Transforming Business with Social Media Technologies

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Carlson School of Management

12/2/2010
Who Am I?

> Yuqing (Ching) Ren

> 4th 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

12/2/2010
Agenda

- Engaging consumers and employees
  - MovieLens Community research
- Open innovation and crowdsourcing
  - Amazon Mechanical Turk research
- Open source and peer production
  - Wikipedia research
Read This Book!

> Wikinomics: How Mass Collaboration Changes Everything, by Don Tapscott and Anthony D. Williams
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
Web 1.0 to Web 2.0

> Web 1.0
  > Static
  > Publishing
  > Non user enhanced

> Web 2.0
  > Dynamic
  > Collaborating
  > User generated

The old Web is about sites, clicks, and eyeballs
The new web is about communities, participation, and peering
# Web 1.0 versus Web 2.0

<table>
<thead>
<tr>
<th>Web 1.0</th>
<th>Web 2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>DoubleClick</td>
<td>Google AdSense</td>
</tr>
<tr>
<td>Ofoto</td>
<td>Flickr</td>
</tr>
<tr>
<td>Akamai</td>
<td>BitTorrent</td>
</tr>
<tr>
<td>mp3.com</td>
<td>Napster</td>
</tr>
<tr>
<td>Britannica Online</td>
<td>Wikipedia</td>
</tr>
<tr>
<td>personal websites</td>
<td>blogging</td>
</tr>
<tr>
<td>evite</td>
<td>upcoming.org and EVDB</td>
</tr>
<tr>
<td>domain name speculation</td>
<td>search engine optimization</td>
</tr>
<tr>
<td>page views</td>
<td>cost per click</td>
</tr>
<tr>
<td>screen scraping</td>
<td>web services</td>
</tr>
<tr>
<td>publishing</td>
<td>participation</td>
</tr>
<tr>
<td>content management systems</td>
<td>wikis</td>
</tr>
<tr>
<td>directories (taxonomy)</td>
<td>tagging (&quot;folksonomy&quot;)</td>
</tr>
<tr>
<td>stickiness</td>
<td>syndication</td>
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</tbody>
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12/2/2010
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.
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 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.
The Four Principles of The New Web

- Openness
- Peering
- Sharing
- Acting globally
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!”
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
Engaging Consumers as Prosumers
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
You can build Humanoids
The Twister Bot

http://mindstorms.lego.com/MeetMDP/RobT.aspx
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.
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
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)
Harnessing Prosumer Communities

- More than customization
- Losing control
- Customer tool kits and context orchestration
- Becoming a peer
- Sharing the fruits
SWEET TEES ♥ SWEETIES
through Sunday, February 15 all girly tees on sale starting at $9

New tees for MONDAY, FEBRUARY 9

$15
Jungle Gym by Ollie Moss

$15
Not Safe For Work!
by David Creighton-Pester

THE 2009 BESTEE OF THE MONTH!
All of January’s designs are up for voting! You have until February 16 to choose your favorite and help decide who will receive $2500!!!

→ VOTE FOR BESTEE OF THE MONTH!

Threadless is a community-based tee
Submit an idea for a chance at fame, friends & TWENTY-FIVE HUNDRED DOLLARS!*

Design

a. Get your idea ready to be submitted...
   Take some time to come up with the best original idea you can think of.

Critique

Not sure if your design is ready? Why don'tcha submit it for a critique!? You can get community feedback on your ideas to help you finalize your design before submitting it for scoring.
Community Growth 02-07

* Figures till June 2007
Revenue and Units Sold (02-07)
Partnership and Revenue Sharing

- Design challenges and the Bestee Awards
  - $20,000 for Design of the Year
- Thursday hourly awesome giveaway
- Street Team Points
- Tee Riffic photos and Tee V ($15 per photo used)
- Link to Threadless from other sites ($3 per sale)
How to Build a Vibrant Online Community
Not An Easy Task

- Delloitte ‘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 outsides 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

