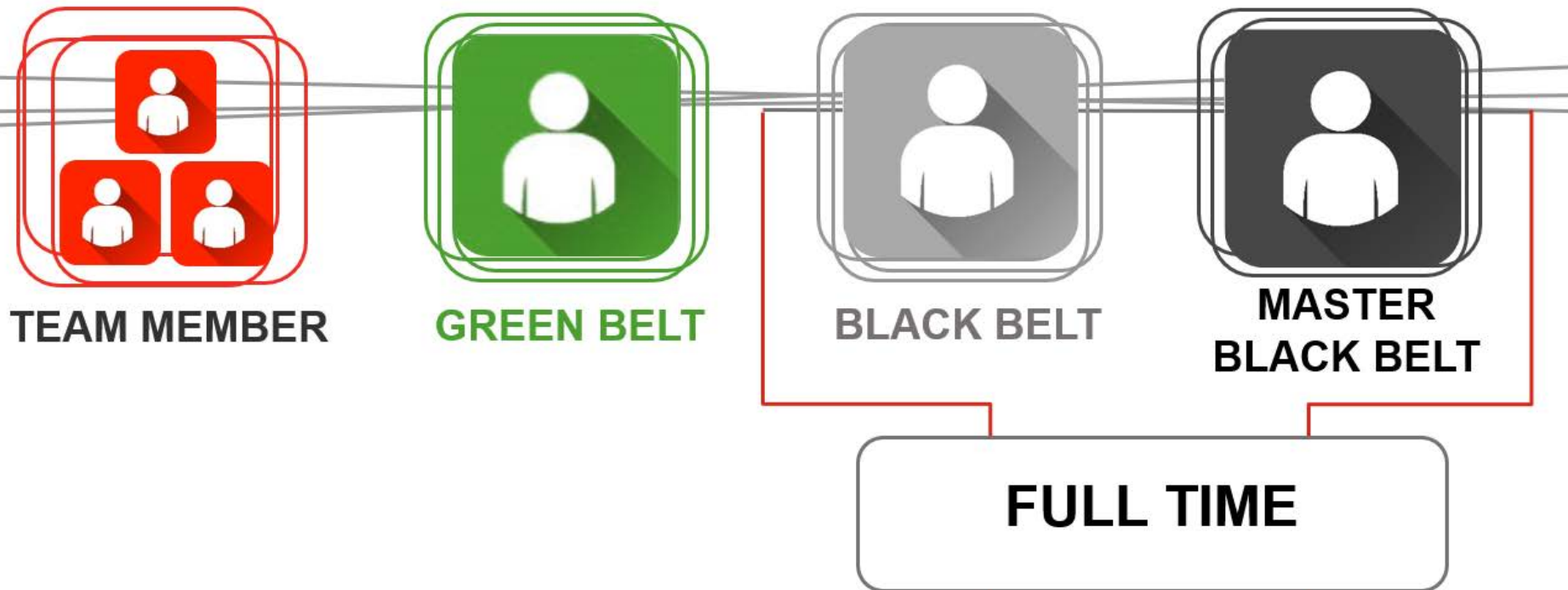
Rolled Yield Versus First Time Yield



Using Final Test First Time Yield ignores the hidden factory. Final test performance is a function of inspection/test or prevention.

Six Sigma Management System & Success at Cummins Inc.

