



ThoughtWorks
Agile Business Series

Lean For Lean Times: Delivering More With Less

Learning from Six Sigma

Faster, Simpler, Error-free – Data and Process

What can software learn from Six Sigma, a practice other industries have benefited immensely from?

A broader view on how Lean thinking aligns well with both Agile and software Six Sigma.

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What do we mean by
“Process Orientation”

“Eighty-Five Percent Of The Reasons For Failure To Meet Customer Expectations Are Related To Deficiencies In Systems And Process... Rather Than The Employee.

The Role Of Management Is To Change The Process Rather Than Badgering Individuals To Do Better.”

All delivery needs process – so does software a la SDLC

Process is defined by

- Activity flow
- Timeline
- Owner

Process is characterised by

- Measurements and Data
- Capability and Control

Process adds value through

- Design and Adherence
- People and Tools

Why Six Sigma?

Data+

Process+

What else?

Six Sigma+

Buy-in+

Teams+

Execution

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Our take on Six Sigma – moving from one to the other

- *Measure of Quality*
- *Methodology for Performance Enhancement*
- *Way of Working for High Performance*
- *Certification for Leadership Excellence*

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Solving problems the Six Sigma way $y = f(x)$

Practical problem

Statistical problem

Statistical solution

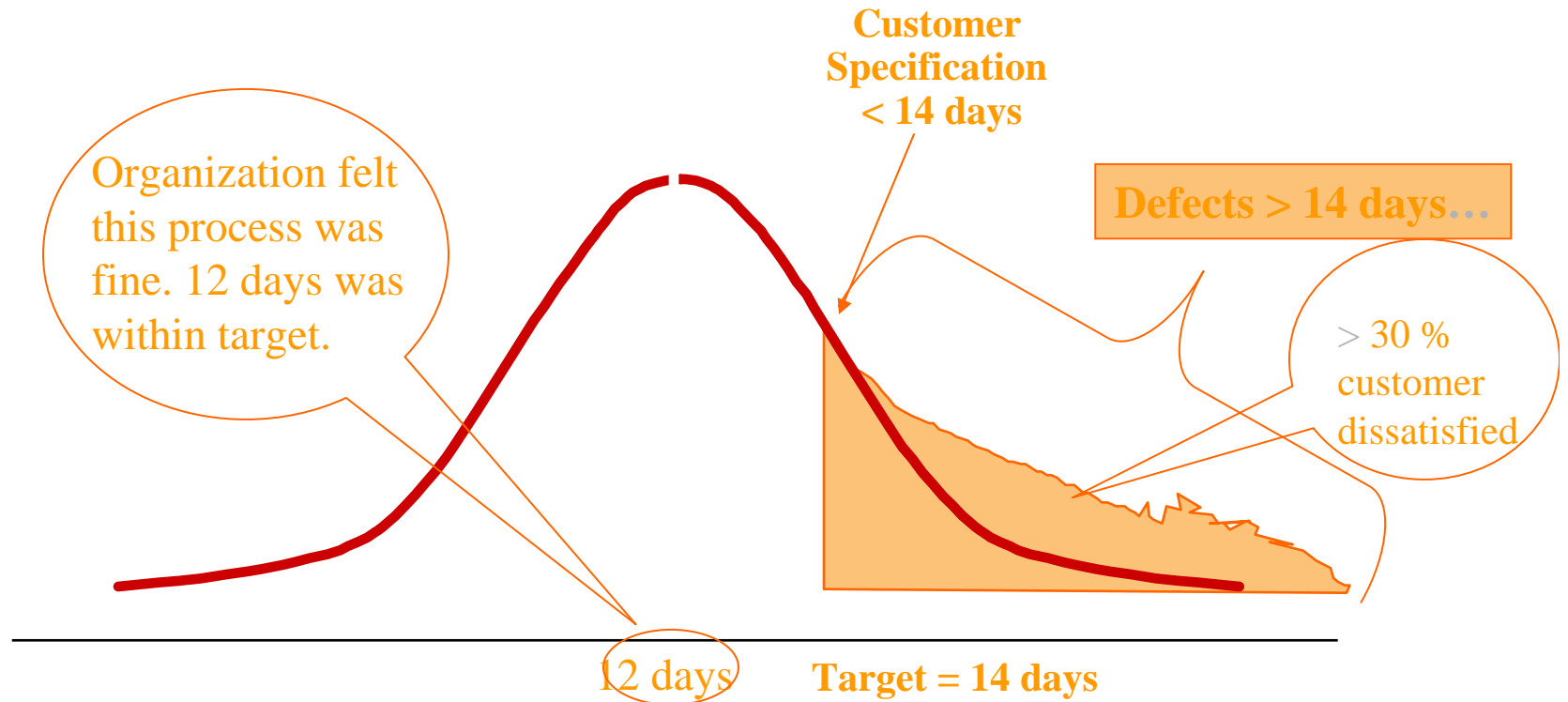
Practical solution

**Statistical approach to Problem-solving gives
valid and sustainable results**

Statistics enables to identify the Vital few Xs

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Six Sigma – From Averages and Means to Variation and Defects



Customer Experience enhanced dramatically thru Six Sigma

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Successful projects using Lean Six Sigma

1. Sales Call Effectiveness upped almost 100% at a global insurance company's call centers - Financial benefit USD 8 Million.
2. Campaign Turnaround time reduced from 115 days to 60 days at a US Credit Card Issuer – resulting in USD 3.2 MM Net Income impact.
3. Credit card spends - per transaction ticket size for credit card spends increased by 50%!!!– \$80 to \$120 per ticket in three months. Potential impact is USD 15-30 million
4. Transportation Cost reduction at a BPO company in India from Rs 4500 per head to Rs 2240 per head per month – USD 5 million per annum.
5. Customer Fulfillment of On-time delivery of Credit Card. Increased from 60 to 98%...That was 20000 happier new customers per month
6. Reduced turnaround time for Credit Card delivery with money-back was offered as a customer acquisition tool resulting in a jump of acquisition rates by 30%
7. Sales Force Effectiveness – Customer acquisition per month numbers increased by 55% in the Direct Sales Agent Channel
8. Billing Accuracy project had USD 227,000 benefits from Revenue leakage saves and cost avoidance. Churn rate benefit would have been greater but not calculated



