

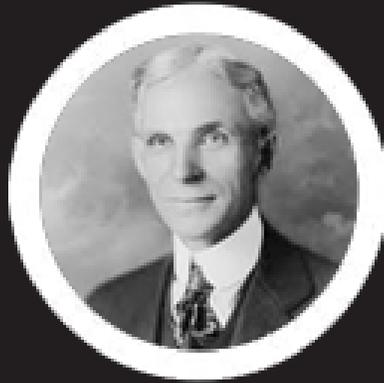
# THE QUALITY MOVEMENT: HOW QUALITY OPPORTUNITIES ARE ALL AROUND US, AND WHY YOUR BOSS WANTS YOU TO LEAD THE WAY

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- Assistant Professor, School of Health Administration



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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



**HENRY FORD**

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

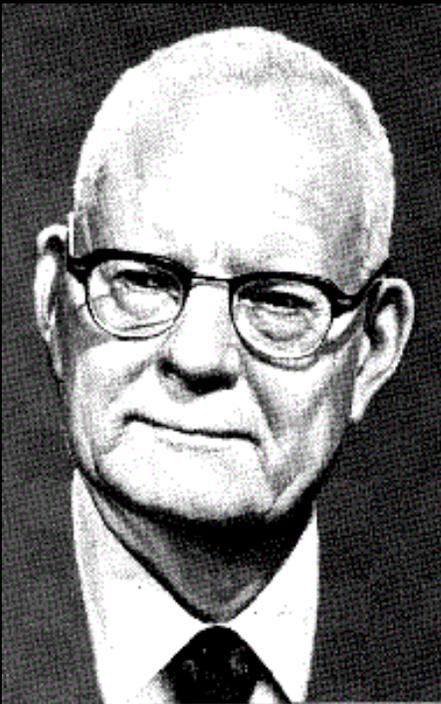
JUL 30, 1863 – APRIL 7, 1947



# The Quality Movement

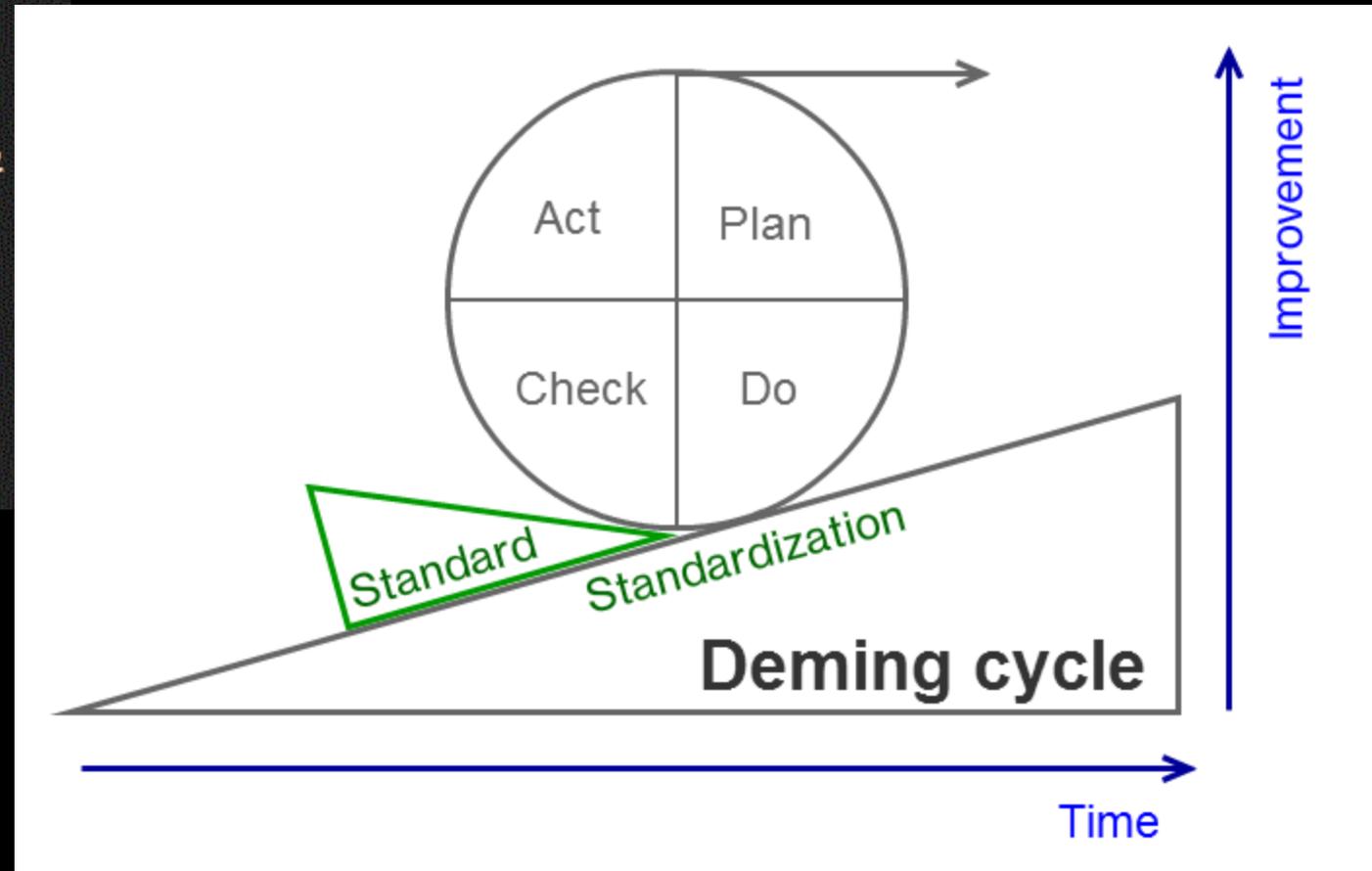


# The Quality Movement



*"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

These carriers with covered cars are headed in your direction



**E**ARLY this week, a group of big automotive carriers cleared the yards of six giant U.S. plants and rolled out into the night. Baling the jack. Because their steel racks held something they had never held before. They were loaded with a new kind of car.

The Edsel makes its public debut in September. Maybe you'll see some of these carriers loaded with covered cars on your roads in the next few days. If you do, you might call to mind what one of their drivers said before he started out. The driver lifted the cover on one of the

## EDSEL

New member of the Ford family of fine cars

