



LEAN & SIX SIGMA BACKGROUND AND FUNDAMENTALS

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OUTLINE

What is Six Sigma?

What is Lean?

What is Lean Six Sigma?

History of Lean Six Sigma





WHAT IS SIX SIGMA?

6 σ

Six Sigma is a statistical based methodology used to **reduce variation & elimination defects** in business transactions



HISTORY OF SIX SIGMA



Walter Shewhart

1924

Statistical quality control and introduction of control charts



Bill Smith

1986

He introduced the concept of Six Sigma at Motorola

Six Sigma became well known after Welch made it a central focus of his business strategy at General Electric

1995



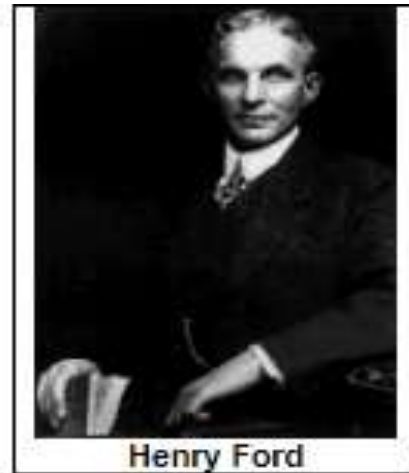
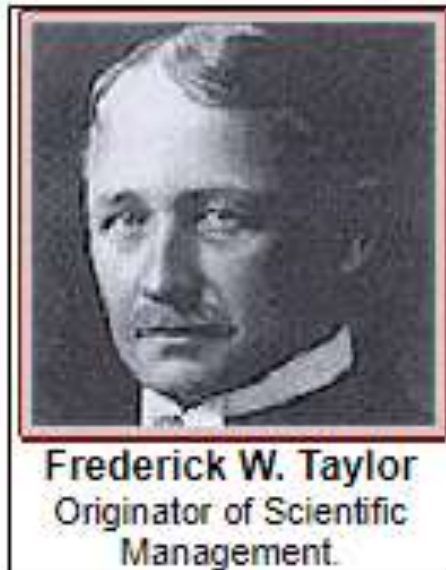
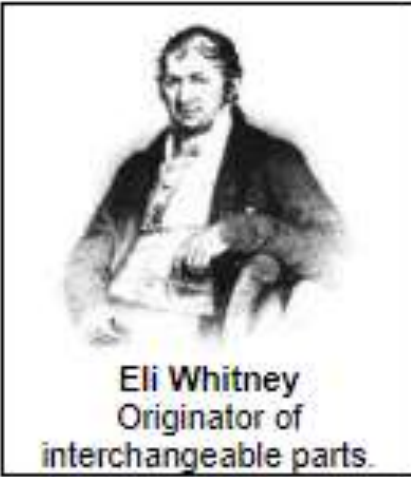
Jack Welch

WHAT IS LEAN?

Lean is the **elimination of all forms of non value added work** from the customer's perspective in business transaction and process



