THE QUALITY MOVEMENT: HOW QUALITY OPPORTUNITIES ARE ALL AROUND US, AND WHY YOUR BOSS WANTS YOU TO LEAD THE WAY

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• The Quality Movement
• The big “Q” (quality)
• Quality indicators
• Critical to quality (CTQ)
• Cost of quality
• Building your quality toolkit
The Quality Movement

Most people spend more time and energy going around problems than in trying to solve them.

JUL 30, 1863 – APRIL 7, 1947
The Quality Movement
"Profit in business comes from repeat customers, customers that boast about your project or service, and that bring friends with them."

W. Edwards Deming
The Big “Q”

• Quality
  • [Merriam-Webster, 2015]
    • Good or bad ⇒ A characteristic or feature – A distinctive attribute
    • A high level of excellence
    • The standard of something
  • [Business Dictionary, 2015]
    • A measure of excellence ⇒ free from defects
    • A consistent production ⇒ meeting customer’s requirements
Quality Indicators

- Healthcare (PPACA ties reimbursement to QI)
  - Prevention (prevent hospitalization or complication)
  - Inpatient (mortality, utilization, volume of procedures)
  - Safety (falls, adverse events)

- Manufacturing (SMART goals)
  - Customer (On-time delivery, cycle time, changeovers)
  - Quality (Yield, rejects/returns, supplier’s product)
  - Efficiency (throughput, capacity utilization)
The Edsel
(1958-1960)

- Worst car in history
- Huge lessons learned
The Edsel
(1958-1960)

- The “E-car”
- Huge marketing buildup – failed product
The Edsel
Critical to Quality
(Ford Executives)

- Post WWII – good economy
- Promotion = better car
- Only 2 price tiers in Ford

- Cadillac
- Buick
- Oldsmobile
- Pontiac
- Chevy

- Mercury
- Ford

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The Edsel

Quality (from Execs)

- Innovation
- Distinctive style
- Full-size
- Create mid-size channel
- Automatic, and Teletouch!
- Fancy trim, big grille (defects)
- Used existing 116-124” platforms
- Established Edsel-only dealers

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The Edsel
Quality (Customer)

Voice of Executive

- Innovation
- Distinctive style
- Full-size
- Create mid-size channel

Voice of Customer

- Automatic
- Understated
- Economical
- No interest in mid-size – focused on Sputnik

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The Edsel
Missed mark

• Break-even for design, retool, marketing, etc = 200,000

• Ford only sold 63,110

• $300 million loss (1960) => $2 billion (today)
The Big “Q”

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CTQ Defined by Customer

• Critical to Quality (CTQ) → executives → Customer
CTQ ➔ Functions

- Collect CTQ
- Perform Quality Function Deployment (QFD)
- Directly link the CTQ to manufacturing / service units
- Rank-order the units – which ones will cause a failure-to-meet expectations?
Cost of Quality

- $1 to prevent the error
- $10 to fix after production
- $100 to repair customer perceptions

- Average cost is 15% of sales
- Reduce error = reduction in CoQ

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- Cost of quality  
- Building your quality toolkit

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Cost of Quality:

- Waste
- Rejection
- Inspection Costs
- Customer Returns

- 2-3%

- 20-40%

- Cost Components:
  - Complaint Handling
  - Premium Freight Costs
  - Excessive Field Service Costs
  - Excessive Overtime
  - Pricing or Billing Errors
  - Overdue Receivables
  - Development Cost of Failed Products
  - Employee Turnover
  - Development Cost of Failed Products
  - Employee Turnover
  - Excess Inventory
  - Incorrect orders shipped
  - Time with Dissatisfied Customer
  - Late Paperwork
  - Expediting Costs
Cost of Quality

• In medicine, CoQ can be quite high

• Average malpractice (gross negligence) incident can cost $160K

• *N.B. Leaving foreign object in a surgery patient is a Sentinel Event
Cost of Quality

- Greater levels of error consume resources to correct and assuage customer unrest.
- Maturity of the company and the industry often dictate what level of quality can be afforded.

