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# Transforming Business with Social Media Technologies

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## Who Am I?

- > Yuqing (Ching) Ren
- > 4<sup>th</sup> year Assistant Professor in the Information and Decision Sciences Department
- > Ph.D. from Carnegie Mellon University
- > Research Interests focus on online communities, collaboration technologies, knowledge management, and agent-based modeling of complex social networks
- > Teach IDSC 3001 and MBA elective on Web 2.0

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## Agenda

- > Engaging consumers and employees
  - > MovieLens Community research
- > Open innovation and crowdsourcing
  - > Amazon Mechanical Turk research
- > Open source and peer production
  - > Wikipedia research

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## Read This Book!

- > *Wikinomics: How Mass Collaboration Changes Everything*, by Don Tapscott and Anthony D. Williams

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## Why Web 2.0?

- > Facebook has 500 million users with 70% outside of US
- > Wikipedia has 3 million+ articles in English, all created by volunteers
- > Apache Web Server, an Open Source Software project, is the infrastructure for ~50% of all websites
- > Massively Multiplayer Online Games were a \$1 billion market in North America & Europe in 2006
- > Dell, IBM, and NASA creating spaces in Second Life

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## Web 1.0 to Web 2.0

> <b>Web 1.0</b>	> <b>Web 2.0</b>
> Static	> Dynamic
> Publishing	> Collaborating
> Non user enhanced	> User generated

The old Web is about sites, clicks, and eyeballs  
The new web is about communities, participation, and peering

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## Web 1.0 versus Web 2.0

Web 1.0	Web 2.0
DoubleClick	--> Google AdSense
Ofoto	--> Flickr
Akamai	--> BitTorrent
mp3.com	--> Napster
Britannica Online	--> Wikipedia
personal websites	--> blogging
evite	--> upcoming.org and EVDB
domain name speculation	--> search engine optimization
page views	--> cost per click
screen scraping	--> web services
publishing	--> participation
content management systems	--> wikis
directories (taxonomy)	--> tagging ("folksonomy")
stickiness	--> syndication

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## Web 2.0 as a Platform

- > According to Tim O'Reilly, Web 2.0 is the business revolution caused by the move to the Internet as platform, and the key to success is users add value and building databases that get better the more people use it

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## Key Tools of Web 2.0

- > Blogs - An online journal that keeps a running chronology of entries.
- > Wikis - A website that anyone can edit directly from within the browser
- > Social Networks - Online community that allows users to establish a personal profile and communicate with others
- > Other Tools (RSS, Folksonomies, Mashups, Virtual Worlds, Rich Media, Twitter/microblogging)

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## Wikinomics: The Art and Science of Peer Production

- > Wikinomics, the new model of innovation and value creation called "peer production" or peering, describes what happens when masses of people and firms collaborate openly to drive innovation and growth in their industries

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## The Four Principles of The New Web

- > Openness
- > Peering
- > Sharing
- > Acting globally

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## NBA on Social Media

- > Among professional leagues, N.B.A. has the most fans on Facebook (5.3 million), the most followers on Twitter (2.1 million) and the most viewed videos on YouTube (438 million).
- > All 30 teams have a presence on Facebook and Twitter. Nearly 200 players — more than 40 percent of the league — have Twitter accounts.
- > Besides workouts and lunch, players also express sentiments: "Loosing people eryday, enjoy ya life n i know its hard but try n do so wit no regrets!"

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## Coca-Cola Social Media

- > To build “brand love” and “brand value”
  - > Feeds on Twitter
  - > Video on YouTube (\$100K)
    - Happiness machine on campus
  - > Expedition206.com
    - Three 20-sth to 206 countries
    - Blog on Twitter and Flickr



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## Engaging Consumers as Prosumers

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## A New Model of Prosumption

- > Customers do more than customize or personalize their wares; they can self-organize to create their own designs or ads.
  - > It makes big impacts with fewer resources
  - > It innovates more rapidly and engages stakeholders in loyal communities
  - > It benefits from positive feedback loops that are difficult for competitors to reverse

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## The Twister Bot

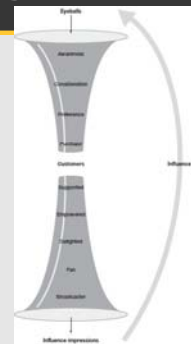


<http://mindstorms.lego.com/MeetMDP/RobT.aspx>

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## Change of Marketing Funnel

- > Purchase of customers are not the end of marketing, but only half-done. From that point, firm needs to support and empower customers to make them happy, because this can lead to even bigger sales.