Lately, some mysterious automobiles have been seen on the roads



If you happened to be up in northern Minnesota last year, it's just possible that you might have noticed a unusual car cruising steadily along one of the long, empty roads. You would know if you saw it, because this automobile didn't look much like the usual run of cars you find around here.

Oh, maybe you have one of the few who managed to see such a car starting white-tops through the mist and swamps under the high, flat horizon sky.

And, naturally, some other car-loving citizens in the Commonwealth had happened to see "ED" on its way to the

house to ask, "What, what kind of car is that?"

Edsel is the kind. Maybe you thought you had been built just like it, you did, you were wrong. For almost a year, the few Edsels have been chafing up miles. Miles of pure road and of no pavement. Of mud and dust. Of snow and ice and rain. Of whatever has and whatever will be thousands of miles. Thousands of thousands.

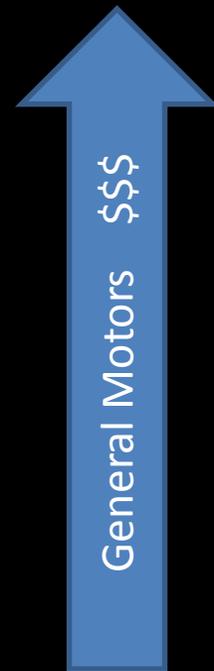
By the time it reaches your streets, the Edsel will be one of the best roads, best paved, most interesting highway and that time is not far off.

The **EDSEL** is on its way

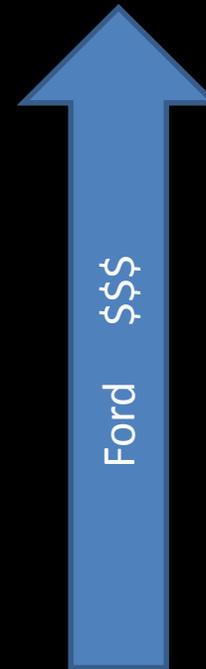
New member of the Ford family of fine cars