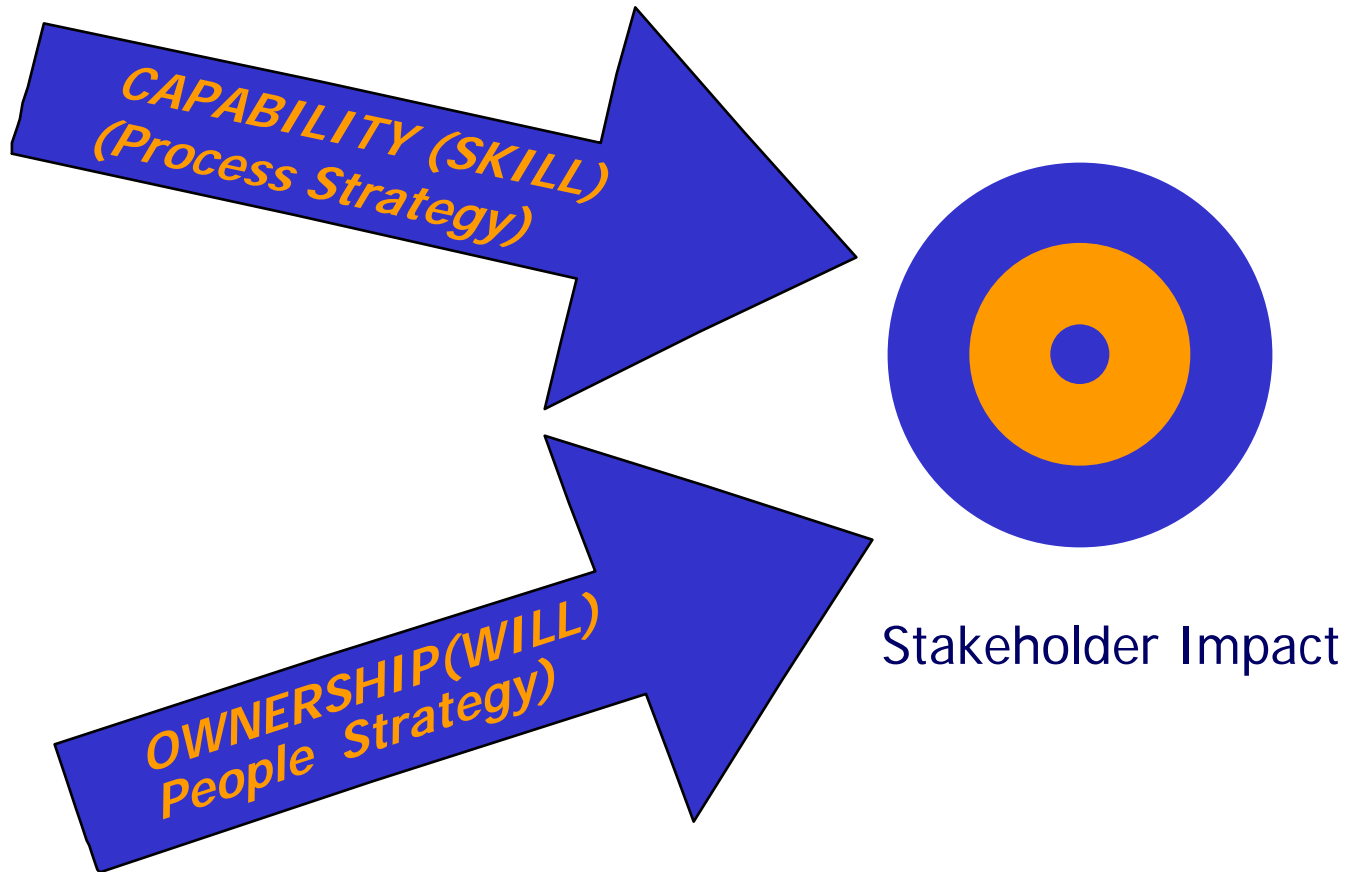
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Getting Buy-in

Critical Success Factor

Together **E**ach **A**chieves **M**ore



The Challenge: Making it happen....QUICKLY



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Transformation - Critical Success Factors (CSFs)

Burning Platform

WIIFM – creating the shared vision

Early involvement-continuous involvement