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## Mass Connectors

- > Mass influencers who issue their influence through **massive social networks**. These people often use Twitter or Facebook as channel to influence others and are heavily trusted.
  - > 80% impressions from 6.2% or 11 million very connected people with 537 (versus 133 for average people) friends or followers

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## Mass Mavens

- > Mass influencers who issue their influence through blogs, discussion forums, online reviews. These people are extremely productive and are highly likely to cover top several search results of related online search terms.
  - > 1.31 billion post every year from 13.4% or 24 million people (not just blogging but also 60% from discussion forums, ratings, and reviews)

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## Harnessing Prosumer Communities

- > More than customization
- > Losing control
- > Customer tool kits and context orchestration
- > Becoming a peer
- > Sharing the fruits

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Threadless graphic t-shirt designs: cool & funny t-shirts weekly! Tees designed by the community. Mozilla Firefox

Threadless.com

Guys - Girls - Participate - Info

0 items in your cart

**SWEET TEES & SWEETIES**  
through Sunday, February 15 all girly tees on sale starting at \$9

New tees for MONDAY, FEBRUARY 9

THE 2009 BEST OF THE MONTH

Vote for Best of the Month

HUH? THREADLESS?

Submit a design, earn \$2,500!! Mozilla Firefox

Threadless.com

Guys - Girls - Participate - Info

0 items in your cart

**Submit an idea for a chance at fame, friends & TWENTY-FIVE HUNDRED DOLLARS!**

**Design**

Not sure if your design is ready? Why don't you submit it for a critique? You can get community feedback on your ideas to help you finalize your designs.

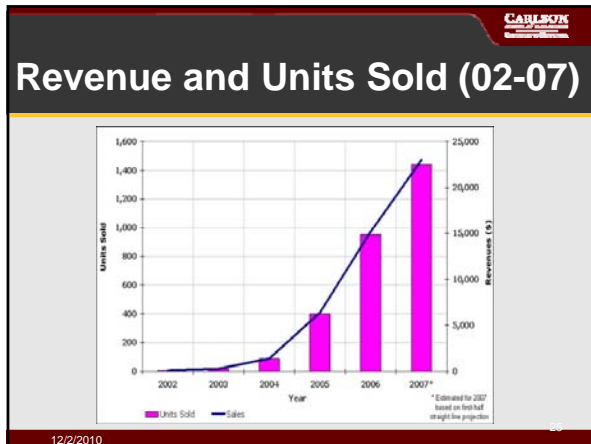
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## Community Growth 02-07

Year	Population
2002	10
2003	35
2004	85
2005	235
2006	435
2007*	508

\*Figures as of June 2007

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## Part Share

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## How to Build a Vibrant Online Community

- ## Not An Easy Task
- > Deloitte 's 2008 Tribalization of Business Survey
    - > A majority of communities have **fewer than 500 active members** and 50% respondents said biggest obstacle to making communities is to get people engaged
    - > Companies also reported a significant impact from the communities. 35% have seen an increase in word-of-mouth for their brands, 28% have seen their overall brand awareness, 24% have seen increase customer loyalty and bringing outside ideas into the firm.

- ## Critical Mass Theory
- (Oliber, Marwell, & Teixeira 1985)
- > "Snob and bandwagon effects"
  - > To predict the probability, extent, and effectiveness of group action, you need to consider two variables:
    - > The shape of the **production function**
    - > Heterogeneity of resources and interests in the population with **interests** being the values individuals place on the public goods and **resources** being what individuals must contribute to achieve it

- ## Two Bases of Commitment to Groups
- (Prentice, Miller, and Lightdale, 1994)
- > **Group Identity**
    - > Commitment to the group as a whole & what it stands for
    - > Group commitment can be independent of commitment to its members (e.g., National Rifle Association, Sierra Club)
  - > **Interpersonal Bonds**
    - > Commitment to the group through commitment to its members
    - > Like the group to the extent one knows, likes & feels similar to particular members (e.g., Fraternity, friend circles)

# Translating from Theory to Design

Guidelines	Identity-Based Commitment	Bond-Based Commitment
<i>Provide detailed information</i>	<ul style="list-style-type: none"> <li>about a social category</li> <li>emphasizing group homogeneity</li> <li>highlighting out-group presence</li> </ul>	<ul style="list-style-type: none"> <li>about particular members</li> <li>emphasizing interpersonal similarity</li> <li>highlight individual identities</li> </ul>
<i>Facilitate repeated exposure</i>	<ul style="list-style-type: none"> <li>to the group</li> </ul>	<ul style="list-style-type: none"> <li>to individual others</li> </ul>
<i>Support communication</i>	<ul style="list-style-type: none"> <li>with one's entire group</li> </ul>	<ul style="list-style-type: none"> <li>with individual others</li> </ul>

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# Research Site: MovieLens.org


- > Personalized movie recommendation site
- > Discussion forums added in June 2005
- > New features
  - > Movie groups
  - > Profiles page
  - > Recent activity page
  - > Commenting



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# Ten Movie Groups


- > Ten clusters of users with similar size and level of activities based on cosine similarity between user movie ratings
- > Animal names such as Tiger, Bear, ...