# The Edsel Critical to Quality (Ford Executives)

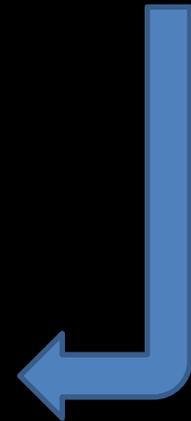
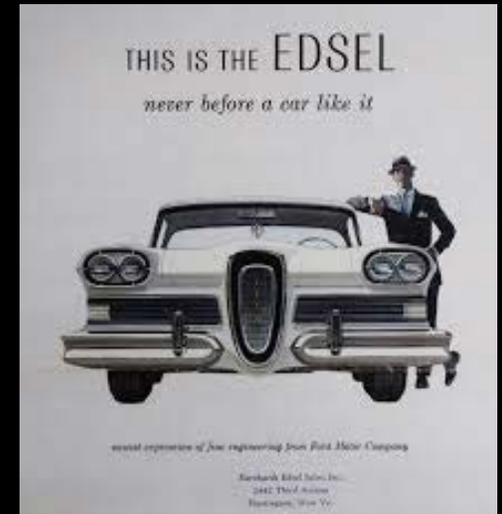
- Post WWII – good economy
- Promotion = better car
- Only 2 price tiers in Ford



- Cadillac
- Buick
- Oldsmobile
- Pontiac
- Chevy

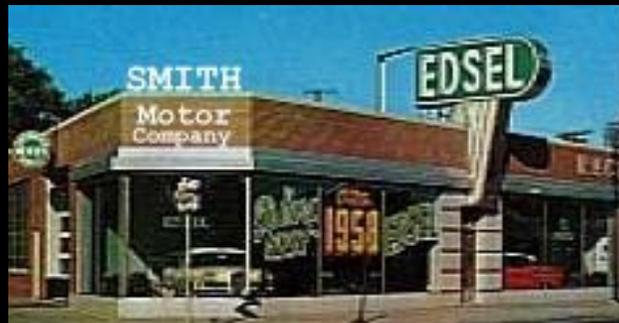
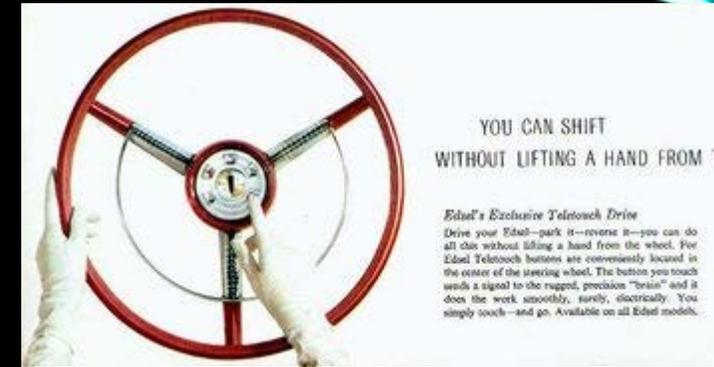


