

Rhetorical Question

*Did you get to where you are by
accepting the status quo?*

USGA Challenge Statement

Rand Jerris, Ph.D.
USGA

5th Golf Innovation Symposium

USGA®

Trends in Golf Maintenance

Faster greens



Thick, uniform rough



Lower fairway heights



Trends in Golf Maintenance

Faster greens



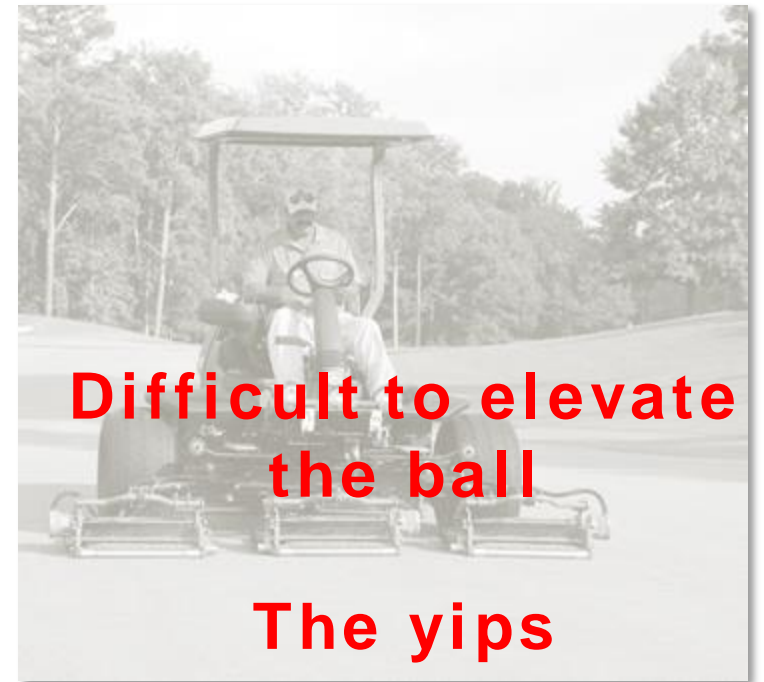
Longer rounds
Higher scores

Thick, uniform rough



Lost golf balls
Longer rounds

Lower fairway heights



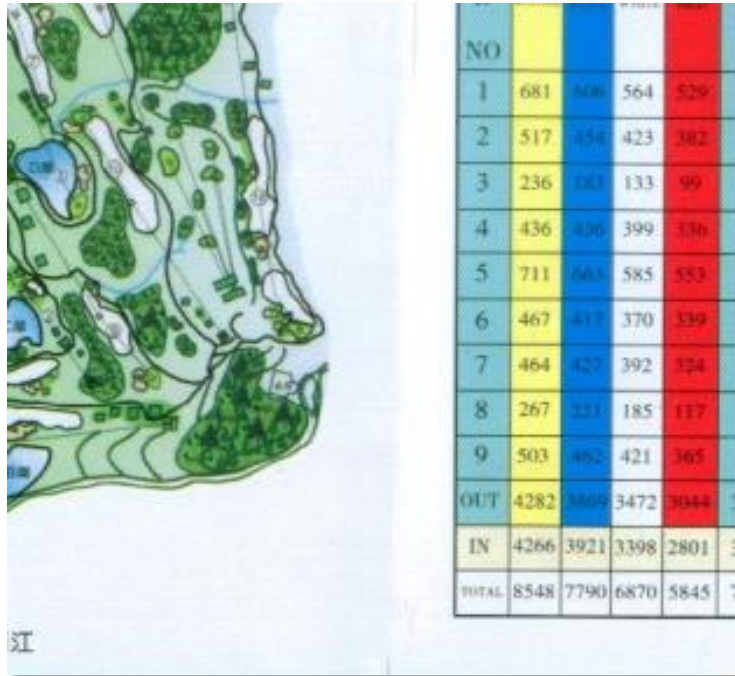
Difficult to elevate the ball
The yips

Trends in Golf Course Design

Bunkers



Increasing length



Larger footprints

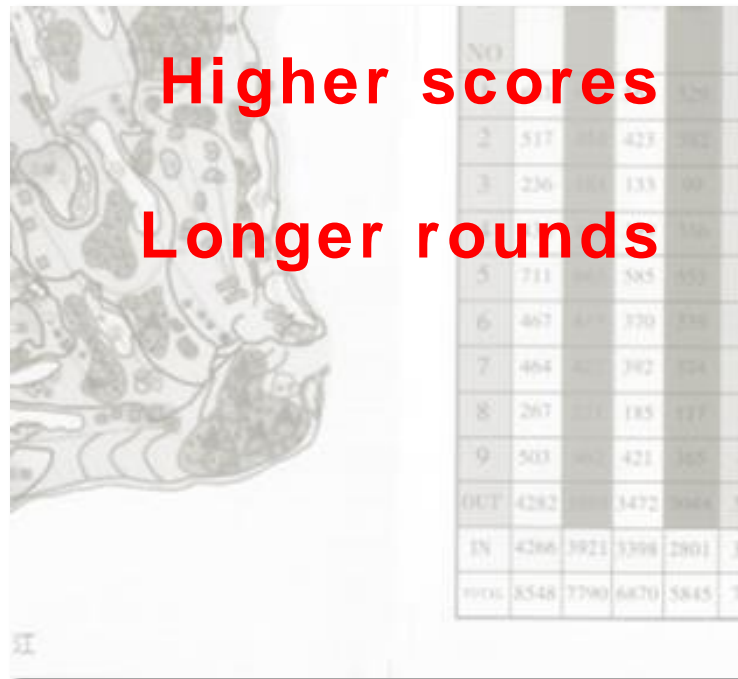


Trends in Golf Course Design

Bunkers



Increasing length



