



*Learn.
Perform.
Succeed.*

Process Improvement

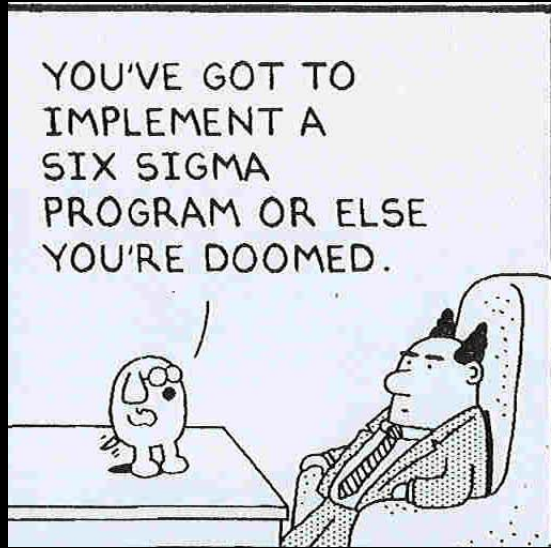
Clifford Thorstenson

Clifford.thorstenson@dau.mil

937-781-1075

Overview

- **Philosophies**
- **A few Tools**
- **Implementation Tips**



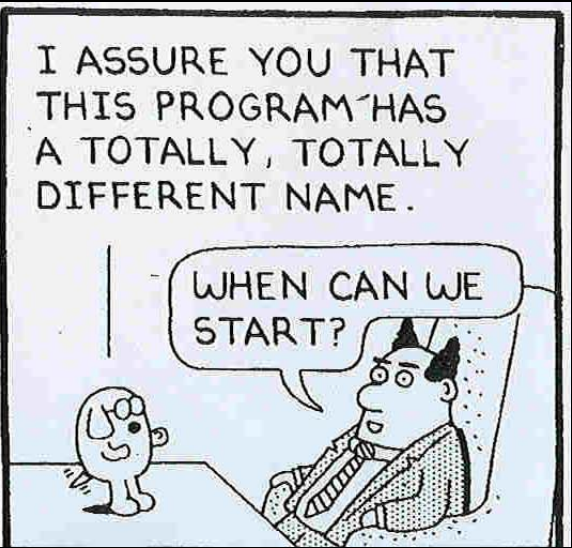
YOU'VE GOT TO IMPLEMENT A SIX SIGMA PROGRAM OR ELSE YOU'RE DOOMED.

www.dilbert.com scottadams@aol.com



AREN'T YOU THE SAME CONSULTANT WHO SOLD US THE WORTHLESS TQM PROGRAM A FEW YEARS AGO?

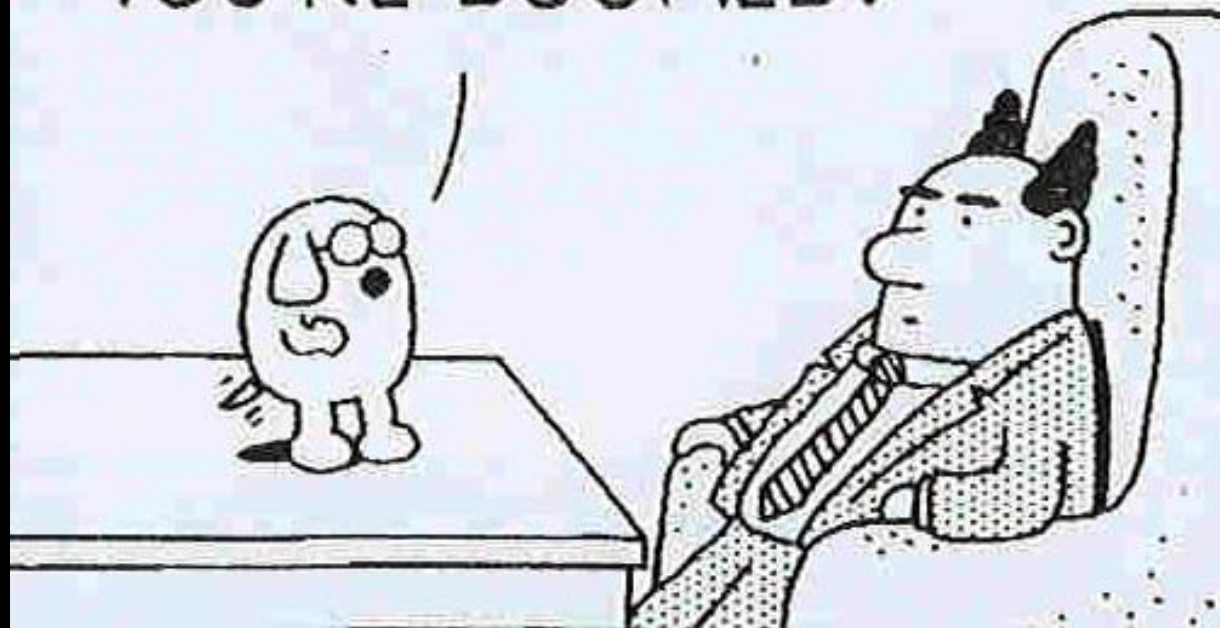
10/3/01 © 2001 United Feature Syndicate, Inc.