Prioritization – Vital Few focus

Measuring Baseline, Benchmarks-GAPS

Tracking and communicating Performance and Benefits

Changing systems & structures-institutionalizing change

Why do we need to do this - size of the prize/CBA

Individual benefit—what will it look like-SHARED VISION

Stakeholder Alignment

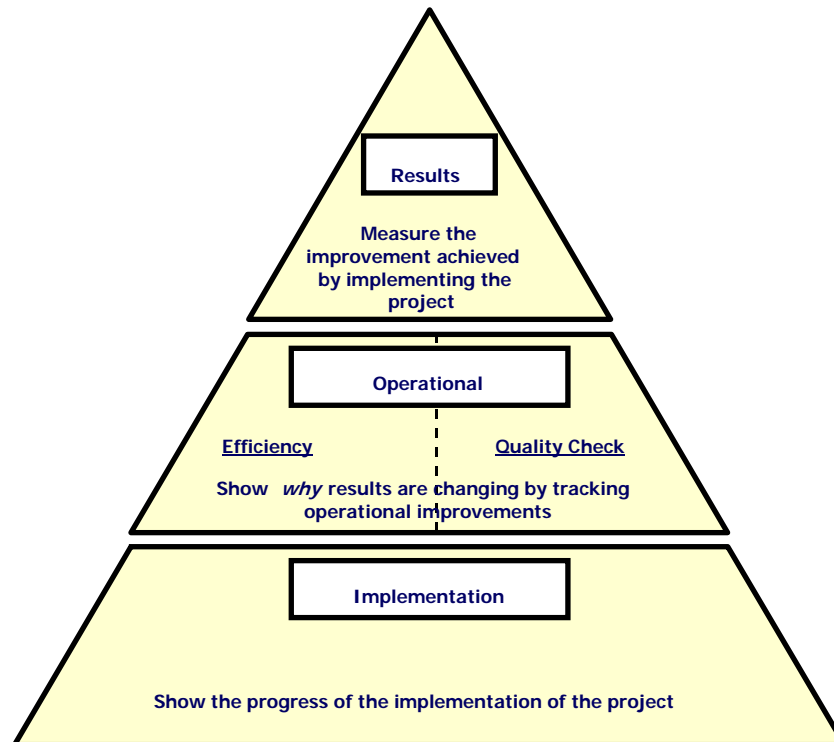
BPMS-Customer driven metrics, data led process focus

