

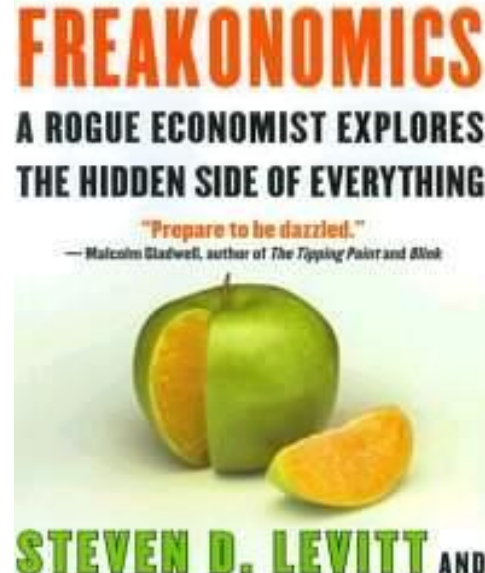
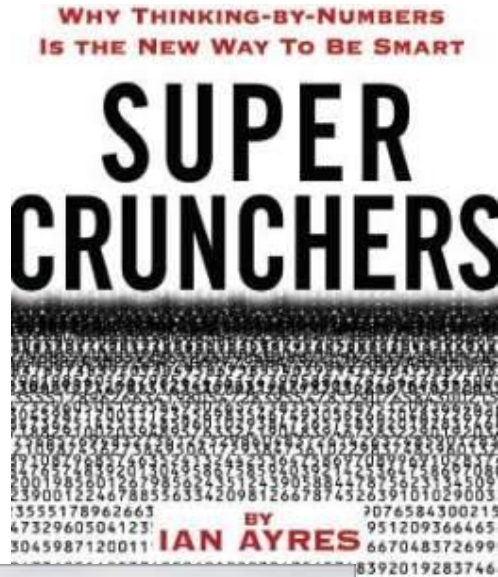
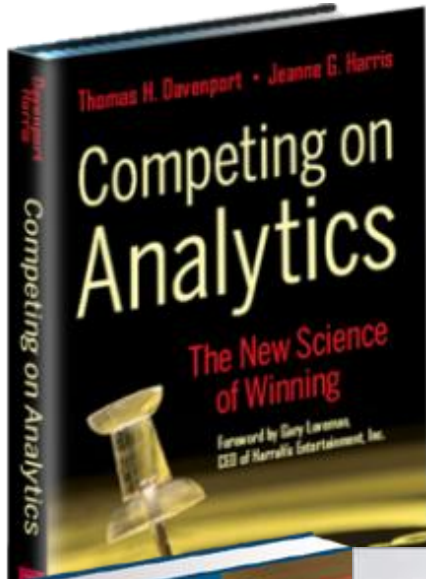