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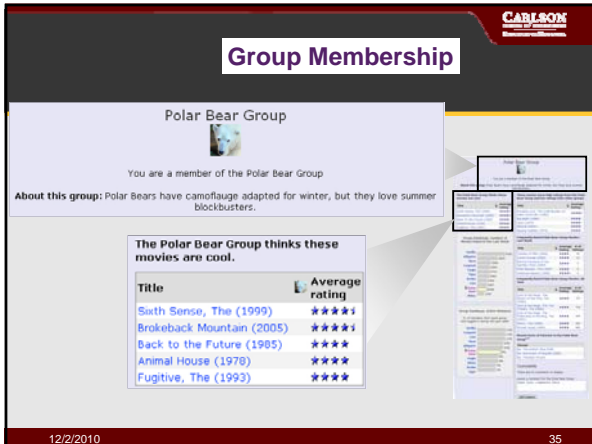
# Group Profiles

- > Group membership
  - > Group name and icon
  - > Group statement
- > Group homogeneity
  - > Representative movies
  - > High rating movies
  - > Frequently rated movies
- > Out-group presence
- > Group rankings



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# Group Membership



**Polar Bear Group**  
You are a member of the Polar Bear Group

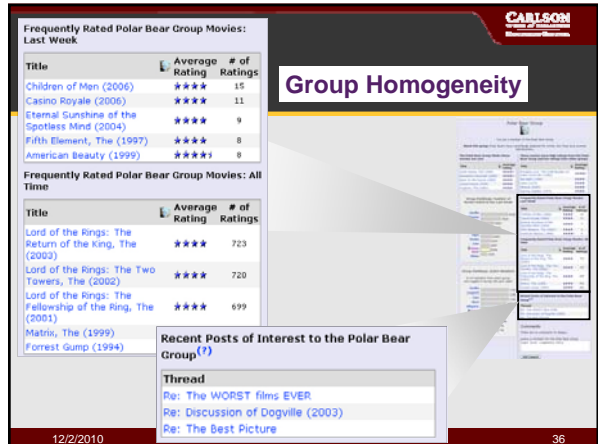
About this group: Polar Bears have camouflage adapted for winter, but they love summer blockbusters.

The Polar Bear Group thinks these movies are cool.

Title	Average rating
Sixth Sense, The (1999)	★★★★★
Brokeback Mountain (2005)	★★★★★
Back to the Future (1985)	★★★★★
Animal House (1978)	★★★★★
Fugitive, The (1993)	★★★★

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# Group Homogeneity



**Frequently Rated Polar Bear Group Movies: Last Week**

Title	Average Rating	# of Ratings
Children of Men (2006)	★★★★	15
Casino Royale (2006)	★★★★	11
Eternal Sunshine of the Spotless Mind (2004)	★★★★	9
Fifth Element, The (1997)	★★★★	8
American Beauty (1999)	★★★★	8

**Frequently Rated Polar Bear Group Movies: All Time**

Title	Average Rating	# of Ratings
Lord of the Rings: The Return of the King, The (2003)	★★★★	723
Lord of the Rings: The Two Towers, The (2002)	★★★★	720
Lord of the Rings: The Fellowship of the Ring, The (2001)	★★★★	699
Matrix, The (1999)	★★★★	699
Forrest Gump (1994)	★★★★	699

**Recent Posts of Interest to the Polar Bear Group (?)**

Thread

Re: The WORST films EVER

Re: Discussion of Dogville (2003)

Re: The Best Picture

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## Comparison with Other Groups

Group Rankings: Number of Movies Rated in the Last Week

Gorilla	6426
Alligator	4528
Bear	2000
Leopard	2044
Eagle	2714
Tiger	2681
Snake	2164
Lion	2087
Polar	2058
Bear	1432
Rhino	1432

Group Rankings: Active Members

Gorilla	11%
Leopard	11%
Lion	10%
Bear	10%
Alligator	10%
Polar	9%
Bear	8%
Eagle	8%
Rhino	7%
Snake	7%
Tiger	7%

These movies have high ratings from the Polar Bear Group and low ratings from other groups.

Title	Average Rating
Paradise Lost: The Child Murders at Robin Hood Hills (1996)	★★★★
Big Night (1996)	★★★★
Jaws (1975)	★★★★
Miracle (2004)	★★★★
Blazing Saddles (1974)	★★★★

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## Individual Profiles

- > Individual information
  - > User ID and picture
  - > Movie group
  - > Personal information
- > Interpersonal similarity
  - > Similarly rated movies
  - > Differently rated movies
  - > Movie predictions

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baa

This user is in the Snake Group.

