

# The Wisdom of Crowds

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- James Surowiecki
- Doubleday, 2004
- New Yorker staff writer
- Motley Fool columnist

“In crowds it is stupidity and not mother-wit  
that is accumulated.”

Gustave Le Bon/1895

- Francis Galton/1906 County Fair
  - Ox weight: N=787 1197 vs. 1198 pounds
- Hazel Knight/Columbia 1920s
  - Room Temperature: within 1°F
- “Who wants to be a millionaire?”
  - Experts: 65% vs. Audience average: 91%
- Kate Gordon/Sociologist
  - Weight Rank: N=200 mean 94% accurate > 5
- Jack Treynor/Finance Professor
  - 850 Jelly Beans: N=56 871 mean > 1

# Errors Average Out

- USS Scorpion
  - Sank in 1968
  - Fix within 20 miles
  - Depth 1000s of feet
  - John Craven/USN
  - Averaged guesses of many experts/fields
  - Submarine found within 220 yards of average
  - No one expert even close

# Self Organizing Behavior

- Commuting to work
  - Very little communication required
- Flocks of Starlings
  - Just a few simple rules: complex behavior
- William White/1969
  - “Street Life Project”: NYC pedestrians
- Brian Arthur/Bell and Sethares
  - “El Farol Problem”: 60% occupancy

# Tacit Knowledge

- Thomas Shelling
  - How to meet in NYC on a certain day
- Ultimatum Game
  - Proposer splits \$10 with Responder
- Public Goods Game
  - Consenters vs. Rationals vs. Altruists
- Pro-Social Behavior
  - Relationship Durability: “Shadow o/t Future”

# Exploiting the Wisdom

- Challenger Disaster
  - Launch decision centralized
  - Contractors
    - Rockwell: liquid fuel engines
    - Lockheed: ground support
    - Martin Marietta: fuel tanks
    - Morton Thiokol: solid fuel boosters
  - T+21 minutes trading of Morton Thiokol halted

# Exploiting the Wisdom

- Iowa Electronic Markets: elections
  - Outperforms polls
  - Within 1.37% of 2000 presidential election
- Hollywood Stock Exchange: movies
  - Best predictor of first weekend box office
  - 2002: 35/40 nominees, 6/6 major categories
- H-P: printer sales
  - Outperformed market management

# Exploiting the Wisdom

- DARPA FutureMap
  - Policy Analysis Market
  - “Betting on catastrophes”
  - Just like insurance companies
  - Continuing with “private funding”

# Common Elements

- Diversity of Opinion/Information Cascade
  - Specialization increases diversity
  - Non-experts reduce redundant information
  - One minority opinion improves rigor, nuance
  - **The Tipping Point** by Malcolm Gladwell
- Independence of Thought/Group Think
  - Bay of Pigs
- Decentralization/Centralized Control
  - U.S. vs. Soviet military doctrine

# Failures to Exploit

- Pay based not on performance
  - But performance relative to expectations
- “Better for reputation to fail conventionally than to succeed unconventionally”
- Group Polarization
- Social Comparison
- **Inviting Disaster** by James Chiles