## **Analytics: The Art & Science of Better**

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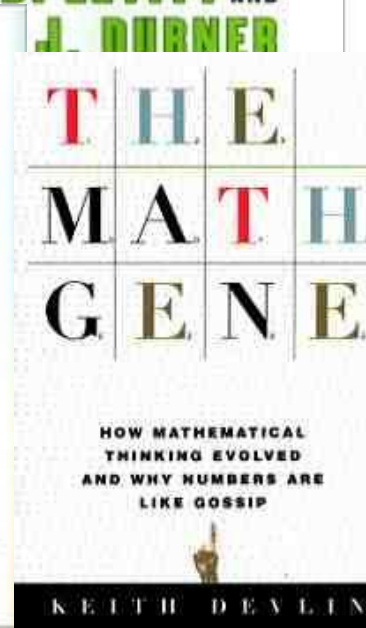
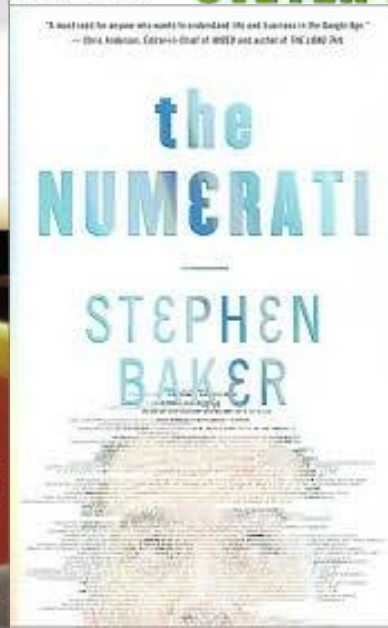
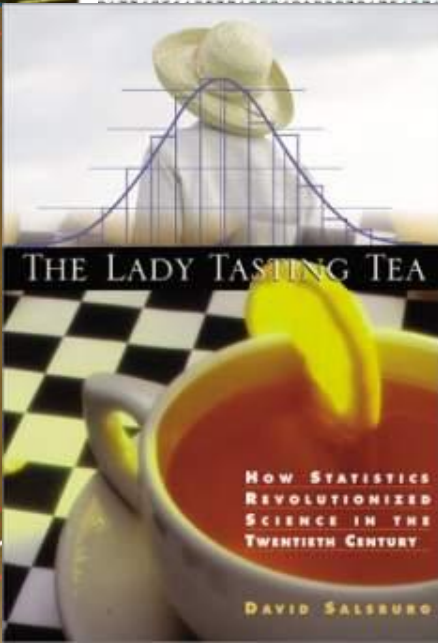
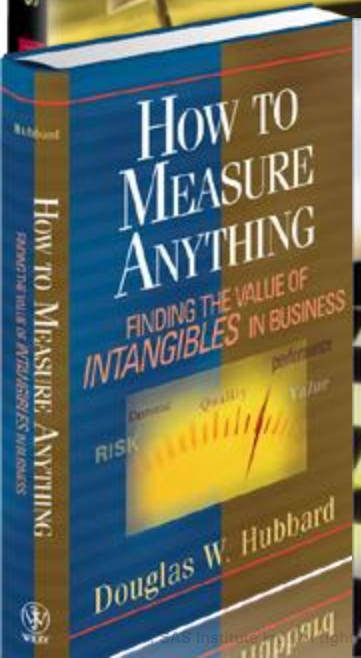
**THE  
POWER  
TO KNOW.®**

# Analytics: The Art & Science of Better



PREDICTABLY IRRATIONAL  
DAN ARIELY

*The Hidden Forces That Shape Our Decisions*



THE BLACK SWAN



Named by *Forbes* ONE OF THE SMARTEST BOOKS OF ALL TIME

FOOLED

BY

RANDOMNESS

*The Hidden Role of Chance in Life and in the Markets*

NASSIM NICHOLAS TALEB  
SECOND EDITION, UPDATED BY THE AUTHOR

# Analytics: The Art & Science of Better

Data are facts. Facts cannot lie, but they can often mislead.

Professor David Hand  
Imperial College of London

The enterprise is not a lab but we can still apply *science*

- Observe, define, and measure
- Experiment and learn
- Act

...to effect better

# Analytics: The Art & Science of Better

## Observe, define, and measure

- Simple observation is the first step.

### Hand washing

- 1847 Semmelweis
- 2006 Bender
- Problem formulation and definitions can be tricky.
- Measurement needs revisiting.



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## Experiment and learn

If you think education is expensive, try ignorance.