- Mercury
- Ford



# The Edsel Quality (from Execs)

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



# 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



# 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)

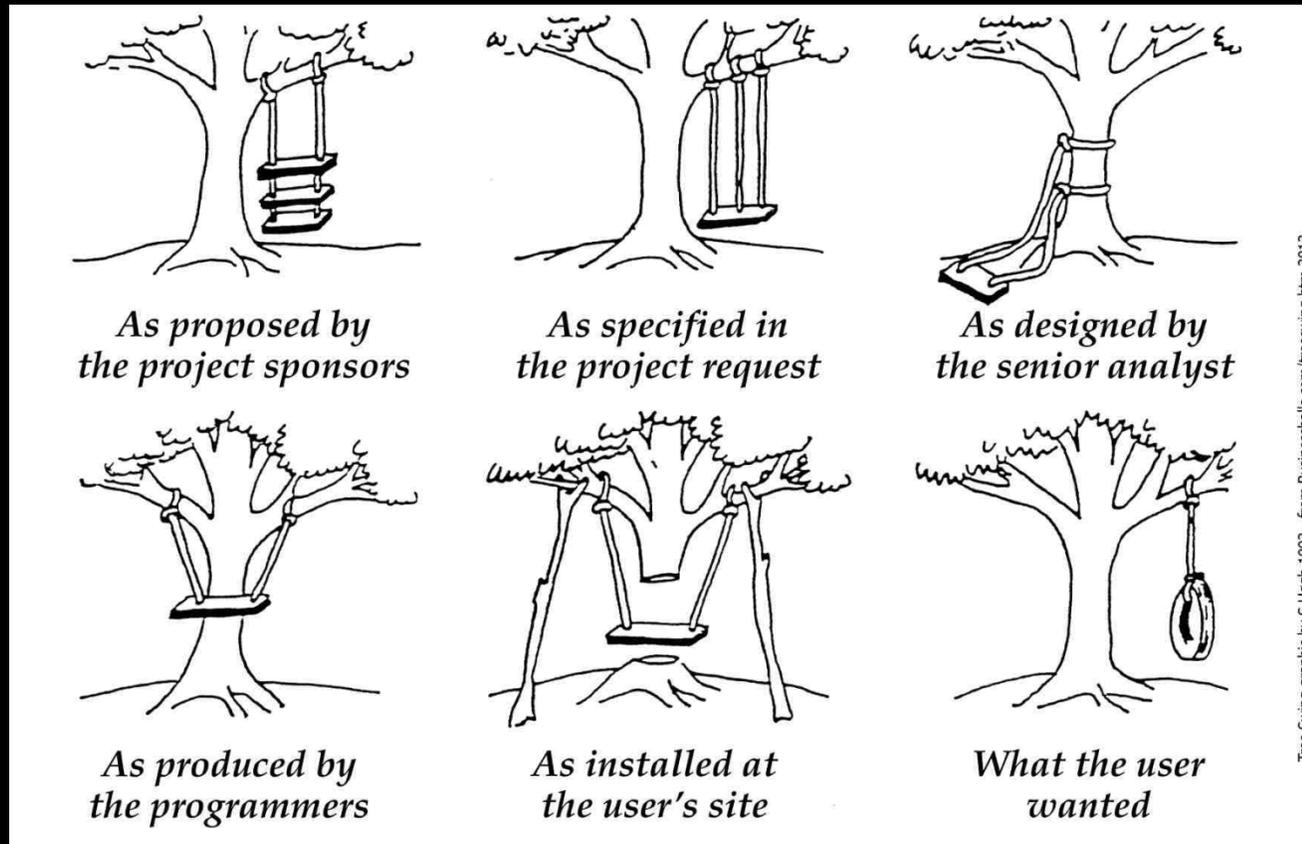


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# CTQ Defined by Customer

- Critical to Quality (CTQ) → ~~executives~~ → Customer



Tree Swing graphic by S. High, 1993 - from [Businessballs.com/treeswing.htm](http://Businessballs.com/treeswing.htm), 2013

# 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



# 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

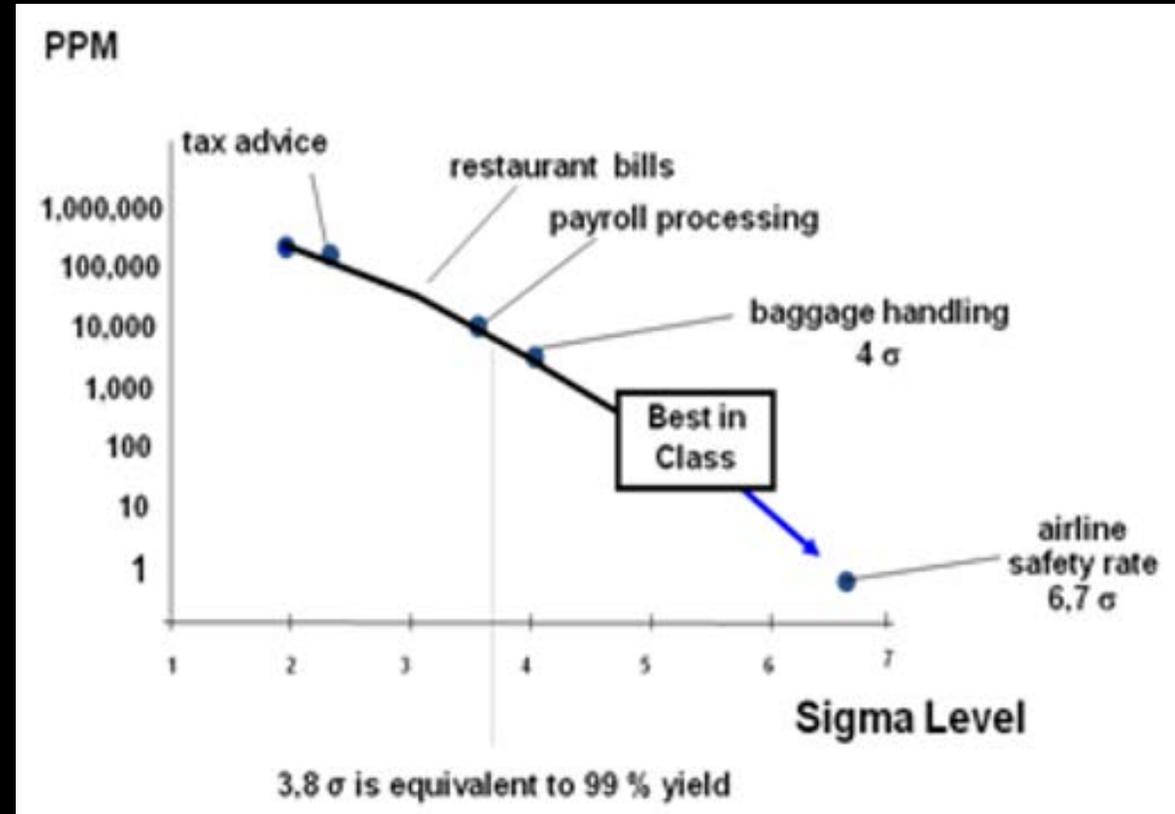
- Greater levels of error consume resources to correct and assuage customer unrest
- Maturity of the company and the industry often dictate what level of quality can be afforded