Personal Information

Name: Iowa City  
City: Iowa City  
State: IA  
Country: USA  
Gender: Male  
Age:  
Favorite color: Green  
Web Page: <http://geohawk.blogspot.com>

Joined MovieLens: before June 1998  
Last visit to MovieLens: January 11, 2007

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### Similar Ratings

Did You Know?  
You and baa rate these movies high:

Title	Your Rating	baa's Rating
Different Ratings	★★★★	★

You and baa disagree on these movies:

Title	Your Rating	baa's Rating
Predictions	★★★★	★

MovieLens recommends these movies that baa rated high:

Title	baa's Rating	Your Prediction
War Room, The (1993)	★★★★	★★★★
Sling Blade (1996)	★★★★	★★★★
Rosecrantz and Guildenstern Are Dead (1990)	★★★★	★★★★
Miller's Crossing (1990)	★★★★	★★★★
Stand by Me (1986)	★★★★	★★★★

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## Main Findings

- > Theory-inspired designs increased self-report commitment, visit frequency, and contribution
  - > 11%-100% increase in visit frequency
- > More features were sometimes (not always) better
- > Newcomers and old-timers responded differently, and newcomers were more open and responsive to the new features

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## Crowdsourcing & Open Innovation

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## From R&D to C&D

- > Invention model
  - > Innovating from within by building global research facilities and hiring the best talent
  - > *Come from labs*
    - 7,500 researchers
  - > "Not invented here"
- > Open Innovation Model
  - > External connections could produce high profitable innovations (50% from outside of the company)
  - > *Come through labs*
    - 1.5 million talents
  - > "Proudly found elsewhere"





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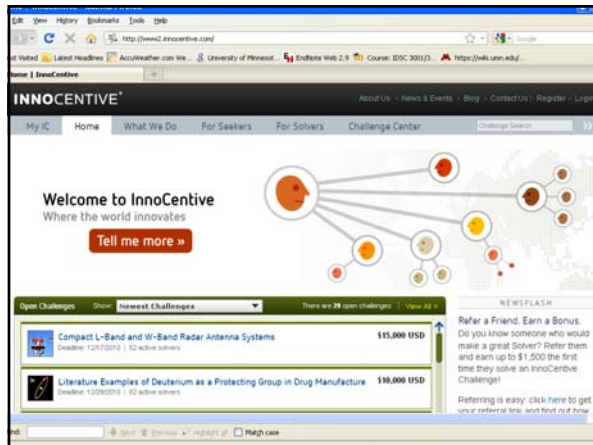
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## Problems In Search of Solutions

- > P&G and its connect and develop initiative (from 9K researchers to 1.8 million scientists and engineers)
  - > The Pringles Prints example
- > The strategy enables P&G to focus on areas where they're going to be world class and to source technology in areas where they don't need to be leading edge

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## Open Innovation Marketplace

- > **Solvers:** choose a Discipline and search for a Challenge that you can solve! Submit the winning solution and earn cash awards from \$5,000 to \$1,000,000. Or visit one of our Pavilions to search for Challenges based on areas of interest.
- > **Seekers:** tapping into the solver community can generate more ideas and solutions, enabling Seekers to produce breakthrough products, accelerate their development cycles and stay ahead of the competition through innovation and faster time to market.

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## Challenge Disciplines

- > Business and Entrepreneurship
- > Computer Science and Information Technology
- > Mathematics and Statistics
- > Engineering and Design
- > Physical Sciences
- > Food/Agriculture
- > Life Sciences
- > Chemistry



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## Pavilions

- > SAP
- > NASA
- > Nature
- > Developing Countries
- > Clean Tech
- > Global Health
- > Public Good
- > Emergency Response










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## Four Challenges Types

- > The Big Idea: the Ideation Challenge
  - > Brainstorm new idea (reward guaranteed)
- > The Design: Theoretical Challenges
  - > A detailed description of a solution (get a reward or technical evaluation of the solution)
- > The Proof: Reduction to Practice Challenges
  - > A description of solution together with physical evidence that it is the best solution
- > The Final Product: eRFP Challenges
  - > To submit proposal of how one's skills and experiences fit what seeks want (terms negotiated)

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## Chemistry Examples



- > A process to improve the stability of viscous whipped food products is needed (50K)
- > A technology is desired that produces a pleasant scent upon stretching of an elastomer film (50K)
- > An adhesive suitable for high temperature bonding is desired (30K)

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## Engineering Examples



- > A material is needed to replace aluminum that has similar thermal properties (15K)
- > Novel anti-fingerprint coating material is desired (50K)
- > The Seeker wants to identify the origin of unpleasant flavor of a food product and to find ways to eliminate it (50K)

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## One More ...