Larger footprints



The Net Result

- Longer rounds
- Lost golf balls
- The yips
- Higher scores
- Less fun

Does this sound like a sustainable game?

The Importance of Measurement

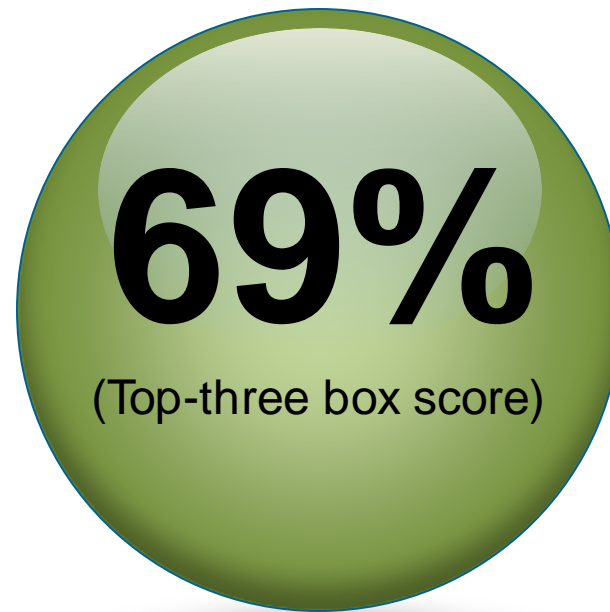
What gets measured, gets managed.

If you can't measure it, you can't improve it.

– Peter Drucker

Voice of the Customer: 2015

Thinking about the typical experience on the golf course you play most often, how satisfied are you with the overall experience?



Source: USGA Programmatic Tracker, Sports and Leisure Research Group, 2015

Voice of the Customer: Benchmarks

Highest Ranked of 48 Industries:

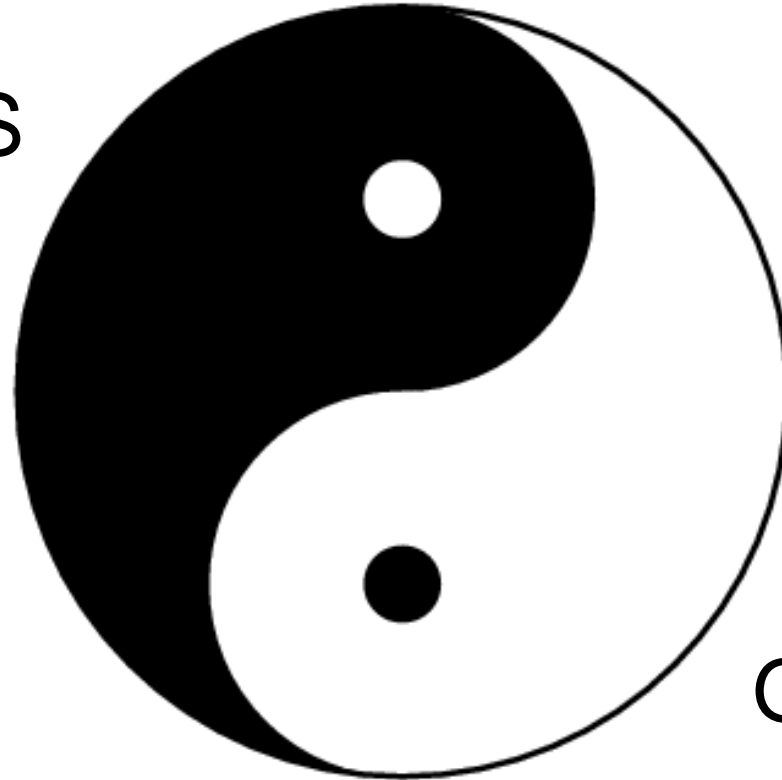
Full-Service Restaurants and Televisions **82%**