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Identity-Based Commitment</th>
<th>Bond-Based Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Provide detailed information</em></td>
<td>• about a social category</td>
<td>• about particular members</td>
</tr>
<tr>
<td></td>
<td>• emphasizing group homogeneity</td>
<td>• emphasizing interpersonal similarity</td>
</tr>
<tr>
<td></td>
<td>• highlighting out-group presence</td>
<td>• highlight individual identities</td>
</tr>
<tr>
<td><em>Facilitate repeated exposure</em></td>
<td>• to the group</td>
<td>• to individual others</td>
</tr>
<tr>
<td><em>Support communication</em></td>
<td>• with one’s entire group</td>
<td>• with individual others</td>
</tr>
</tbody>
</table>

12/2/2010
Research Site: MovieLens.org

- Personalized movie recommendation site
- Discussion forums added in June 2005

- New features
  - Movie groups
  - Profiles page
  - Recent activity page
  - Commenting
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, …
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
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.

<table>
<thead>
<tr>
<th>Title</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sixth Sense, The (1999)</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Brokeback Mountain (2005)</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Back to the Future (1985)</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Animal House (1978)</td>
<td>★★★★</td>
</tr>
<tr>
<td>Fugitive, The (1993)</td>
<td>★★★★</td>
</tr>
</tbody>
</table>
## Frequently Rated Polar Bear Group Movies: Last Week

<table>
<thead>
<tr>
<th>Title</th>
<th>Average Rating</th>
<th># of Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children of Men (2006)</td>
<td>★★★★★★</td>
<td>15</td>
</tr>
<tr>
<td>Casino Royale (2006)</td>
<td>★★★★★★</td>
<td>11</td>
</tr>
<tr>
<td>Eternal Sunshine of the Spotless Mind (2004)</td>
<td>★★★★★★</td>
<td>9</td>
</tr>
<tr>
<td>Fifth Element, The (1997)</td>
<td>★★★★★★</td>
<td>8</td>
</tr>
<tr>
<td>American Beauty (1999)</td>
<td>★★★★★★</td>
<td>8</td>
</tr>
</tbody>
</table>

## Frequently Rated Polar Bear Group Movies: All Time

<table>
<thead>
<tr>
<th>Title</th>
<th>Average Rating</th>
<th># of Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matrix, The (1999)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forrest Gump (1994)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Recent Posts of Interest to the Polar Bear Group

**Thread**

- Re: The WORST films EVER
- Re: Discussion of Dogville (2003)
- Re: The Best Picture
Comparison with Other Groups

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

<table>
<thead>
<tr>
<th>Title</th>
<th>Average Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Night (1996)</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Jaws (1975)</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Miracle (2004)</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Blazing Saddles (1974)</td>
<td>★★★★★</td>
</tr>
</tbody>
</table>

Group Rankings: Number of Movies Rated in the Last Week

<table>
<thead>
<tr>
<th>Group</th>
<th>Movies Rated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gorilla</td>
<td>6426</td>
</tr>
<tr>
<td>Alligator</td>
<td>4628</td>
</tr>
<tr>
<td>Bear</td>
<td>3000</td>
</tr>
<tr>
<td>Leopard</td>
<td>2841</td>
</tr>
<tr>
<td>Eagle</td>
<td>2714</td>
</tr>
<tr>
<td>Tiger</td>
<td>2581</td>
</tr>
<tr>
<td>Snake</td>
<td>2164</td>
</tr>
<tr>
<td>Lion</td>
<td>2067</td>
</tr>
<tr>
<td>Polar Bear</td>
<td>2008</td>
</tr>
<tr>
<td>Rhino</td>
<td>1432</td>
</tr>
</tbody>
</table>

