Seoul National University

Announcements

Date

Name

SCONE Lab.

Announcements on March 19

- Schedule
  - 3/14: Examples
    - Read Ross Chapter 1
  - 3/19: Random Variables
    - Read MU 2.
  - 3/21:

    Random Variables
    - Read MU 2.

    Quiz
    - You may bring one A4 size, double side reference note
    - Should be original, hand-written, no photo copy
    - Last year's quiz, midterm/final exams will be post

Announcements on March 19 -Herd Behavior

- Information cascade (OR Herding)
  - One of important topics in social network analysis
- Banergee
  - People influenced by other person's behavior and decision
- Many examples
  - Stock market
  - Crowd
  - Fashion
  - Technologies
  - Products
  - Entertainment

Marketing


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'The Japanese Stieg Larsson' The Times
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More Examples, Experiments

- Imitation(Herding) good or bad?

- Restaurant
  - You read good review of A restaurant but no one is eating there while B restaurant next door has a long queue
  - What restaurant do you choose?

- Milgram's experiment
  - A group of people (One to 15) stare the sky
  - Up to 40% of passers-by also stop and stare the sky

- Evolution may have selected imitative abilities as fit

Experiments

- Anderson & Holt, 1996
- There are two bags each of which contains three balls
  - MB(Majority Blue) bag: Contains two blue balls and one red ball
  - MR(Majority Red) bag: Contains two red balls and one blue ball
- Randomly select one bag
  - Pr(MB bag) = Pr(MR bag) = 1/2
- In a class, students sequentially draw a ball from the selected bag
  - A student observes the color of the drawn ball and announces her guess whether the bag is MB or MR
  - Each student makes decision based on her own private information and prior announcements
- If the first student draws a blue ball, then what is her educated guess?

Experiments

- Pr[MB|b,b,r] = ?
- Pr[MR|b,b,r] = ?

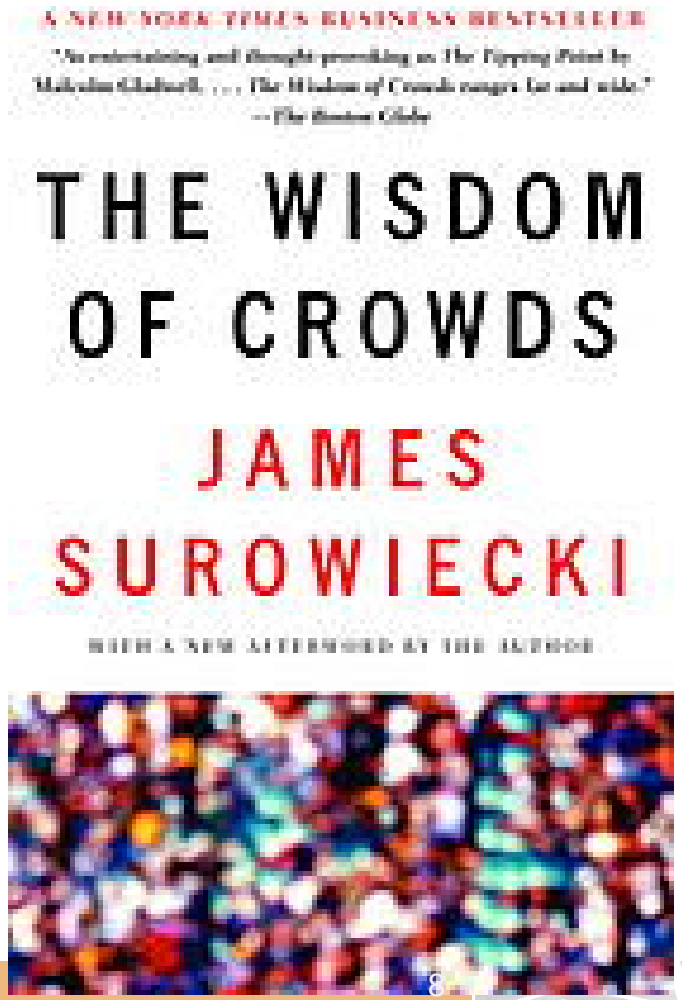
- Information cascade
  - After the MB→ MB sequence, the best guess for the third student who draws a red ball is MB
  - For the first and second students, their decision are the same as what they saw
  - After blue-blue occurrence, the third student's decision is not related to her private finding

- Whenever the number of MB announcements exceeds the number of MR announcements by two, information cascade occurs

Herding Good OR Bad

- Hamilton
  - Geometry For The Selfish Herd

Surowiecki



Experiments

- Now, if the second student draws a blue ball, what is her educated guess?

  Pr[MB|b,b] = ??

- If the ball sequence is (blue, red) then

  Pr[MB|b,r] = 1/2

  ➔ She announces the bag is MR

- First two students announce that the bag is MB

  ➔ Both draw blue balls

- Third student draw a red ball, what is her educated guess?