Lowest Ranked of 48 Industries:

Airlines **69%**

Golf's Ecosystem

GOLFERS



GOLF COURSES

Pebble Beach, 1977



Pebble Beach, 2014



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Thick, uniform rough

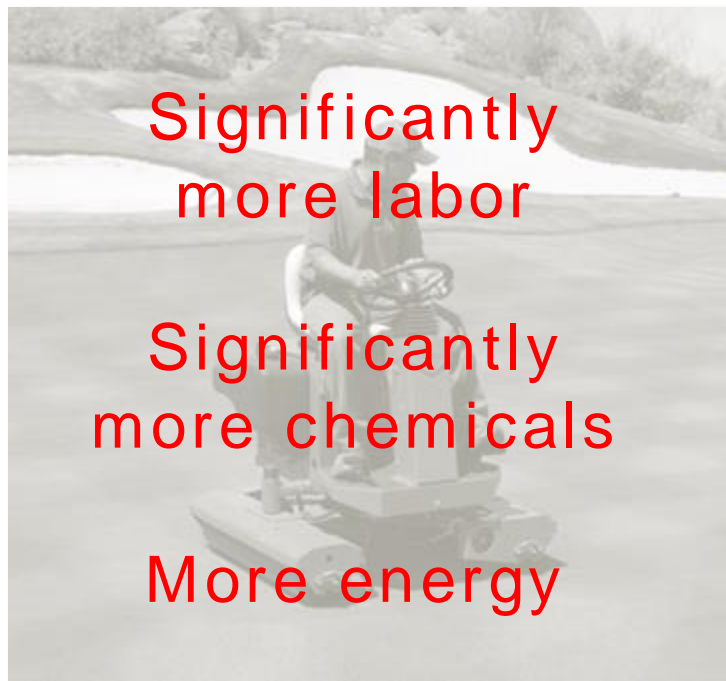


Lower fairway heights



Trends in Golf Maintenance

Faster greens



Significantly
more labor

Significantly
more chemicals

More energy

Thick, uniform rough



Significantly
more labor

Significantly
more chemicals

More energy

Lower fairway heights



More labor

More chemicals

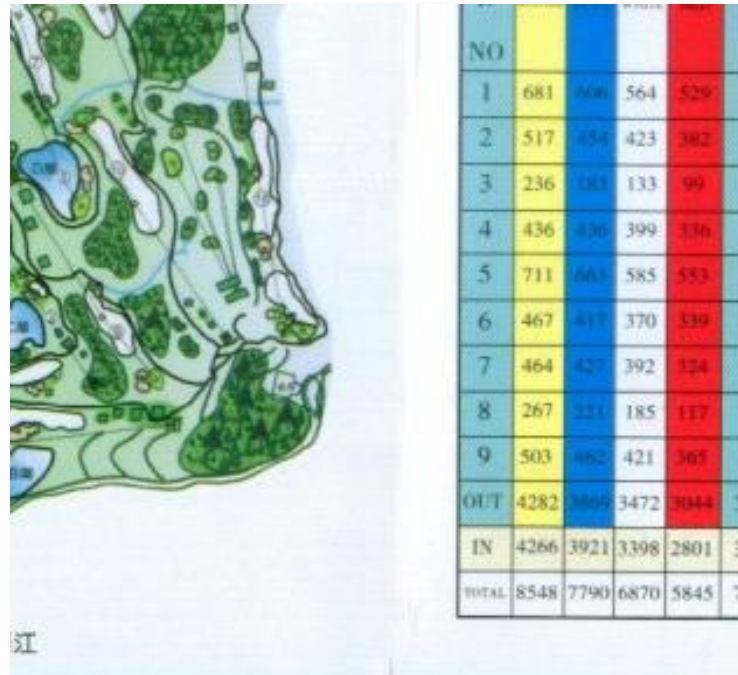
More energy

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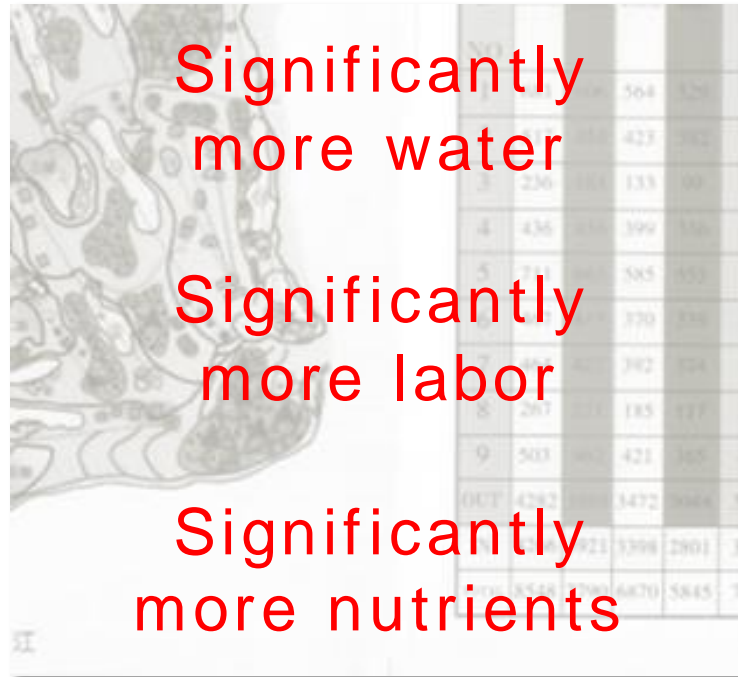


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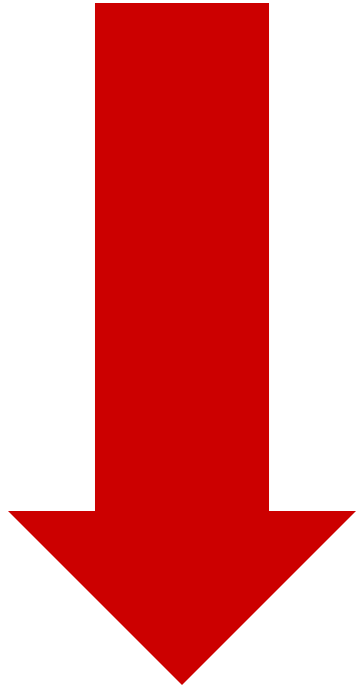
Cost Escalation

- Water: 11.4% annualized
- Nutrients: 10.4% annualized
- Energy: 3.7% annualized