## Sigma levels & Cost of quality

Sigma	Defect rate(PPM)	Cost of quality	Competitive level
6	3.4	<10%	 World Class
5	233	10-15%	
4	6210	15-20%	 Industry Average
3	66807	20-30%	
2	308537	30-40%	 Non Competitive
1	6,90000	>40%	

# Cost of Quality

- 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



# Building Your Toolkit

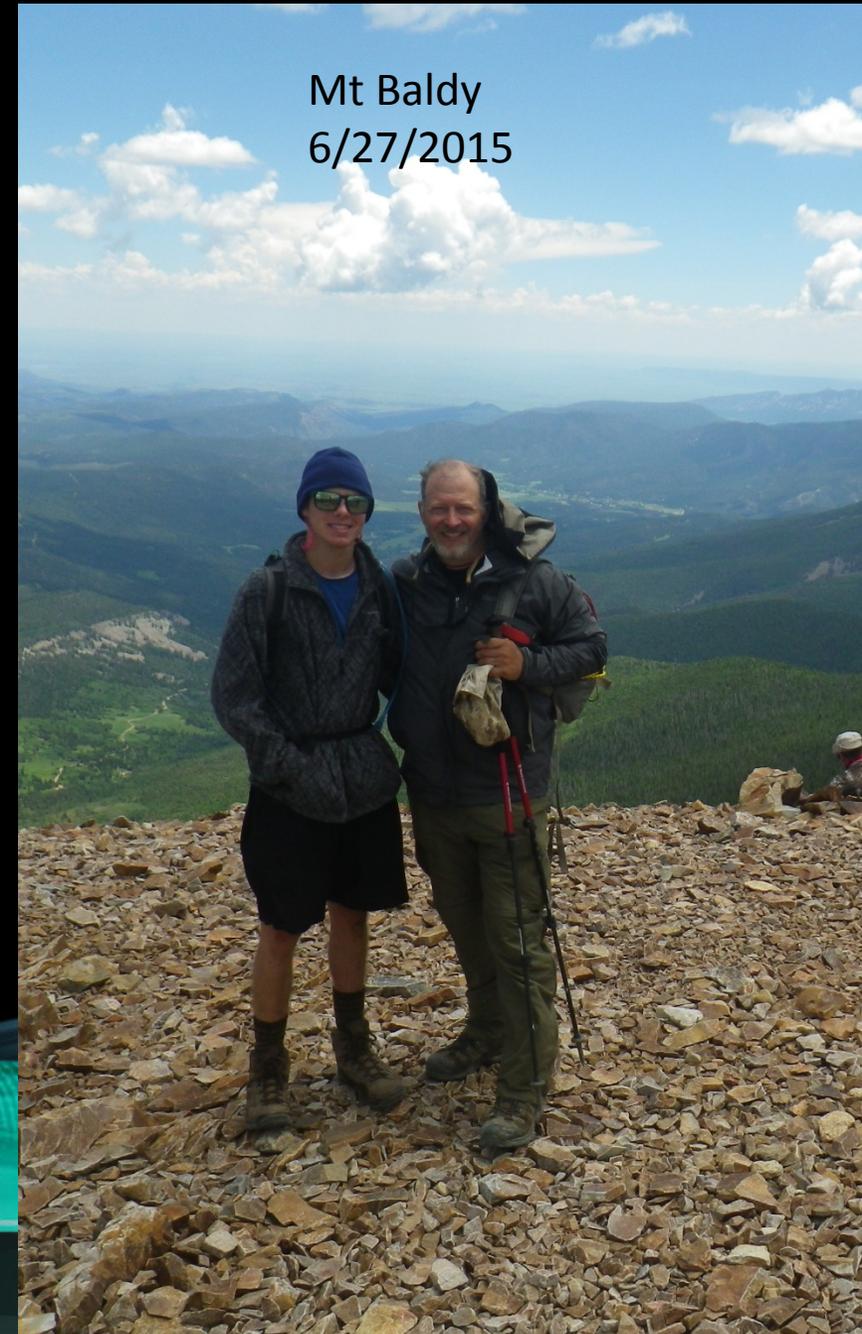
- Quality certifications
  - Yellow Belt
  - Green Belt
  - Black Belt
  - Master Black Belt
- Organizations
  - ASQ (old standard)
  - CPHQ
  - QCAI Alliance
  - ABQAURP
- Quality professionals
  - Analysts
  - Associates
  - Auditors
  - Inspectors
  - Quality engineers
  - Quality managers
  - Specialists
  - 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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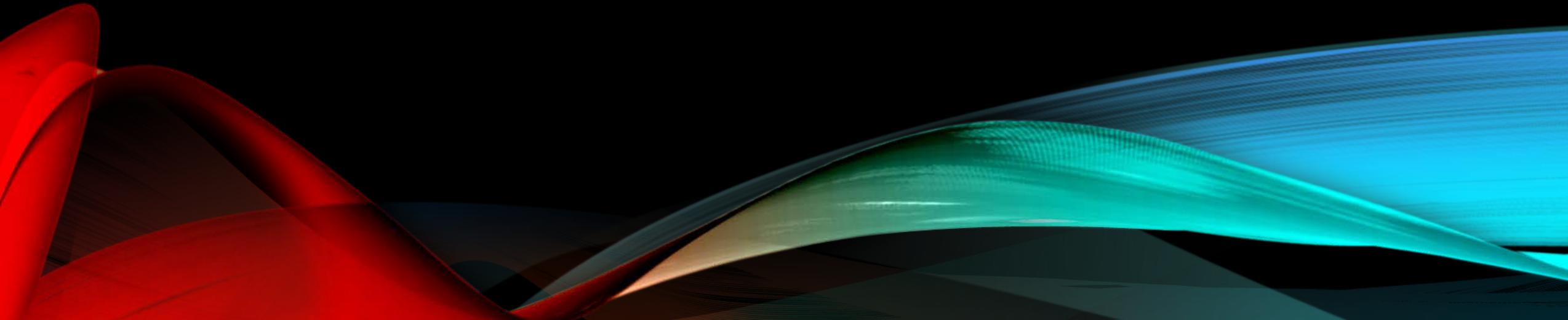
Mt Baldy  
6/27/2015