-Derek Bok

25<sup>th</sup> President of Harvard

- Seeing, understanding more than the obvious
- Efficient learning, *continuous* learning and improvement

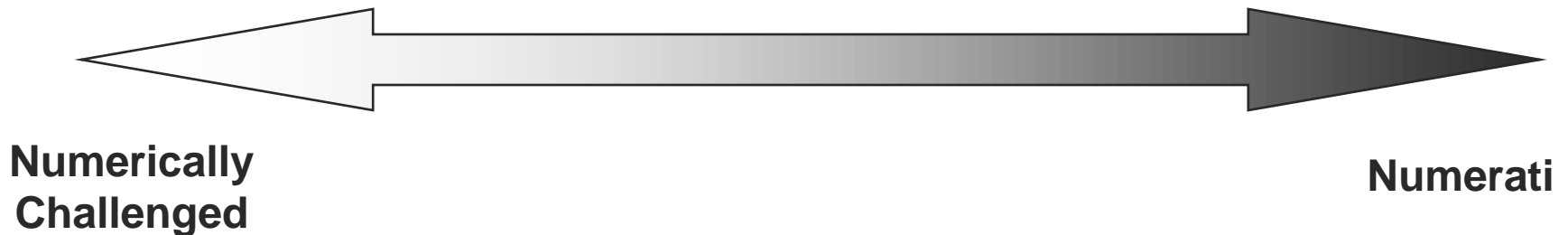
# Analytics: The Art & Science of Better

## Act

The object of taking data is to provide a basis for action.

-W. Edwards Deming

- Sharing Results
- Challenging Business As Usual



# Analytics: The Art & Science of Better

## Act

### Sharing Results: Model Deployment, **Visualization**

- The “answer” by itself is insufficient.
- Deriving more from data beyond spreadsheets, static graphs.
- Improving analysis impact—compelling visualizations can compel others to action.



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## Act

### Challenging Business As Usual

There is a better way to do it—find it!      -Thomas Edison

Better approaches are often right under our noses

- Microarray experiments
- Survival analysis of customer events
- Text analyzing the “voice of the customer”
- Large-scale, high-volume forecasting....

How to increase your chances of finding better ways?

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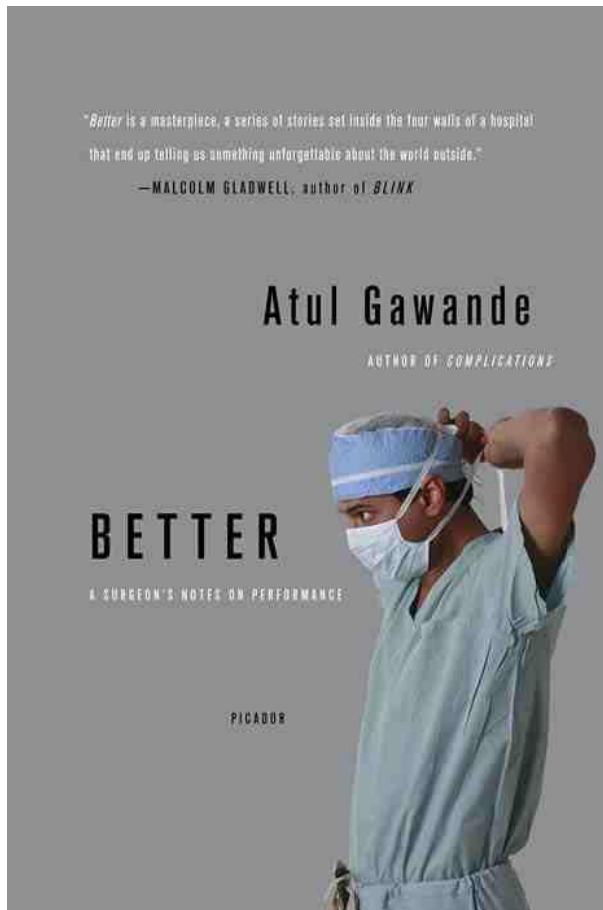
## Act

### Analytic Centers of Excellence

- An enterprise resource to promote analytics / “better”
- A central point for
  - developing and promoting best practices
  - driving innovation
  - creating value with more and better evidence-based decisions
- A means to address interdependencies across groups
- Dow example: <http://mis.dankook.ac.kr/jchoi/teaching/bi/analytics-DOW.pdf>



# Analytics: The Art & Science of Better



The social dimension turns out to be as essential as the scientific.

-Atul Gawande  
Surgeon & Writer



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