HISTORY OF LEAN



LEAN TOOLS



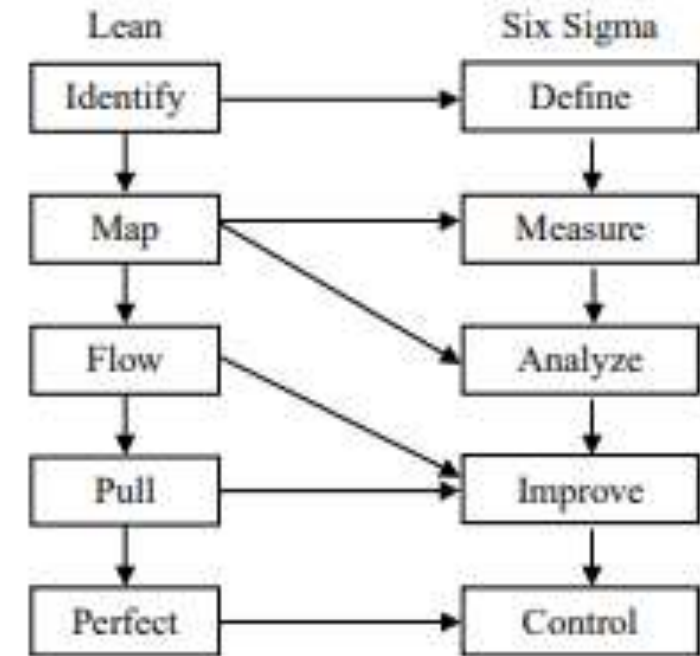
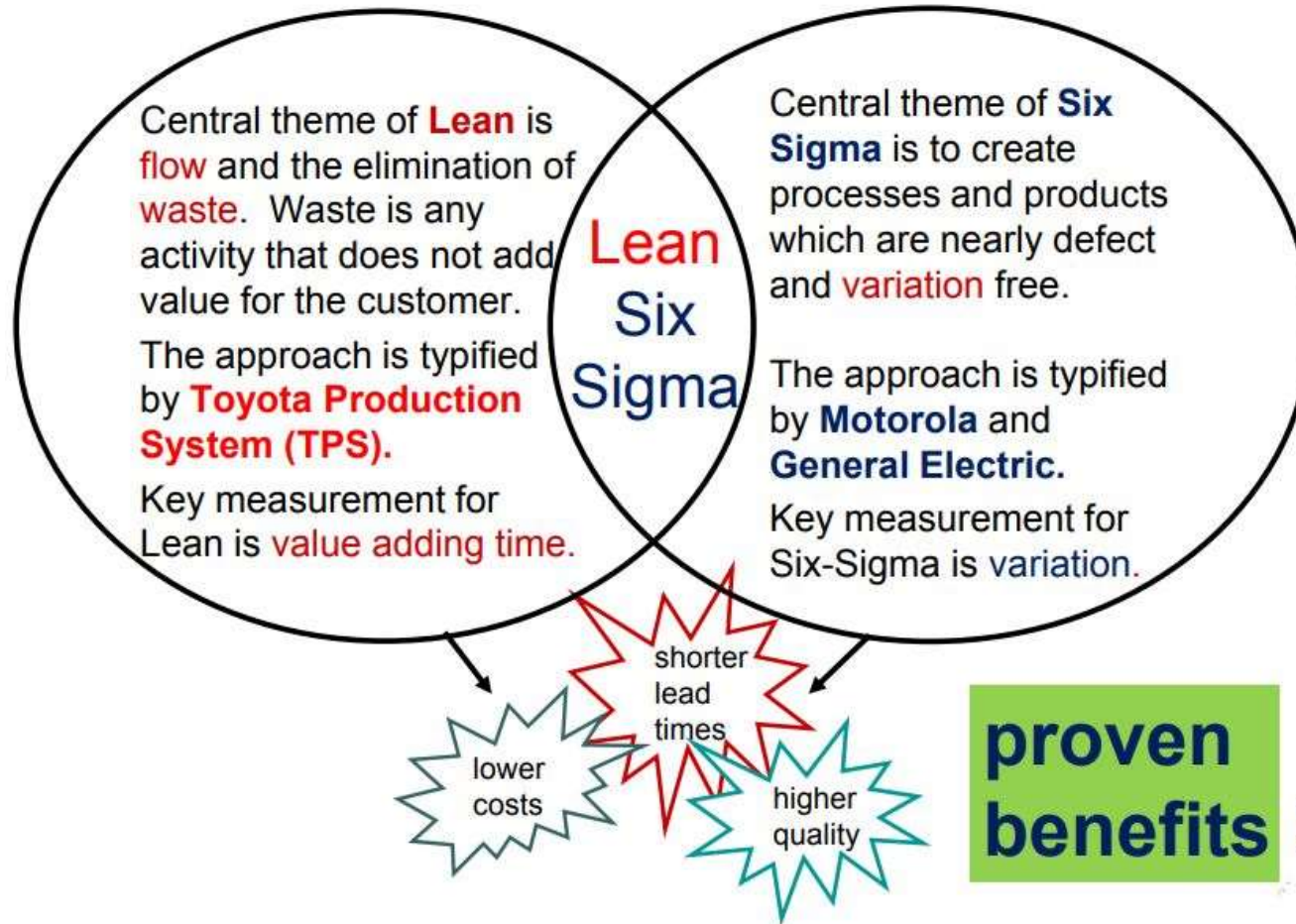