I ASSURE YOU THAT THIS PROGRAM HAS A TOTALLY, TOTALLY DIFFERENT NAME.

WHEN CAN WE START?

YOU'VE GOT TO
IMPLEMENT A
SIX SIGMA
PROGRAM OR ELSE
YOU'RE DOOMED.



Process Improvement

Many complementary philosophies.

- Lean emphasizes minimizing waste and adding value for the customer
- Six Sigma emphasizes minimizing variation and eliminating defects
- Theory of Constraints emphasizes identifying and removing bottlenecks

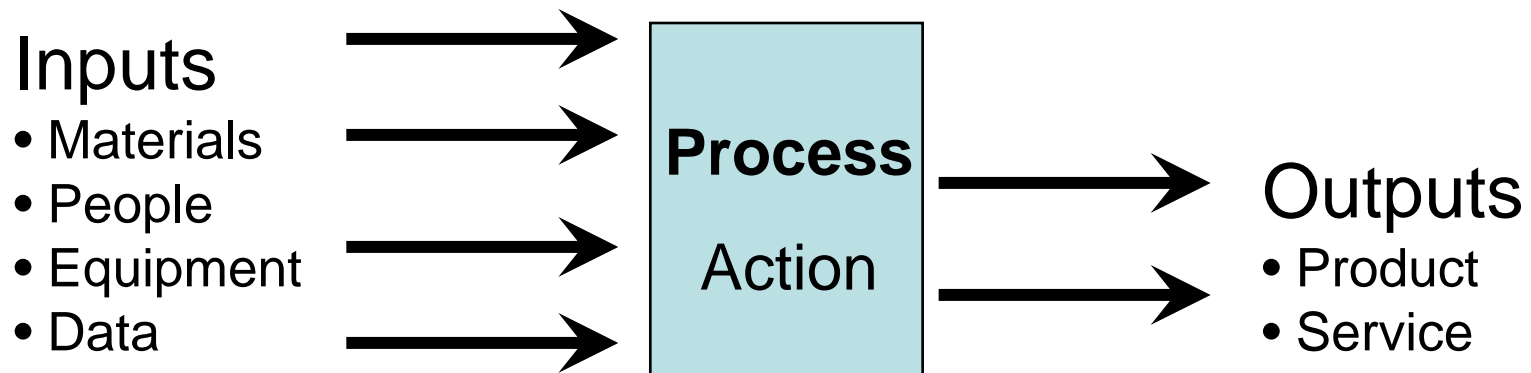
Service Programs

- **Navy – Airspeed**
- **Army – Lean Six Sigma**
- **Air Force – Smart Ops 21**

All combine a variety of tools and techniques to improve their Enterprise Processes

Process Defined

- **Any activity that takes inputs, performs actions on the inputs, and results in outputs**



Three Views of a Process

- 1. Policy (documented)**
- 2. Leadership View as applied**
- 3. What is really happening**

Value Stream Mapping

- **A key starting point for process improvement**

Value Defined



Value-Added Activities

- Transforms or shapes material or information
- Customer wants it
- Done right the first time



Required Waste

- No value created but required by current technology
- No value created but required by current thinking
- No value created but required by process limitations



Waste

- Consume resources but create no value for the customer
- Pure waste

Eliminate Waste

Types of Waste

- Defects
- Over Production
- Transportation
- Movement
- Waiting
- Inventory
- Over Processing
- Lost Creativity