Group Rankings: Active Members

% of members from each group who logged in during the past week

<table>
<thead>
<tr>
<th>Group</th>
<th>% Members Logged In</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gorilla</td>
<td>11%</td>
</tr>
<tr>
<td>Alligator</td>
<td>11%</td>
</tr>
<tr>
<td>Bear</td>
<td>11%</td>
</tr>
<tr>
<td>Leopard</td>
<td>10%</td>
</tr>
<tr>
<td>Lion</td>
<td>10%</td>
</tr>
<tr>
<td>Polar Bear</td>
<td>9%</td>
</tr>
<tr>
<td>Eagle</td>
<td>8%</td>
</tr>
<tr>
<td>Rhino</td>
<td>8%</td>
</tr>
<tr>
<td>Snake</td>
<td>7%</td>
</tr>
<tr>
<td>Tiger</td>
<td>7%</td>
</tr>
</tbody>
</table>
Individual Profiles

> Individual information
> User ID and picture
> Movie group
> Personal information
> Interpersonal similarity
> Similarly rated movies
> Differently rated movies
> Movie predictions
This user is in the Snake Group.

**Personal Information**

**Name:**

**City:** Iowa City

**State:** IA

**Country:** USA

**Gender:** Male

**Age:**

**Favorite color:** Green

**Web Page:** [http://geohawk.blogspot.com](http://geohawk.blogspot.com)

**Joined MovieLens:** before June 1998

**Last visit to MovieLens:** January 11, 2007

**Did You Know?**

- You and baa rate these movies high:
  - *Do the Right Thing* (1989)
  - *Casablanca* (1942)
  - *Scream 2* (1997)
  - *Scream* (1996)

- You and baa rate these movies low:
  - *Three Men and a Baby* (1987)

- You and baa disagree on these movies:
  - *Zoolander* (2001)
  - *Schindler's List* (1993)
  - *Forrest Gump* (1994)

**MovieLens recommends these movies that baa rated high:**

- *Platoon* (1986)
- *Glengarry Glen Ross* (1992)
- *Scream* (1996)
- *Stand by Me* (1990)
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
Crowdsourcing & Open Innovation
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”
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
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.
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)
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)
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)
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.
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.
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.
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
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.
Adaptation on Rugged Landscape (Levinthal 1997)

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

- Elance
- oDesk
- vWorker
- TEKSCOUT
- redesignme.org
- 99designs
- CrowdFlower
- clickworker.com
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
Amazon Mechanical Turk
Online Marketplaces for Work

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

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 \(\rightarrow\) Work \(\rightarrow\) Earn money

or learn 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 Requester 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

Fund your account \(\rightarrow\) Load your tasks \(\rightarrow\) Get results

or learn more about being a Requester

An amazon.com company
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?”

12/2/2010
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)
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?
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
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 "interpreting" the data or using it within different kinds of businesses.
"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 6th 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."
## Summary of Results

### Means and Standard Deviations of Manipulation Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number of Paragraphs</th>
<th>Task Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Task Significance</td>
<td>13.82</td>
<td>14.02</td>
</tr>
<tr>
<td></td>
<td>(4.41)</td>
<td>(5.89)</td>
</tr>
<tr>
<td>Task Size</td>
<td>12.42*</td>
<td>15.40*</td>
</tr>
<tr>
<td></td>
<td>(4.02)</td>
<td>(5.76)</td>
</tr>
<tr>
<td>Monetary Payment</td>
<td>13.66</td>
<td>14.17</td>
</tr>
<tr>
<td></td>
<td>(4.75)</td>
<td>(5.58)</td>
</tr>
</tbody>
</table>

12/2/2010
Task Significance Works… Only If People Notice It

Effects of Task Significance on Task Performance
Open Source & Peer Production
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
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
Open Source History

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

Richard Stallman

12/2/2010
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
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).
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.
Other Platforms and Money

- digg
- Reddit
- Yelp
- Wikitravel
- TechCrunch
- Last.fm
- PlentyOfFish
Wikipedia Project
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."
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
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.
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?
### Statistics