- > A challenge seeking the design of an affordable solar-powered device to prevent or limit the spread of malaria had been solved. The Challenge was posted by Mark Bent, CEO of [SunNight Solar](#).
- > Mark's interest in eradicating malaria comes from his own personal experience, and from his ongoing desire to help the world's most vulnerable populations.
- > I asked Mark to provide some thoughts on the background of this Challenge, which he has kindly done in the post below. Next week we'll hear from the Solver of this Challenge, [Tom Kruer](#).



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## Seekers

- > **Confidentiality and Convenience.** Become an InnoCentive [Seeker](#) to reach out to thousands of Solvers. It's easy and secure. Seeker and Solver identities are kept completely confidential, and InnoCentive manages the entire intellectual property (IP) transfer process.
- > **Pay for Results -- Not Trial and Error.** As a Seeker organization, you'll present your toughest problems in InnoCentive's [Open Innovation Marketplace](#). Each Challenge is associated with a financial incentive, and payment is only made to the Solver who provides the solution that you select as the best for your requirements.

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## Solvers

- > In order to ensure security for both the Solver and Seeker, we need your legal name and contact information. Please enter a valid e-mail address. You will need to **confirm your e-mail address** to activate your account.
- > You agree that your registration information at all times correctly represents your professional affiliation, experience, qualifications and ability to transact business.
- > If you submit a Proposed Solution in response to an InnoCentive Challenge Statement, you agree that you are the owner of the submitted Proposed Solution and that you are legally free to make the disclosure and to convey the intellectual property rights being offered to the Seeker.

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## Harnessing Open Innovation

- > Creating liquidity
  - > too few buyers and sellers
- > Instilling the culture
  - > CEO level leadership and a commitment to appropriate staffing, incentives, etc.
- > Harvesting external ideas
- > Getting the right ratio
- > Pushing the envelope

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## Organizational Learning

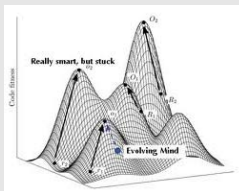
(James March 1993)

- > **Exploration** includes search, variation, risk taking, experimentation, play, flexibility, discovery, innovation
- > **Exploitation** includes refinement, choice, production, efficiency, selection, implementation, execution
- > Maintaining an appropriate **balance** between exploration and exploitation is a primary factor in system survival and prosperity.

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## Adaptation on Rugged Landscape (Levinthal 1997)



- > Local Search
- > Global Search
- > Tightly coupled organizations can not engage in exploration without forgoing the benefits of exploitation.

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## The Coase's Law

- > Coase (1937) The Nature of Firm
  - > Search costs of finding suppliers
  - > Contracting costs of negotiating prices
  - > Coordination costs of meshing products / processes
- > ... the Internet has caused transactions to plunge so steeply that it has become more useful to read Coase's Law, in effect, backward: shrink firm boundaries until the costs of performing internally no longer exceeds the cost of performing it externally.

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## Other Platforms



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## Crowdsourcing

- > The act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call
  - > InnoCentive.com (seeker & solver)
  - > Threadless.com (t-shirt design contests)
  - > Amazon Mechanical Turk (requester & worker)
  - > Facebook translation and Netflix 1M Prize

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# Amazon Mechanical Turk

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# Online Marketplaces for Work

amazonmechanicalturk

Introduction | Backboard | Status | Account settings

Already have an account? Sign in as a Worker | Employer

**Mechanical Turk is a marketplace for work.**  
We give businesses and developers access to an on-demand, scalable workforce. Workers select from thousands of tasks and work whenever it's convenient.  
**13,186 HITs available. View them now.**

**Make Money**  
by working on HITs  
HITs - Human Intelligence Tasks - are individual tasks that you work on. [Learn more.](#)

**As a Mechanical Turk Worker you:**

- Can work from home
- Choose your own work hours
- Get paid for doing good work

**Find an interesting task** → **Work** → **Earn money**

[Get HITs Now](#)

[Read more about being a Worker](#)

**Get Results**  
from Mechanical Turk Workers  
Ask workers to complete HITs - Human Intelligence Tasks - and get results using Mechanical Turk. [Get started.](#)

**As a Mechanical Turk Employer you:**

- Have access to a global, on-demand, 24 x 7 workforce
- Get thousands of HITs completed in minutes
- Pay only when you're satisfied with the results

**Find your account** → **Load your tasks** → **Get results**

[Get Started](#)

[Read more about being a Employer](#)

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# Quality Issues in AMT

- > Human Intelligence Tasks (HITs) are often trivial
- > Little control over a large number of tasks
- > Low payment does not motivate people
- > "I've tried now posting the same job three times - with more instructions each time - and yet the people completing the job aren't doing it right. [...] Any ideas on how to get better data accuracy?"