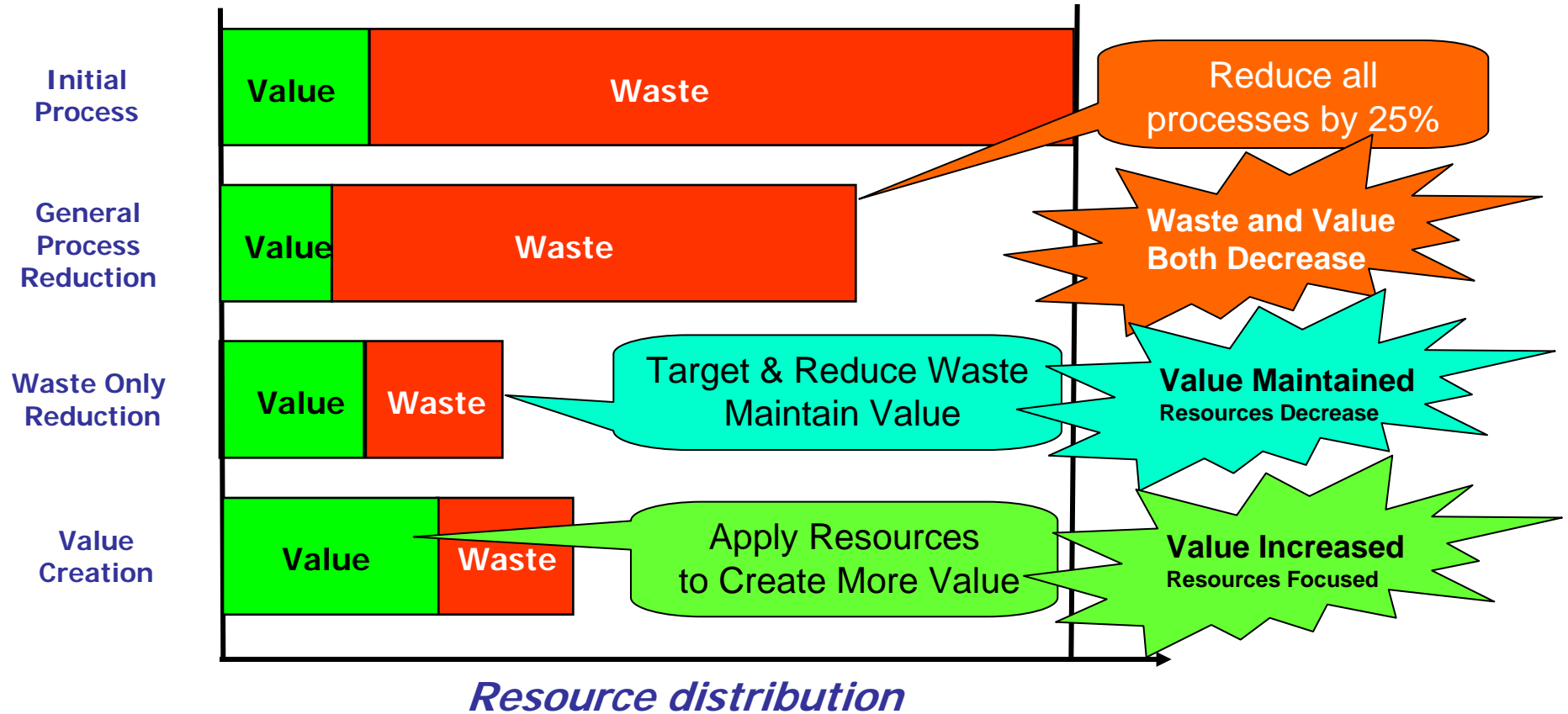
Value Stream Mapping

- Define the boundaries
- “Walk” the process
 - Identify tasks and flows of material and information between them
- Gather data
 - Identify resources for each task and flow
- Create the “Current State” map
- Define the value

- Analyze current conditions
 - Identify value added
 - Identify waste
- Visualize “Ideal State”
- Create the “Future State” map
 - Change process to eliminate waste and maximize value
- Develop action plans and tracking