Developing Great People



Projects Impacting All Business Areas





**\$13
BILLION**

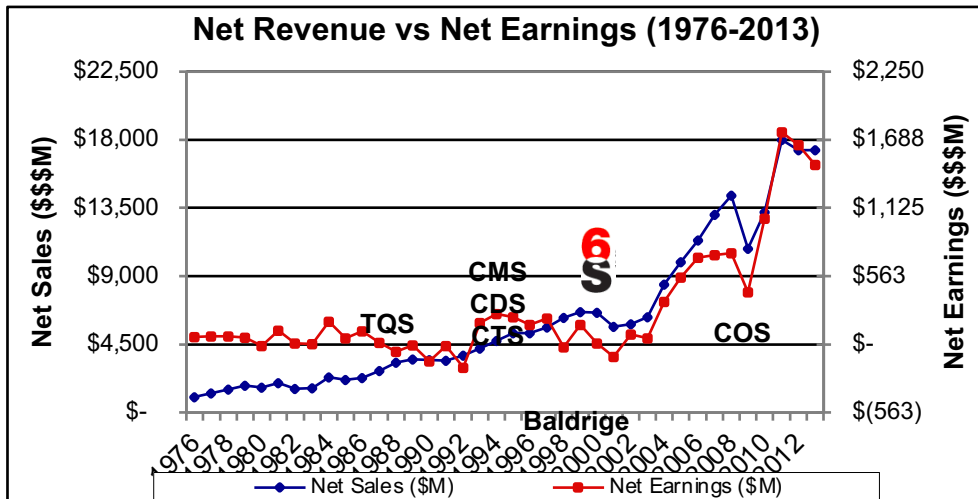
Our Six Sigma program has brought a total savings value of **\$13 billion to Cummins.**

“Cummins is recognized as a continuous improvement company because of Six Sigma. Six Sigma has been and will continue to be the primary tool we use to problem solve.”