From Wikipedia, the free encyclopedia

<table>
<thead>
<tr>
<th><strong>Page statistics</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Content pages</td>
<td>3,255,733</td>
</tr>
<tr>
<td>Pages (All pages in the wiki, including talk pages, redirects, etc.)</td>
<td>20,039,063</td>
</tr>
<tr>
<td>Uploaded files</td>
<td>845,510</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Edit statistics</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Page edits since Wikipedia was set up</td>
<td>380,692,072</td>
</tr>
<tr>
<td>Average edits per page</td>
<td>19.00</td>
</tr>
<tr>
<td>Estimated job queue length</td>
<td>5,686</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>User statistics</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered users</td>
<td>12,126,624</td>
</tr>
<tr>
<td>Active registered users (list of members) (Users who have performed an action in the last 30 days)</td>
<td>154,515</td>
</tr>
</tbody>
</table>
Carlson School of Management

From Wikipedia, the free encyclopedia
(Redirected from Carlson school of management)

The Curtis L. Carlson School of Management (previously known as the University of Minnesota School of Business, "School of Business Administration", "College of Business Administration", and "School of Management") is the business school of the University of Minnesota in Minneapolis. The mission of the Carlson School of Management is to discover transformative knowledge about the issues faced by organizations and managers in a dynamic global economy and to create exceptional learning and career opportunities by facilitating an engaged and integrated community of scholars, students, and practitioners. The Carlson School offers undergraduate, graduate, and doctoral degrees, as well as an executive education program. The Carlson School also offers dual degrees with the colleges and schools of public affairs, law, medicine, and public health.

Contents

1 History
2 Institutional milestones
3 Facilities
   3.1 Curtis L. Carlson School of Management
   3.2 Herbert M. Hanson, Jr. Hall
4 Centers and institutes
   4.1 Center for Human Resources and Labor Studies (formerly the Industrial Relations Center)
   4.2 Center for Integrative Leadership
   4.3 Gary S. Holmes Center for Entrepreneurship
   4.4 Human Resources Research Institute
   4.5 Institute for Research in Marketing

The Carlson School of Management

Established: 1919
Type: Public business school
Dean: Alison Davis-Blake
Location: Minneapolis, Minnesota, USA
Campus: Urban
Website: www.carlsonschool.umn.edu
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.
Wikipedia:WikiProject Minnesota

From Wikipedia, the free encyclopedia

This project covers the creation and editing of articles related to the U.S. State of Minnesota, its cities, counties, geography, transportation, culture, history, and so on. It aims to expand Wikipedia's resources on Minnesota in a NPOV and accurate manner.

This WikiProject was formed to coordinate the development of better articles on the U.S. state of Minnesota. This page and its subpages contain suggestions on formatting and layout of articles, which can be discussed at the project's talk page.

Contents [hide]

1 Meetups
2 Current project
3 Core articles/Hight-level articles
4 Assessment
5 Project divisions and current tasks
   5.1 New article patrol
   5.2 Portal
   5.3 General Minnesota resources
   5.4 Minnesota physical assets
   5.5 Minnesota life
6 Participants
7 Templates
   7.1 U.S. city infobox
   7.2 U.S. county infobox
   7.3 Minnesota template
   7.4 WikiProject Minnesota
Participants

If you are interested in helping WikiProject Minnesota, please add yourself to this list by typing # ~~~ (in alphabetical order, please). If you like also type a note about what you plan on working on. You may also add [[User WikiProject Minnesota]] to your user page to identify yourself as a member of the project and help promote it to other interested users.