Lean Emphases



Opportunity for improvement by reducing waste and creating additional value

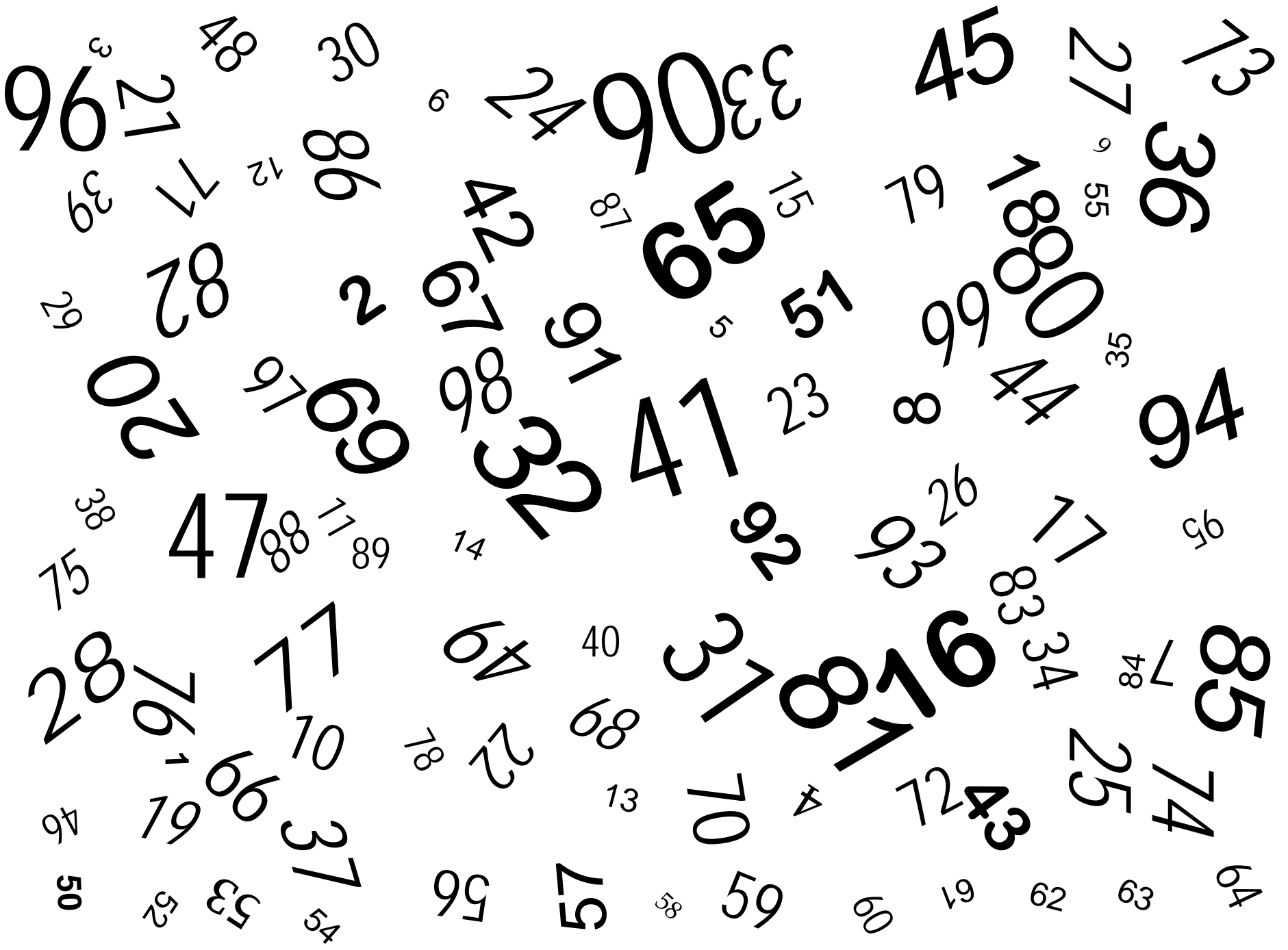
6 S Overview

- **Simplify**
- **Shine**
- **Sort**
- **Standardize**
- **Sustain**
- **Safety**

6S Activity

**Find the numbers from
1 to 49 in order**

You will have 20 Seconds



Results check

- 0
- 1,2,3,4,5
- 6,7,8,9,10
- 11,12,13,14,15
- 16 or greater

Let's remove some clutter

- Find the numbers from
- 1 to 49 in order
- You will have 20 Seconds

36

27⁹

18

45

35

44

8

26

17

7

25

34

43

16

4

33

15

5

23

41

40

31

13

24

42

9

32

14

49

22

30

2

12

11

10

37

48

21

3

39

29

20

38

47

28

1

61

46

Results check

- 0
- 1,2,3,4,5
- 6,7,8,9,10
- 11,12,13,14,15
- 16,17,18,19,20
- 21 or greater

Let's add some order

- Find the numbers from
- 1 to 49 in order
- You will have 20 Seconds

36
27⁹
18
45

35
44
8
26
17

7
34
25
43
16

33
15

5
23

4
37
40

9
24
42

14
32

13
22
49

30
12
48
21³
39

2
11
47
20
38
29

10
37
1
69
46
28

Results check

- 0
- 1,2,3,4,5
- 6,7,8,9,10
- 11,12,13,14,15
- 16,17,18,19,20
- 21,22,23,24,25
- 26,27,28,29,30
- 31 or greater

Let's add clear order

- Find the numbers from
- 1 to 49 in order
- You will have 20 Seconds

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	

Keys to Successful Implementation

- **Journey Mindset**
- **Visible Leadership Support**
- **Mutual Trust**
- **Aligned Reward System**

This is a Culture Change

DAU Continuous Learning Center

<https://learn.dau.mil/html/clc/Clc.jsp>

select the "Course Information & Access" link.

CLE 004, Introduction to Lean Enterprise Concepts

CLE 008, Six Sigma: Concepts and Process

CLE 007, Lean-Six Sigma

CLE 001, Value Engineering.

CLE 015, Continuous Process Improvement Familiarization.





*Learn.
Perform.
Succeed.*

Thank you for Participating

For additional information, please contact:

Clifford Thorstenson
Clifford.thorstenson@dau.mil
937-781-1075

Scott Miller
Scott.miller@dau.mil
937-781-1068

Dan Dupree
Daniel.dupree@dau.mil
937-781-1061