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# Task Significance in Job Design

- > "One's job has a positive impact on other people"
- > Alumni caller raised more money after reading stories about how funding had helped students (Grant, 2008)
- > Life guards who read stories on people who were saved indicated more job dedication (Grant, 2008)
- > Interpersonal contact with beneficiaries can improve performance (Grant et al., 2007)

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# Research Questions

- > Q1: Does task significance matter in online marketplaces for work? In other words, can we influence work quantity or quality by informing them how their work will benefit others?
- > Q2: How does the effect of task significance compare to alternative ways of task and incentive task such as task size and monetary rewards?

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# Laboratory Experiment

- > Between-subject and 8 conditions
  - > Presence and absence of task significance
  - > One paragraph vs. three paragraphs
  - > 20 cents vs. 30 cents per paragraph
- > 163 participants randomly assigned to a condition
- > Training task before 30 minutes of work
- > 10 minutes Post-Questionnaire

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## Spell Checking Task

- > Paragraphs taken from Wikipedia
  - > Business, Music and Sports
- > Inserted 3-7 spelling errors per paragraph

In spite of popular belief, actuaries do not always "attempt" to predict aggregate future events. Often "there" work may relate to determining the cost of financial liabilities that have already "occurred", called retrospective reinsurance, or the development or re-pricing of new products. Actuaries also design and maintain products and systems. They are involved in "financial" reporting of companies' assets and liabilities. They must communicate complex concepts to clients who may not share their language or depth of knowledge. Actuaries work under a strict code of ethics that covers their communications and work products, but their clients may not adhere to those same standards when "enterpreting" the data or using it within different kinds of businesses.

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## Task Interface



"These paragraphs come from articles on Wikipedia, a free online encyclopedia that anyone can edit. Wikipedia was launched in 2001 and is currently the largest and most popular general reference on the Internet. It hosts more than 3 million articles in English and is ranked as the 6<sup>th</sup> most visited website in the world. Despite its success, Wikipedia has received many criticisms about the reliability and accuracy of its articles. By fixing typographical and spelling errors in these paragraphs, you will help improve the quality of these articles. Many Internet users who read and refer to these articles will benefit from your work."

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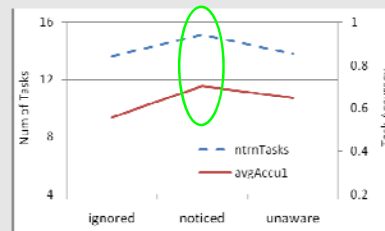
## Summary of Results

Means and Standard Deviations of Manipulation Conditions

Condition	Number of Paragraphs		Task Accuracy	
	Low	High	Low	High
Task Significance	13.82 (4.41)	14.02 (5.89)	0.65* (0.15)	0.60* (0.20)
Task Size	12.42* (4.02)	15.40* (5.76)	0.63 (0.18)	0.61 (0.17)
Monetary Payment	13.66 (4.75)	14.17 (5.58)	0.62 (0.19)	0.62 (0.16)

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## Task Significance Works... Only If People Notice It



Effects of Task Significance on Task Performance

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## Open Source & Peer Production

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## Peer Production

- > A new way of producing goods and services that harnesses the power of mass collaboration
- > A way of producing goods and services that relies entirely on self-organizing, egalitarian communities of individuals who come together voluntarily to produce a shared outcome



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## Open Source

- > A set of principles and practices on how to write software, the most important of which is that the source code is openly available
  - > The software can be freely given away or sold
  - > The source code must either be included or freely obtainable
  - > Redistribution of modifications must be allowed


Nobody owns it, Everybody uses it, Anyone can improve it

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## Open Source History

- > GNU project in 1983
- > Free Software Foundation in 1985
- > Linux kernel released in 1991



Richard Stallman



Linus Torvalds

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## What Motivates People to Freely Contribute

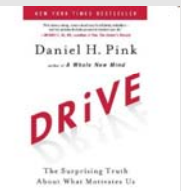
- > A better product
- > Fun and altruism. People love it. They feel passionate about their area of expertise and revel in creating something new or better
- > Experience, exposure, and connections. Good people earn status within the community that could be valuable in their careers
- > They do get paid, well, some of them do. IBM and Intel are two largest contributors to Linux in terms of manpower

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## Intrinsic vs. Extrinsic Motivation



- > **Intrinsic motivation** occurs when an activity satisfies basic human needs for competence, control, and autonomy. It makes the activity interesting and likely to be performed for its own sake rather than as a means to an end (Deci and Ryan 2000).
- > **Extrinsic motivation** stems from the environment external to the task and is usually applied by someone other than the person being motivated (Johns 1996).