- Rich Freeland, President of Cummins



Cummins 6S Journey

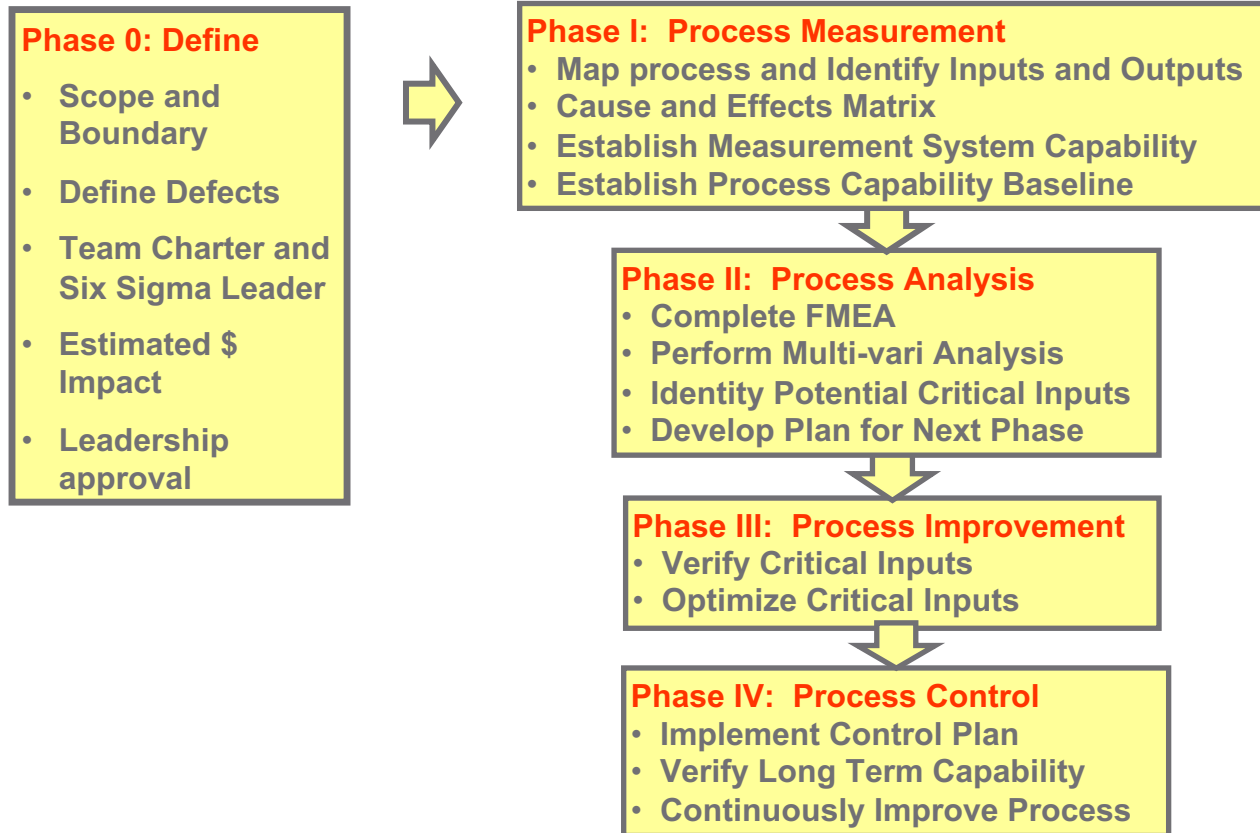


Six Sigma has been an enabler to our financial performance

- **1999**
6S introduced, sponsored by new CEO
- **2005**
Expansion of certification, worldwide team
- **2010**
Focus on building capability, expanding to all functions
- **2015 – 2019**
Six Sigma Evolution to improve efficiency and effectiveness, focus on most critical business issues

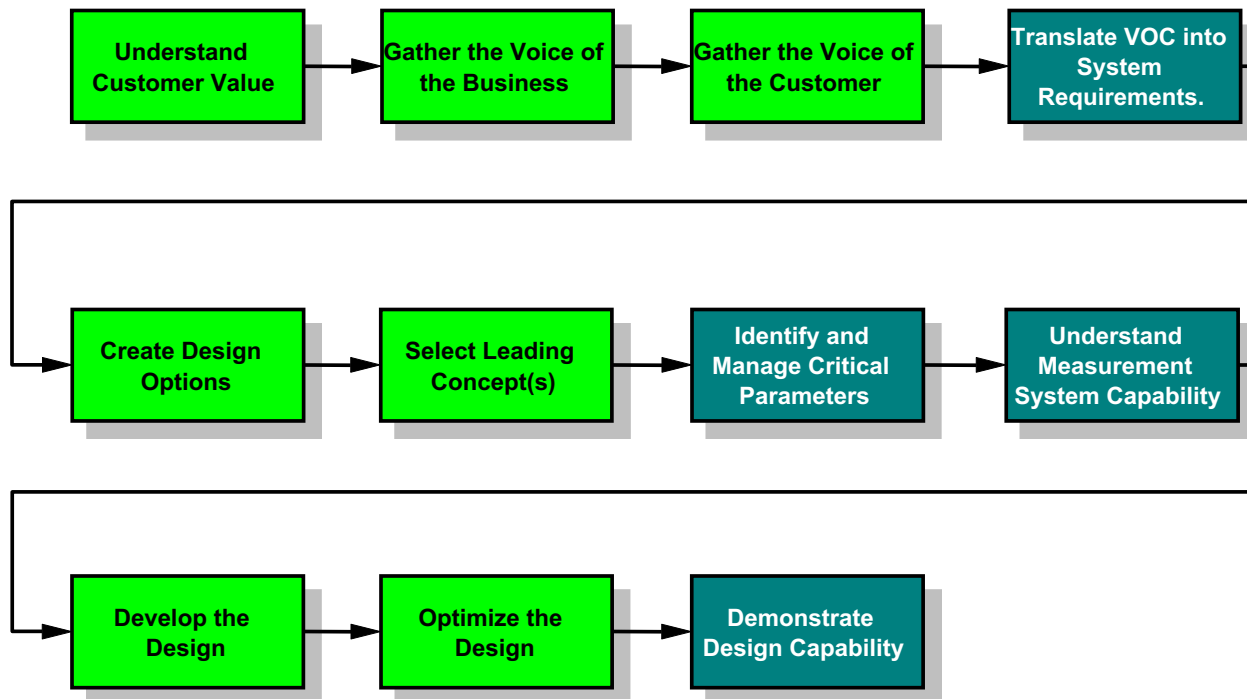
Six Sigma DMAIC & DFSS Elements

Process Improvement



Process (Re)Design

Design for Six Sigma Process Work Flow



Six Sigma & the Value-Add Management Accountant - Putting It All Together

IMA's Enhanced Management Accounting Competency Framework



Management Accountants: Stepping Up in a Digital Age

STRATEGIC MANAGEMENT

INSIGHT & FORESIGHT

1 FOUNDATIONAL



Data governance,
data life cycle,
data security,
data design

2

ANALYSIS



Data mining,
data extraction,
data query,
data analytics,
business intelligence

3

DELIVERY



Visualization,
storytelling,
communication

OVERSIGHT & HINDSIGHT

CMA 2020: Keeping the CMA Relevant

Our recent comprehensive job analysis prompted us to update the CMA exam (effective January 2020) to reflect new demands on the profession