Communication Program

Benefits Tracking

P-D-R

Types of Performance Measures and Examples



- Profit improvement
- Client retention
- Cost reduction

- First time pass rate
- Batch time
- Magnitude of colour difference per product
- On time in full
- Lead time from the new site

- Number of products transferred

Input Measures

Input measures measure the attributes of the input to ensure controlled input must meet so that the process works.



Process Measures

Measures That Are Internal To Your Process. They Include Quality And Delivery Measures Important To Your Internal Customers As Well As Waste And Cycle Time Measures. They Are Correlated To The Pertinent Output Measures.



Output Measures

Output Measures Are Measures Used To Determine How Well Customer Needs And Requirements Are Met.

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Why Six Sigma is our choice as BVEM's underpinning

Most Quality methodologies focus on Process adherence ..CONSISTENCY

- Six Sigma focuses on Capability and Control
 - Capability for Accuracy, Control for Precision
 - Capability for Customer need, Control for Process need

Most Quality Methodologies depend on long-period external assessment

- Six Sigma is about having internal predictability and Control
 - Capability to proactively control the process through SQC

Most are therefore reactive and project-based

- Six Sigma is about Process leadership of the Process Quality
 - Two pronged strategy of Prevention and Reactive Control

Most are focussed more on Definition and less on Measurement, Analysis, and Control

- Six Sigma ensures rigorous discipline around
 - Design of the process for measurement and control
 - All 5 phases of sustainable improvement

Lean Six Sigma

Data + Process

+

Variation Reduction

+

Improvement through
Waste and Complexity Reduction

Value-Added Work

Steps That Are Considered Essential To Create Value as Defined by the Customer Based on Customer Needs And Requirements. Customer Is Willing To Pay For Step.

Nonvalue-Added Work

Steps That Are Not Considered Essential To Create Value Meeting The Customer's Needs And Requirements. Customer Is Not Willing To Pay For Step.

Steps That Are Not Essential, But That Allow the Value-Adding Tasks To Be Done Better/Faster.

Value-Enabling Work



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Types Of Nonvalue-Added Work