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

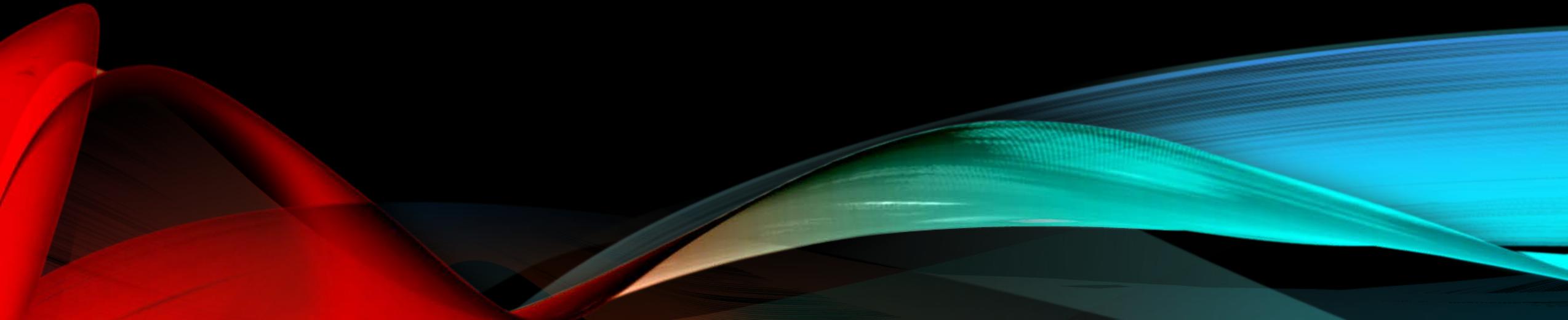
## Ichiro Suzuki in Baseball

"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.