Sigma levels & Cost of quality

<table>
<thead>
<tr>
<th>Sigma</th>
<th>Defect rate (PPM)</th>
<th>Cost of quality</th>
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<tbody>
<tr>
<td>6</td>
<td>3.4</td>
<td>&lt;10%</td>
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<tr>
<td>5</td>
<td>233</td>
<td>10-15%</td>
</tr>
<tr>
<td>4</td>
<td>6210</td>
<td>15-20%</td>
</tr>
<tr>
<td>3</td>
<td>66807</td>
<td>20-30%</td>
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<td>2</td>
<td>308537</td>
<td>30-40%</td>
</tr>
<tr>
<td>1</td>
<td>6,90000</td>
<td>&gt;40%</td>
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</tbody>
</table>

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Acceptable rates of error vary by industry.

Benchmarks are typically used.

Reduction of error yields greater profitability.

Therefore, your boss wants someone to lead quality efforts - it might as well be you.

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Cost of Quality

- Quality indicators
- Critical to quality (CTQ)
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Building Your Toolkit

- Quality certifications
  - Yellow Belt
  - Green Belt
  - Black Belt
  - Master Black Belt
- Organizations
  - ASQ (old standard)
  - CPHQ
  - QC Alliance
  - ABQAURP

- Quality professionals
  - Analysts
  - Associates
  - Auditors
  - Inspectors
  - Quality engineers
  - Quality managers
  - Specialists
  - Technician

- Salary
  - Any level of training ⇒ +$17K
  - Master Black Belt $25.7K more than Black Belts
MARKET YOURSELF TO BE AT LEAST ONE STEP HIGHER THAN YOUR COMPETITOR

QUESTIONS?

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THE CREDIT BELongs TO THE MAN WHO IS ACTUALLY IN THE ARENA, WHOSE FACE IS MARRED BY DUST AND SWEAT AND BLOOD; WHO STRIVES VALIANTLY; WHO ERRs, WHO COMES SHORT AGAIN AND AGAIN, BECAUSE THERE IS NO EFFORT WITHOUT ERROR AND SHORTCOMING; BUT WHO DOES ACTUALLY STRIVE TO DO THE DEEDS; WHO KNOWs GREAT ENTHUSIASMS, THE GREAT DEVOTIONS; WHO SPENDS HIMSELF IN A WORTHY CAUSE; WHO AT THE BEST KNOWS IN THE END THE TRIUMPH OF HIGH ACHIEVEMENT, AND WHO AT THE WORST, IF HE FAILS, AT LEAST FAILS WHILE DARING GREATLY, SO THAT HIS PLACE SHALL NEVER BE WITH THOSE COLD AND TIMID SOULS WHO NEITHER KNOW VICTORY NOR DEFEAT. – THEODORE ROOSEVELT
Ichiro Suzuki in Baseball

“In baseball, even the best hitters fail seven of ten times and of those seven failures, there are different reasons why”. Ichiro was referring to a time-honored measure of success in baseball, the .300 batting average. Ichiro has batted over .300 every year he’s been in the American major league. Between Japan and the U.S., he could retire with over 4,000 hits, a plateau only two before him (Cobb and Rose) have reached.
Wayne Gretzky in Hockey

“You miss a hundred percent of the shots you don’t take.” The Great One’s career shot percentage was a mere 17.6%; to put it another way, he missed over 82% of the time. Why is he one of the examples of quality then? Gretzky holds every single-season and career scoring record in the history of the National Hockey League. Just goes to show that you don’t get anywhere by standing around and waiting for something to happen.
Archie Moore in Boxing

“If I don’t get off the mat, I’ll lose the fight.” In 234 recorded boxing matches over a span of 30 years, the Old Mongoose won nearly 200, 145 by knockout! He also failed to win more than 30 of his matches. Mr. Moore even won a light-heavyweight match at age 50! Archie Moore is one of the examples of quality because he personified dedication and dogged persistence, qualities that separate winners from also-rans in business, too.