

# The Validity of Peer-Created Knowledge.

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# My background

- Background in social networks (pre-Facebook)
- Use heavily in teaching (freshmen and MBAs).
- Recent research on Wikipedia
  - Article on the Virginia Tech Massacre
  - 200 articles nominated for “Featured Article” Status
  - Medical Articles on Wikipedia.
- Recently completed project with Partners (MGH, Brigham) on Web 2.0 in healthcare.
- “And other experience”

# Groups can create extremely valuable information.

- Track down lost submarines
- Find millions of dollars of gold in abandoned mines
- Figure out how to put toothpaste back in the tube
- Correctly identify the party responsible for the “Challenger” disaster.
- Correctly guess the number of jellybeans.
- MI021 at Boston College.

# Wisdom of Crowds...

- Groups can consistently make better decisions than even “expert” individuals.
- Why can crowds work so well?
  - Statistics. Just to be a geek...  $Y = \alpha + \beta X + \varepsilon$
  - In English... Observation = information + noise.
  - “Educated guess” is part education, part guess.
- What you need for better group knowledge
  - More information & unbiased noise.
  - Just as important to be truly “dumb” as smart.
  - Individuals should be wrong in different ways.

# “The Wisdom of Crowds”

(Surowiecki 2004)

- Under what conditions do groups consistently make better decisions than the best individuals?
  - Diversity of opinion - Different people with different knowledge
  - Independence - People aren't “lobbying” for particular decisions.
  - Decentralization - No single leader who controls communication
  - Aggregation - Appropriate mechanism to assemble opinions
- Web 2.0 provides many new tools for aggregation.

# “The Classic Example”

	<b>Wikipedia</b>	<b>Britannica</b>
● Editors	● Volunteers	● Paid Experts
● Cost	● Free	● About \$2K
● Entries	● 2M (Eng.)	● 120K/ 70K
● Updates	● Immediate	● Years
● Founded	● 2001	● 1768
● Errors?	● ~ 4/ entry	● ~3/ entry

# Why Wikipedia's bad press?

- Wikipedia can't defend itself: 7 paid employees, budget < \$1M/ year.
- "Pro-expert" bias in media and academics.
- Poor "new media literacy" of general public (Jenkins 2008).
  - Both great and poor info on Wikipedia, people often don't know how to tell difference (and Wikipedia doesn't help).
  - Encyclopedia analogy hurting more than helping?
- Wikipedia becoming brand name for all Web 2.0 knowledge creation.

Are groups always  
better?

Of course not....



# MEETINGS

NONE OF US IS AS DUMB AS ALL OF US.

[www.despair.com](http://www.despair.com)

# When crowds don't work.

1. Groupthink
  - When crowds are dumber than the individuals in it.
2. Wrong tools for the wrong task
  - Don't send a wiki to do the work of a blog.
3. Assuming "if you build it, they will come."
  - They won't.
4. Given the crowd the wrong job
5. Vandalism
  - Don't sweat the big stuff.

# 1) Groupthink: the “dumbness” of crowds.

- A mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members' strivings for unanimity override their motivation to realistically appraise alternative courses of action. Irving Janis (1972)
  
- Examples:
  - Bay of Pigs
  - Challenger Disaster
  - Iraq(?)

# Characteristics of Groupthink

- The opposite of the wisdom of crowds, can occur when...
  - Directive leadership.
  - Homogeneity of members' social background and ideology.
  - Insulation of the group from outside sources of information and analysis.
- Symptoms:
  - Excessive optimism that encourages risk taking.
  - Discounting warnings that might challenge assumptions.
  - An unquestioned belief in the group's morality.
  - Pressure to conform with group.

# Particularly dangerous for you!

- Patient groups are homogeneous and often insulated.
- These factors are a double-edged sword:
  - Builds trust & support
  - Can reinforce bad information
- A relatively small amount of outside information or influence is often enough to counteract.
- *Lesson: Make online patient groups non-insular.*
  - Inspire.com cross disease states.

## 2) The right tool for the right task

- Many organizations have blown the Web 2.0 thing (LA Times, Ebay, KP).
- Use the right tool for the right task
  - Social Networks – relationships
  - Wikis – collaboration and knowledge creation.
  - Blogs – community discussions
- A key difference: many organizations only have so much control
  - Partners & Facebook

# Not tools but features.

- Blurring of the lines between tools: Web 2.0 really about a bundle of features.
  1. Relationship persistence (Facebook, PLM)
  2. Synthesize Knowledge in Community
    - Wikipedia article top search result in 90% of health-related Google searches.
  3. Flexible Community Boundaries
    - Platforms allow niche groups and powerful movements (Facebook groups can exceed 100,000 in hours).
  4. Information Filtering – communities can rate the best contributions and contributors.

### 3) “If you build it...”

- Web 2.0 brings great new tools and capabilities.
- Don't forget... the value of online communities is the relationships, not the tools.
  - In the wisdom of crowds, aggregation is only 25% of the overall factor.
- Common mistakes
  - Cool new tools will attract people to use them.
  - People automatically know how to use them.
  - Robust communities will evolve on their own.
  - It automatically leads to productive collaboration.

# Tips for Web 2.0 communities

1. Recruit participants. In Web 2.0, more is better.
2. Get the right people into the core. A small number of people (1-10%) will do most of the work (50 – 90%). These people better be good.
3. Shape community development early on. Early intervention is easy, late intervention is hard.
4. Assign “gatekeepers.” Keep unwanted information and people out.
5. “Grow and Garden”. Start small and scale up. Deleting may be more important than adding.
6. Find a way for participants to identify and reward the best contributions and/or contributors.

## 4) Know what crowds can do (and what they can't)

- Crowds are good for creating and evaluating particular types of knowledge. (Howe 2006).
- Things to know about peer produced knowledge:
  1. The crowd is dispersed
  2. The crowd has a short attention span
  3. The crowd is full of specialists
  4. The crowd produces mostly crap
  5. The crowd finds mostly the best stuff

# 5) Vandalism

- Contribution made to intentionally degrade the value of knowledge.
  - Major vandalism – deleting pages, swearing, hate speech
  - Minor vandalism – slight changes, subtle jokes (“on wheels”), pushing agenda
- Larger the crowd = higher occurrence and lower impact of vandalism
- Minor vandalism much more difficult to deal with than major vandalism
  - VT article, top 3 heavily vandalized articles
  - Major vandalism fixed in less than minute.

# Some closing thoughts...

## (and stuff I couldn't fit elsewhere)

- Don't treat all Web 2.0 efforts the same – tools can vary, environment can vary (talk vs. article).
- Anonymity is a difficult for health groups. Highly associated with vandalism, valuable for health info.
- Don't be paralyzed by fears of vandalism. A good crowd can fight vandalism. Often easier to fix than vandalize.
- Provide mechanisms to find and identify the “best stuff.”
- Details are important. Don't lose sight of the small stuff.
- Communities (and their hosts) can learn. Peer production can improve over time, don't expect to (or try to) get everything right at first.