**Internal Failure/ Over or
Incorrect Processing**

Over-Production

Control/Inspection

Defects/Re-work

Waiting/Delay

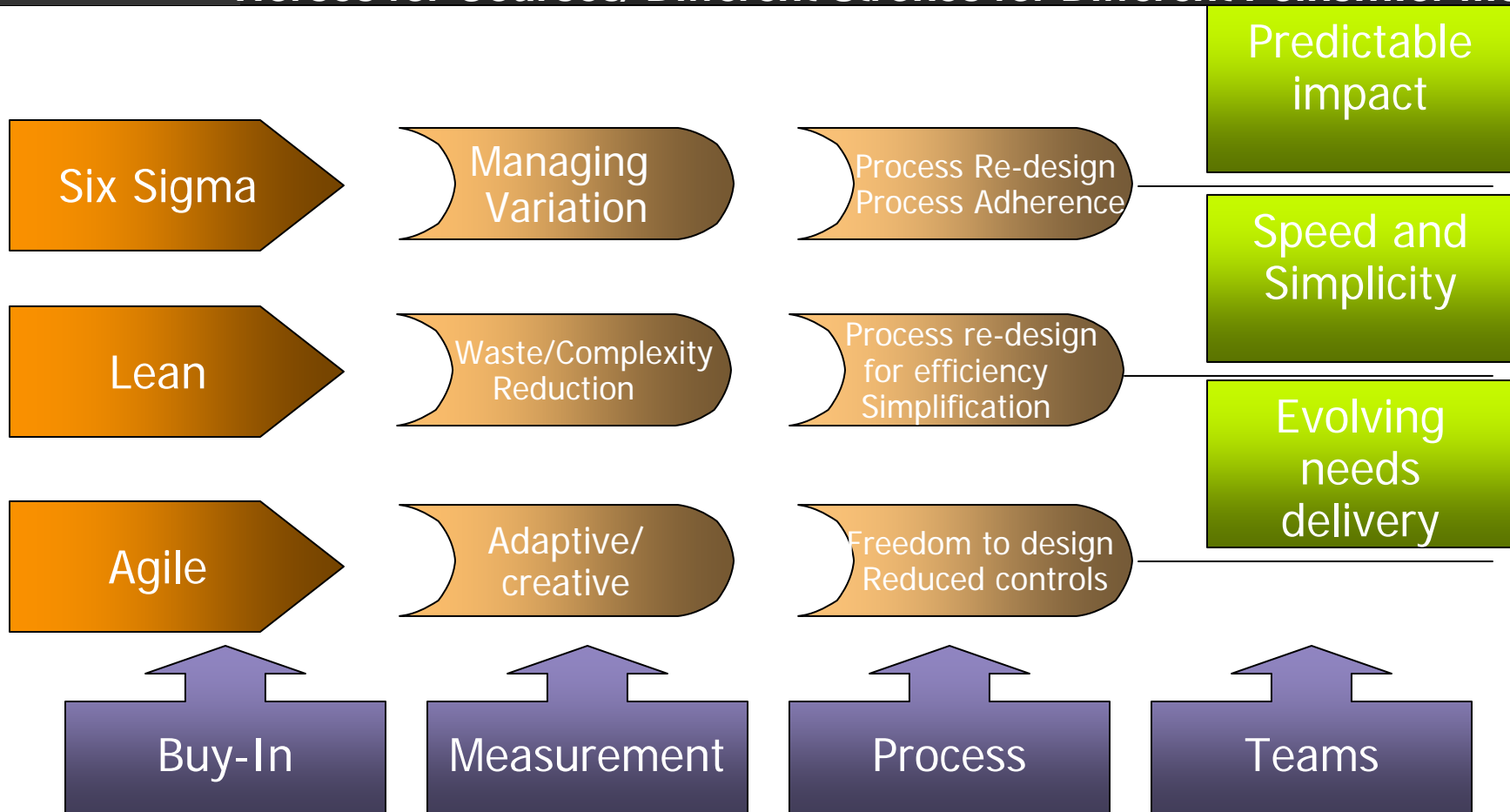
Preparation/Set-Up

**Unnecessary Conveyance
Move**

**Unused Employee
contribution**

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Horses for Courses/ Different Strokes for Different Folks...or metrics



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Software -Types of Processes and approaches suggested

Process	Metric 1	Approach	Metric 2/3	Approach
Software Design	Delivery to requirement	Agile	No. of re-works Cost of development	Six Sigma Lean and Six Sigma
Software Development	On time Delivery	Agile, Six Sigma and Lean	Error Rate Cost	Six Sigma Lean
Software implementation	On time Delivery	Six Sigma and Lean	Error Rate Cost	Six Sigma Lean

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What leaders do differently-whether thru Lean, Six Sigma or Agile

Begin/Stay with the customer (stakeholder) and his End-Game

Build Leadership alignment, understanding and involvement

Build Process Leader ownership - quality leadership within the Process

Resist half measures - an integrated approach - vision, capability, audit, improvement

Target Quick Wins as a milestone in the strategy

Maintaining the balance

- Hard and Soft - Be objective but recognize people issues
- Data and Process - Look at both the data and the process
- Talk and Walk - Walk the Talk
- Speed and Rigour - Do it fast AND well
- Theory and Practice - Be practical but start at the theory
- Process and Content - The process of the process!!

WIIFM - Quality guy or Sales guy?