	New Title	New Content
Part 1	Financial Planning, Performance, & Analytics	<ul style="list-style-type: none">• Technology and Analytics• Integrated Reporting
Part 2	Strategic Financial Management	<ul style="list-style-type: none">• Business Ethics• Sustainability and Social Responsibility

Polling Question #4

As part of the strategic management, what are the foundational requirements for management accountants in the new digital age?

- A. Data security, data extraction, and communication.
- B. Data governance, data life cycle, data security, and data design
- C. Data governance, data mining, data analytics, and business intelligence
- D. All of the above

Management Accountants: Stepping Up in a Digital Age

STRATEGIC MANAGEMENT

INSIGHT & FORESIGHT

1 FOUNDATIONAL



Data governance,
data life cycle,
data security,
data design

2

ANALYSIS



Data mining,
data extraction,
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3

DELIVERY



Visualization,
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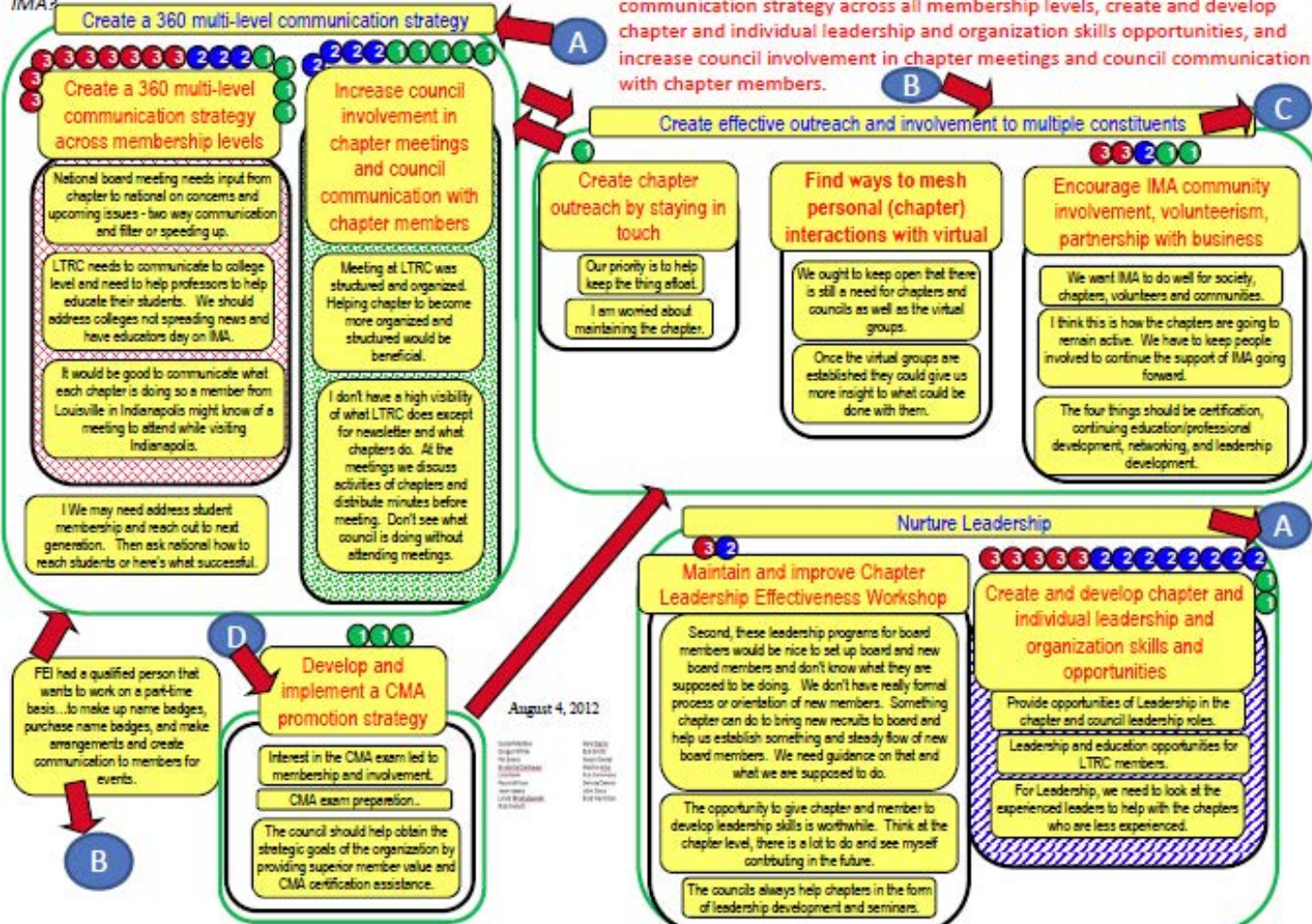
OVERSIGHT & HINDSIGHT

