

Informational Cascades

Tutorial Session
NSYSU Kaohsiung 2014

Ivo Welch

Dec 2014

Bikhchandani, Sushil, David Hirshleifer, and Ivo Welch. "A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades," *The Journal of Political Economy* 100-5, October 1992, 992-1026. doi:10.1086/261849.

Presentation also based on other published and unpublished cascades papers.

Informational Cascades

1. Run an Experiment.
2. Explain What Happened.
3. Discuss Key Implications.
4. Discuss and Relax Assumptions. What was critical?
5. Some “Fun Anecdotal Evidence”

Experiment

- ▶ I will give you one card.
- ▶ Don't tell anyone your card.
- ▶ Red or Black *Deck*
- ▶ You have to guess.

Run

Hello, my Guinea Pigs.

Setup Explanation I

1. Some underlying state was true, one of two.
 - ▶ Red = Reps (or KMT) will win in 2016
 - ▶ Black = Dems (or DPP) will win in 2016
2. You had a private belief (signal).
 - ▶ Red Card
 - ▶ Black Card

They could even aggregate to the truth perfectly. I could have handed out all 52 cards.

3. There were no payoff externalities. Choosing one did not alter price of others.
4. You had homogeneous preferences and equal tradeoffs (NT-\$100).

Setup Explanation II

5. You didn't choose your time to choose.
6. You acted sequentially and could see what your predecessors were doing.
7. You could only line up on one or the other side: Red or Black.
8. You just saw what your predecessors *did*. You didn't observe other's signals and you could not communicate (credibly). Your actions spoke louder than words.

Inference and Result Explanation

1. Where will the most extreme signal push you?
2. PS: Why different from standard rational expectations?

Key Implication

1. Not an uncommon scenario. The setup is pretty robust.
2. Big importance of the first few actors.
We usually end up in in a cascade very quickly.
3. “Forever” herding...
4. ...unless we get more information from somewhere else.

Ingredients

1. Some underlying bounded true state. **State Space**
2. We all have beliefs (and bounded signals). **Signal Space**
3. There are no payoff externalities.
4. We have homogeneous preferences and equal tradeoffs.
5. We don't choose our time to choose.
6. We act sequentially.
7. We see what predecessors did.
8. We can line up on one or the other: R or B. **Action Space**
9. We don't observe signals and we don't talk (credibly). We just see what predecessors did.
10. Tie break rule.

Entrepreneurs and Overconfidence

1. “Forever” herding...unless something changes.
2. For example, public information release.
3. For example, some near-rational acts.
4. Group Selection??
5. CalTech Lab Experiments — false positive-negatives.

Entrepreneurs and Overconfidence

1. “Forever” herding...unless something changes.
2. For example, public information release.
3. For example, some near-rational acts.
4. Group Selection??
5. CalTech Lab Experiments — false positive-negatives.

Entrepreneurs and Overconfidence

1. “Forever” herding...unless something changes.
2. For example, public information release.
3. For example, some near-rational acts.
4. Group Selection??
5. CalTech Lab Experiments — false positive-negatives.

Some Evidence

- ▶ Roads
- ▶ IPOs: Big Success or Failure
- ▶ Stock market pricing?? yes and no.
- ▶ Programmed? Guppies. Dating.