ACTIVITY

Quality is a problem because

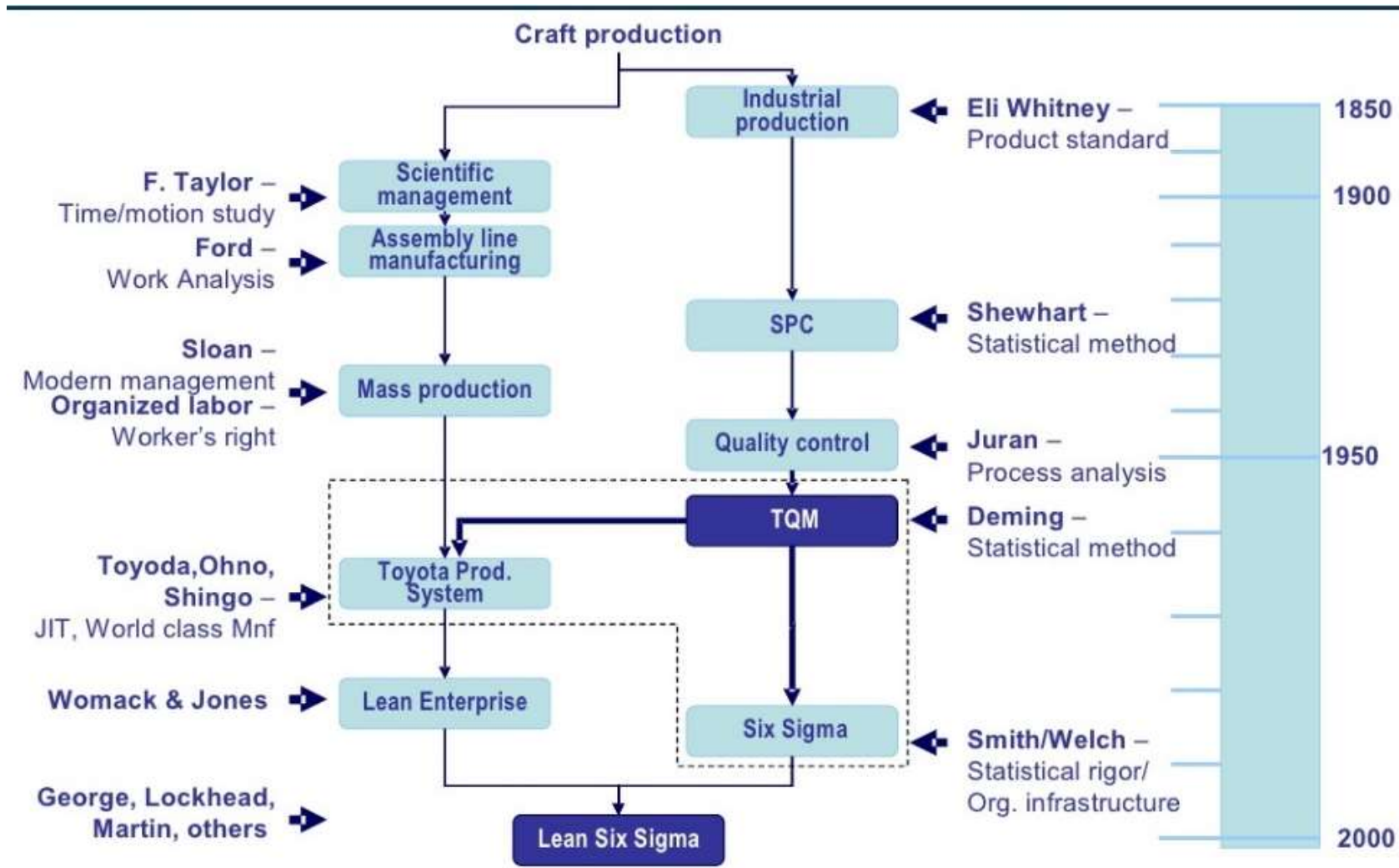
- a. Modern processes are too complex
- b. Workers don't do the job
- c. It is expensive to control
- d. All processes have some variation
- e. Management do not fund projects

LEAN SIX SIGMA





HISTORY AND DEVELOPMENT OF LEAN SIX SIGMA



Source: "Lean Six Sigma: A Fusion of Pan-Pacific Process Improvement", Malcolm T. Upton (Master Black Belt, George Group)



IMPROVEMENT AND MANAGEMENT SYSTEM COMPARISON

	Lean Thinking	Six Sigma
Focus	Specific value in the eye of customer	Define
		Measure
Guide lines	Identify value stream and eliminate	Analyze
	Make Value at Pull of Customer	Improve
	Involve and empower employees	
	Continues improvement in pursuit of perfection	Control
Org. Structure	Senior Leader, Sensi	Champion, Green Belt, Black Belt, Master Black Belt
Responsibility	Part of everybody's job	Everybody Job(Green Belt) dedicated resource(black belt)
Project Identification	Popular (bottom up)	Strategy Driven(Top Down)



ASSESSMENT TRUE OR FALSE

1. The basic objective of any profession is to earn money.
2. The top level of management are responsible for welfare and survival of organization.
3. The main objective of any profession is to serve the society as a whole.



REFERENCES

1. http://www.strategosinc.com/just_in_time.htm
2. Special thanks Norman Bodek who contributed details about developments at Toyota and the transfer of these discoveries to the West.
3. SORENSEN, CHARLES E., My Forty Years With Ford. New York: W.W. Norton, 1956.
4. KANIGAL, ROBERT, The One Best Way, New York: Penguin, 1997.
5. LACEY, ROBERT, Ford: The Men and The Machine, Boston, MA, Little Brown, 1986.



THANK YOU