- Chemicals: 2.2% annualized
- Equipment: (-4.9%) annualized
- Labor: GCSAA reported 7% jump from 2014 to 2015 after nearly 10 years of incremental growth

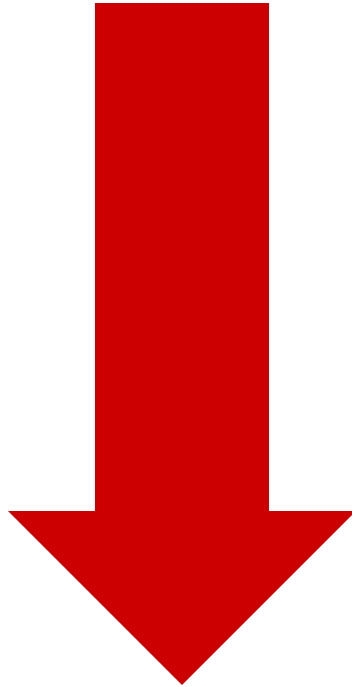
Sources: Golf Course Industry Magazine, January 2015; GCSAA Environmental Profile Series, 2016

Macro Trends

Margins



Cash Flow



Cap Ex



THE OPPORTUNITY

The Holy Grail?

Innovative mitigation strategies that optimize resource consumption, while at the same time improve the playing experience for golfers



Challenge Statement

We will improve golfer satisfaction by 20% while reducing critical resource consumption by 25%



*It is not the strongest of the species that survives,
nor the most intelligent that survives.*

It is the one that is the most adaptable to change.

– Charles Darwin

Thank you!

5th Golf Innovation Symposium

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