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## How Peer Production Work

- > **Leadership.** The most skilled and experienced members provide leadership and help integrate contributions from the community.
- > **Division of Labor.** Peering taps into voluntary motivations and self selection in a way that helps assign the right person to the right task.
- > **Intellectual Property Right.** Communities of producers use "general public licenses" to guarantee users the right to share and modify creative works provided that any modifications are shared with the community.

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## Other Platforms and Money



















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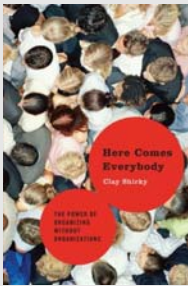
# Wikipedia Project

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# The Power of Organizing without Organizations

- > A book about "what happens when people are given the tools to do things together, without needing traditional organizational structures."

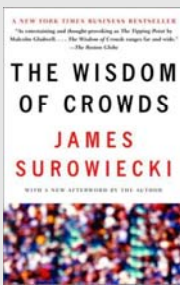


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# Wisdom of Crowds

- > Large groups of people are smarter than an elite few, no matter how brilliant, better at solving problems, fostering innovation, making decisions, and predicting the future
  - > Poll the audience
  - > Prediction markets
  - > Wikipedia articles



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# Diversity Paradox

- > There is an interesting paradox in online self-organizing groups like Wikipedia and open source software projects
  - > Diversity in background, expertise, and perspectives is one of the four conditions that are essential to harness the "wisdom of crowd"
  - > Different background and perspectives may lead to conflict, low group cohesion, and high turnover

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# Research Questions

- > How does (tenure and interest) diversity affect group productivity and member withdrawal in online self-organizing groups?
- > How are the effects of diversity similar or different in the online groups and why?
- > How does group composition such as diversity evolve in online self-organizing groups?

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# Wikipedia: the Free Encyclopedia

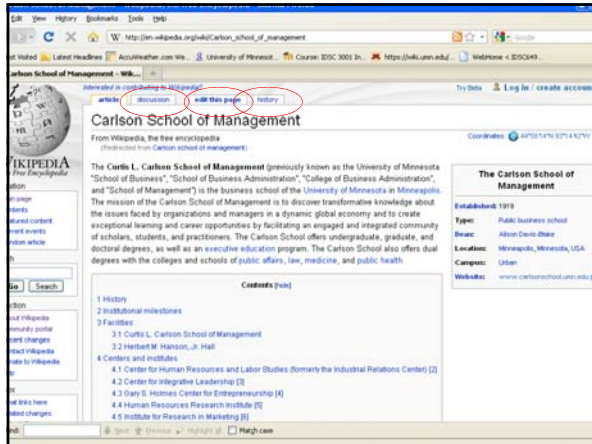


Page statistics	
Content pages	3,255,733
Pages (All pages in the wiki, including talk pages, redirects, etc.)	20,039,063
Uploaded files	845,510

User statistics	
Registered users	12,126,624
Active registered users (list of members) (Users who have performed an action in the last 30 days)	154,515

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## Research Setting

### Wikipedia:WikiProject

From Wikipedia, the free encyclopedia

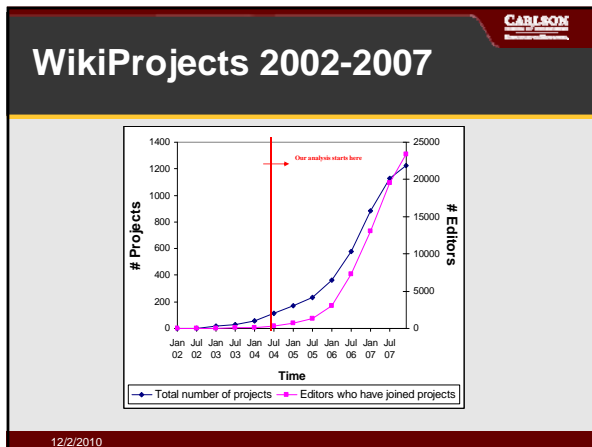
*Note: Wikipedia WikiProjects are not Wikimedia sister projects; nor are they Wikipedia school and university projects.*

A **WikiProject** is a collection of pages devoted to the management of a specific topic or family of topics within Wikipedia; and, simultaneously, a group of editors who use those pages to collaborate on encyclopedic work. It is not a place to write encyclopedia articles directly, but a resource to help coordinate and organize the writing and editing of those articles.

The discussion pages attached to a project page are a convenient forum for those interested in that project.