1. **Adrielch** - University of Minnesota, William Mitchell College of Law, politics in Minnesota
2. **Appraiser** - working on Twin Cities historical sites, parks, 19th century explorers
3. **Atom** - Twin Cities Area, State parks, regional parks
4. **Awickert** - East side of St. Paul, Minnesota geography and geology, state and regional parks
5. **Azeroth** - I try to follow the passenger rail developments
6. **Baron Dave** - can help with SF fandom and some on Fresh Air Radio in Mpls
7. **BenFranks**
8. **Bobamnertopsis** - Minneapolis stuff, especially history in south Minneapolis and the Minneapolis Public Library branches.
9. **Bobak** - urban planning, stadiums, misc. (I live in downtown Minneapolis and can get pictures in a jiff if people need them; I am also an administrator.)
10. **Boor0044** - Saint Peter/Mankato/New Ulm area, state and local media, southern suburbs
11. **Bvwa** - Western Suburbs
12. **Calebw (talk)** - South Minneapolis. Rice County. Northfield and the surrounding area. I can take requests on my talk page for pictures in those areas.
13. **Chad RTH** - Be a friendly New D
14. **Derek W** - Minnesota history, local history
15. **Dmitry** - mainly on members of the State Legislature
16. **DrDarryl** - mostly in overlap with WikiProject Rivers
17. **Erik** - mostly in overlap with WikiProject Rivers
18. **Evejos** - mostly in overlap with WikiProject Rivers
19. **Fjord** - mostly in overlap with WikiProject Rivers
20. **Galahad** - mostly in overlap with WikiProject Rivers
21. **Gimmie** - mostly in overlap with WikiProject Rivers
22. **Gottfried** - mostly in overlap with WikiProject Rivers
23. **Gysf** - mostly in overlap with WikiProject Rivers
24. **Hawken** - mostly in overlap with WikiProject Rivers
25. **Jawb** - mostly in overlap with WikiProject Rivers
26. **Jkd81** - mostly in overlap with WikiProject Rivers
27. **JPPottinger** - mostly in overlap with WikiProject Rivers
28. **JJoan** - mostly in overlap with WikiProject Rivers
29. **Kajen** - mostly in overlap with WikiProject Rivers
30. **Katalin** - mostly in overlap with WikiProject Rivers
31. **Khalz** - mostly in overlap with WikiProject Rivers
32. **King H** - mostly in overlap with WikiProject Rivers
33. **Kronk** - mostly in overlap with WikiProject Rivers
34. **Kweld** - mostly in overlap with WikiProject Rivers
35. **Lilburne** - mostly in overlap with WikiProject Rivers
36. **Lonitty** - mostly in overlap with WikiProject Rivers
37. **Luca de Malo** - mostly in overlap with WikiProject Rivers
38. **Maelphessant** - mostly in overlap with WikiProject Rivers
39. **Matt191486** - Intending to work on state Reps and Senators, in addition to the random sports figures.
40. **MatthewUND** - I live in Grand Forks, ND, but I will help with northwest MN...particularly the Red River Valley. I can also serve as a liaison between WPMN and WPND.
41. **Mazzmn** - SE Minn articles & images, and random tangents
42. **McShiever** - working mostly on parks
43. **minnecologes (talk)** - could work on anything related to forests/environmental history, general things about the northeast Metro (Ramsey county)
44. **Moncrief** - open to general editing tasks
45. **MrFreak** - Politics, history
46. **Mrtobacco**
47. **Mytus** - Minnesota History, historical sites, Richfield
48. **Natalie Erin** - I can help with most general stuff and can provide requested free-content photos in the metro area.
49. **Nattmann103** - A former intern in the Minnesota State Senate and Minnesota House of Representatives. Also a die-hard Minnesota sports fan and U of M graduate. I frequently edit/create member pages for members of the Minnesota House and Senate.
WikiProjects 2002-2007

Our analysis starts here

- Total number of projects
- Editors who have joined projects

12/2/2010
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
Effects of Tenure Disparity
Effects of Interest Variety

- edits
- withdrawal

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Evolution of Tenure Disparity
Evolution of Interest Variety

[Graph showing the evolution of interest variety over quarters, with interest variety on the y-axis and quarter on the x-axis.]
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
Peer Production in the Workplace

- Self organized approach to teeming
- Time allocation
- Decision making
- Resource allocation
- Corporate communication
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.
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.
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**.
Best Buy’s Twelpforce

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

12/2/2010
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.
Tag Trade Video
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
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
Thank You. Questions?

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@yuqingren