Six Sigma LTRC Long-Term Strategy

KJ for LTRC Long-Term Strategy

THEME: What should "we" do to bridge the chapters, to council to Global IMA to ensure the long-term growth and success of IMA?

CONCLUSION: In order to bridge Chapters to Council to Global IMA to ensure long-term growth and success of IMA, LTRC will create a 360 multi-level communication strategy across all membership levels, create and develop chapter and individual leadership and organization skills opportunities, and increase council involvement in chapter meetings and council communication with chapter members.



Summary

- Defined Six Sigma
- Completed a Six Sigma Inspection Exercise
- Shared the Six Sigma Management System & Success at Cummins
- Explained Six Sigma DMAIC & DFSS Elements
- Provided the IRS Interest Assessment Calculation Project Example
- Similarities between Six Sigma and the Value-Add Management Accountant
- LTRC IMA Long-Term Strategy Work Using Six Sigma

Give the Gift of Knowledge



Century Student Scholarship Fund

As we wrap up our centennial anniversary, we look forward to the next 100 years of the management accounting profession. By donating, you support students in their pursuit of their college degrees and future career aspirations.



Student Leadership Conference

Help support IMA's annual Student Leadership Conference, where attendees learn from industry experts about the critical role of accountants and financial professionals in business.



Leadership Academy

Help support the development of programs and materials to enhance leadership skills to aid members in their career advancement.



Research Foundation

Help fund timely, cutting-edge research that can be applied to current and emerging business issues.

Q&A





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Global employers want CMAs on their teams



“CMA is a leading body of management accounting and specializes in FP&A, Internal Control, and Decision Support. In Singapore, it is also valued very highly with a lot of companies asking for this certification.”

–**Bhavesh Shah, CMA**

Senior VP, Finance FP&A

Johnson & Johnson, Singapore



“The CMA adds an extra dimension to the understanding of what is critical for management accountancy. Going beyond the technocratic issues in order to become a real business partner.”

–**Jack de Kreij, CMA, RA**

Vice-Chairman &

CFO, Royal Vopak, Netherlands



“The CMA certification is truly about management excellence, not just accounting.”

–**Saeed Khan, CMA**

IMEA Regional CFO

*Procter & Gamble Hair Care,
Pakistan*

Praise for the CMA



“Financial analysis and decision support are central to management accounting practice, and the CMA focuses on these areas.”

–David Burritt, CMA
U.S. Steel
President and CEO



“Thanks to the CMA, I'm truly understanding what my clients need on a day-to-day basis.

–Ashley Gibson, CMA, CPA
Deloitte & Touche LLP
Manager



“For a large multinational company like J&J, the CMA provides a breadth of subjects that prove, once you've gotten the certification, that you're both knowledgeable and competent.”

–Christian Cuzick, CMA
Johnson & Johnson Vision
VP and CFO