**Shortcuts:**  
WP:PROJ  
WP:P.J

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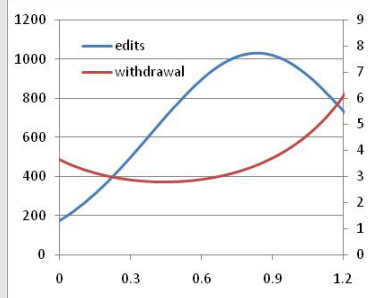


## Sample WikiProjects

- > January 2008 dump of English Wikipedia (text of all articles and talk pages, including their complete edit history)
- > 648 projects created after July 2004
- > 3619 project quarters

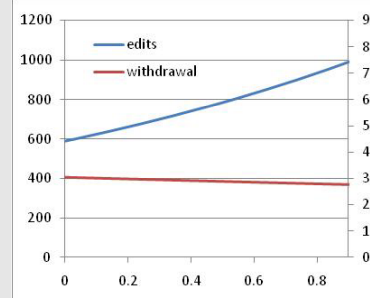
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## Effects of Tenure Disparity



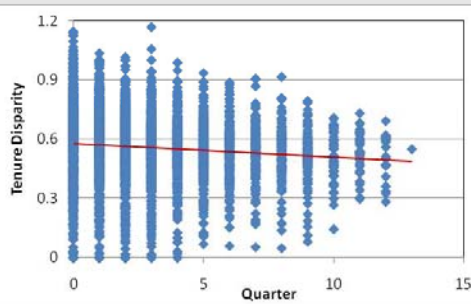
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## Effects of Interest Variety



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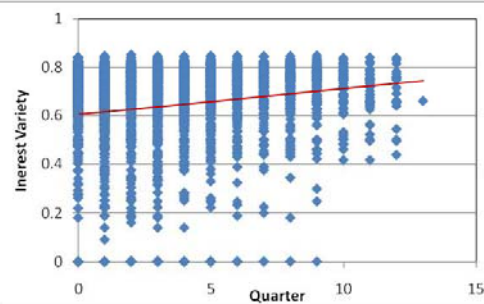
## Evolution of Tenure Disparity



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## Evolution of Interest Variety



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## Summary of Findings

- > Curvilinear effects of tenure diversity
- > Overly positive effects of interest diversity
- > Evolution of diversity toward "optimal levels"
- > Self-organizing in online group allows us to harness the wisdom of a diverse crowd while suffering less of the negative consequences

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## Peer Production in the Workplace

- > Self organized approach to teaming
- > Time allocation
- > Decision making
- > Resource allocation
- > Corporate communication



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## Impact of Wiki on Hierarchy

- > We are shifting from closed and hierarchical workplaces with rigid employment relationships to increasingly **self-organized, distributed, and collaborative** human capital networks that draw knowledge and resources from inside and outside the firm.

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## Impact of Wiki on Communication

- > Management innovation like the Retail Leadership Forum change the rules with respect to **whom people talk to, how they talk to each other, and what they talk about.** In most workplaces talking to your boss's boss is a no-no. Disrespecting the established channels of authority might even get you fired.

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## What is Changing?

- > Work has become more cognitively **complex**, more team-based and **collaborative**, more dependent on **social skills**, more time **pressured**, more reliant on **technological** competence, more **mobile**, and less dependent on geography.
- > The N-Gen's norms reflect a desire for **creativity, social connectivity, fun, freedom, speed, and diversity** in workplace whereas previous generations value **loyalty, seniority, security, and authority.**

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## Best Buy's Twelpforce

- > Supporting the brand promises with the knowledge of 150,000 \* Know all that we know \*



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## TagTrade



- > In 2006, armed with the CEO's support, a \$50,000 budget, and some volunteers, Jeff Severts started experimenting a prediction market.
- > TagTrade is open to Best Buy's 115K US employees. About 2,100 choose to participate with \$1M fake money. The top trader wins a \$200 gift certificate.

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## Tag Trade Video



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## IBM Use of Social Media

- > Three principles to harvest the value
  - > Grassroots passion: make it easier for people to connect with those with similar interests
  - > Self-serve co-generation: promote self-serve ability by making it easier to add and share information
  - > Planned serendipity: to ensure that people, data, and applications are circulated so that under-explored expertise and relationships will surface

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## Three Applications at IBM

- > ThinkPlace an open forums for employee innovation
  - > Suggest ideas, comment, rate, sort, prototype, implement
  - > 160K users and 18K ideas (350 adopted to 500 million)
- > SmallBlue to visualize and leverage social networks
  - > "find" to search for people with desired knowledge
  - > "net" to visualize community around a topic
  - > "reach" to validate a person's expertise
  - > "ego" to visualize one's personal network
- > Beehive for social networking and relationship building

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## Thank You. Questions?

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