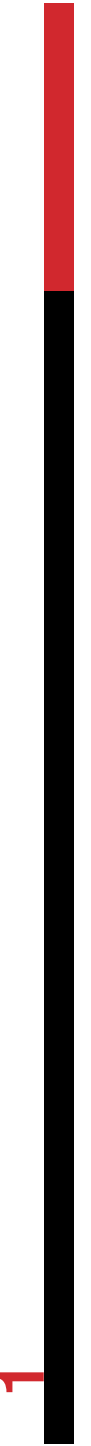


SOCIAL WEB & RESEARCH METHODS

SOCIAL WEB - FALL 2010
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SOCIAL WEB & RESEARCH METHODS

1. A Simulation for Designing Online Community: Member Motivation, Contribution, and Discussion Moderation
2. Experimental Study of Inequality and Unpredictability in an Artificial Cultural Market
3. Feedback Effects between Similarity and Social Influence in Online Communities
4. How open source software works: “free” user-to-user assistance
5. Strangers and Friends: Collaborative Play in World of Warcraft
6. Virtual Community Attraction: Why People Hang Out Online

1. A SIMULATION FOR DESIGNING ONLINE COMMUNITY: MEMBER MOTIVATION, CONTRIBUTION, AND DISCUSSION MODERATION

As of 2007, approximately **70%** of american adults use the internet (pew internet 2007),

and of these,

84% or about 90 millions americans participate in an online group (pew internet 2001).

1.1. AGENT-BASED MODELING AND ITS ADVANTAGES

Agent-based modeling is a way to capture the behaviors of complex adaptive systems from ground-up (north and macal 2007).

Agent-based modeling is typically used to understand connections between individual behavioral rules and system-level patterns and to predict potential outcomes of future actions.

Agent-based modeling also enables us to understand the complex, reciprocal interdependencies between member behaviors and community dynamics as a community develops and evolves over time.

1.1. AGENT-BASED MODELING AND ITS ADVANTAGES

An agent-based model can serve as a test bed for running what-if experiments, which allow researchers to construct a mid-level theory to inform the design of online communities.

Because existing theories are often too abstract for use in design, integrating and concreting them in an agent-based model enables one to identify places where theories agree, disagree, or are independent of each other, and to pin down factors that community designers could manipulate to produce desirable outcomes.

1.2. DISCUSSION MODERATION AS A DESIGN DECISION

Members converse to ask and answer questions, exchange opinions and social support, and to get to know each other.

Without conversation, these communities would vanish. Even in online games like world of warcraft or production-oriented communities like wikipedia, members depend upon conversations to coordinate their work and to develop commitment to the group.

Even though communication is central to most online communities, too much communication or the wrong kind can threaten them.

1.2. DISCUSSION MODERATION AS A DESIGN DECISION

As butler (1999) notes, in communities with diverse interests, messages interesting to some members are likely to be off-topic and uninteresting to others.

To deal with problems of high message volume and off-topic conversation, designers and managers of online communities have introduced moderation techniques to manage conversations.

1.2. DISCUSSION MODERATION AS A DESIGN DECISION

Common practices include:

- (1) community-level moderation (e.G., Yahoo! Groups), in which human moderators or software agents block or remove inappropriate or off-topic messages.
- (2) personalized moderation, in which different users get a different subset of messages matched to their interests (e.G., Harper et al. 2007)
- (3) collaborative moderation (e.G., Digg.Com or slashdot.Com), in which members rate messages so that others can use these ratings to guide their reading behavior (lampe and johnston 2005)
- (4) partitioning of the community, by segmenting the community into smaller, homogeneous sub-forums.

1.3. COMMUNITY-LEVEL MODERATION

Most online communities moderate messages at the community level: a message is available either for everyone visiting the site or for no one (figallo 1998, lampe and johnston 2005).

Community-level moderation can be less effective in communities that attract members with diverse interests or ones that encourage diversity in content.

For example, in the movie discussion forum rottentomatoes.Com, a message one evaluating a new action movie is likely to be of no interest to the many members who dislike action movies.

1.4. PERSONALIZED MODERATION

In e-commerce sites, personalization increases users' satisfaction by decreasing the total number of items to be processed and thus reducing information overload, while at the same time increasing each item's average fit to users' interests (tam and ho 2005, liang et al. 2007, shchafer et al. 2001).

1.5. MEMBER BENEFITS AND COSTS

Benefit from information exchange

The authors model two types of benefits related to information exchange: benefit an agent receives from accessing information and benefit the agent receives from providing information to others.

Benefit from sharing information

According to the collective effort model (Karau and Williams 1993), social loafing in a group is greatly reduced when people perceive group tasks as interesting or when they identify with the group or like other members.

Benefit from identity-based attachment

Social identity theory suggests that assigning a member to a group, the presence of an out-group, and similarity among group members all lead to stronger attachment to the group.

1.5. MEMBER BENEFITS AND COSTS

Benefit from bond-based attachment

Small groups research suggests that repeated interactions lead to interpersonal attraction (Festinger et al. 1950); as the frequency of interaction between two persons increases, their liking for one another also increases (Cartwright and Zander 1953).

Benefit from recreation

Several studies have identified stable individual differences in the extent to which people think online behavior is fun (e.g., Cotte et al. 2006).

1.5. MEMBER BENEFITS AND COSTS

Benefit from reputation

People are also motivated to contribute to online communities by the reputation they gain by doing so. Many online communities play on this motivation by institutionalizing “leader boards” and other devices that show the most active contributor.

Amazon.Com, for instance, uses the “top reviewers list”.

1.6. EFFECTS OF MODERATION ON MEMBER COMMITMENT

Communication-level moderation led to more logins in communities with a single topic;

Personalized moderation led to more logins in communities with more topics.

2. EXPERIMENTAL STUDY OF INEQUALITY AND UNPREDICTABILITY IN AN ARTIFICIAL CULTURAL MARKET

Hit songs, books, and movies are many times more successful than average, suggesting that “the best” alternatives are qualitatively different from “the rest”; yet experts routinely fail to predict which products will succeed. We investigated this paradox experimentally, by creating an artificial “music market” in which 14,341 participants.

Recruited mostly from a teen-interest world wide web site (17), who were shown a list of previously unknown songs from unknown bands (18).

Arriving participants were randomly assigned to one of two experimental conditions—independent and social influence—distinguished only by the availability of information on the previous choices of others.

2. EXPERIMENTAL STUDY OF INEQUALITY AND UNPREDICTABILITY IN AN ARTIFICIAL CULTURAL MARKET

Independent condition

Participants made decisions about which songs to listen to, given only the names of the bands and their songs. While listening to a song, they were asked to assign a rating from one star to five stars, after which they were given the opportunity (but not required) to download the song.

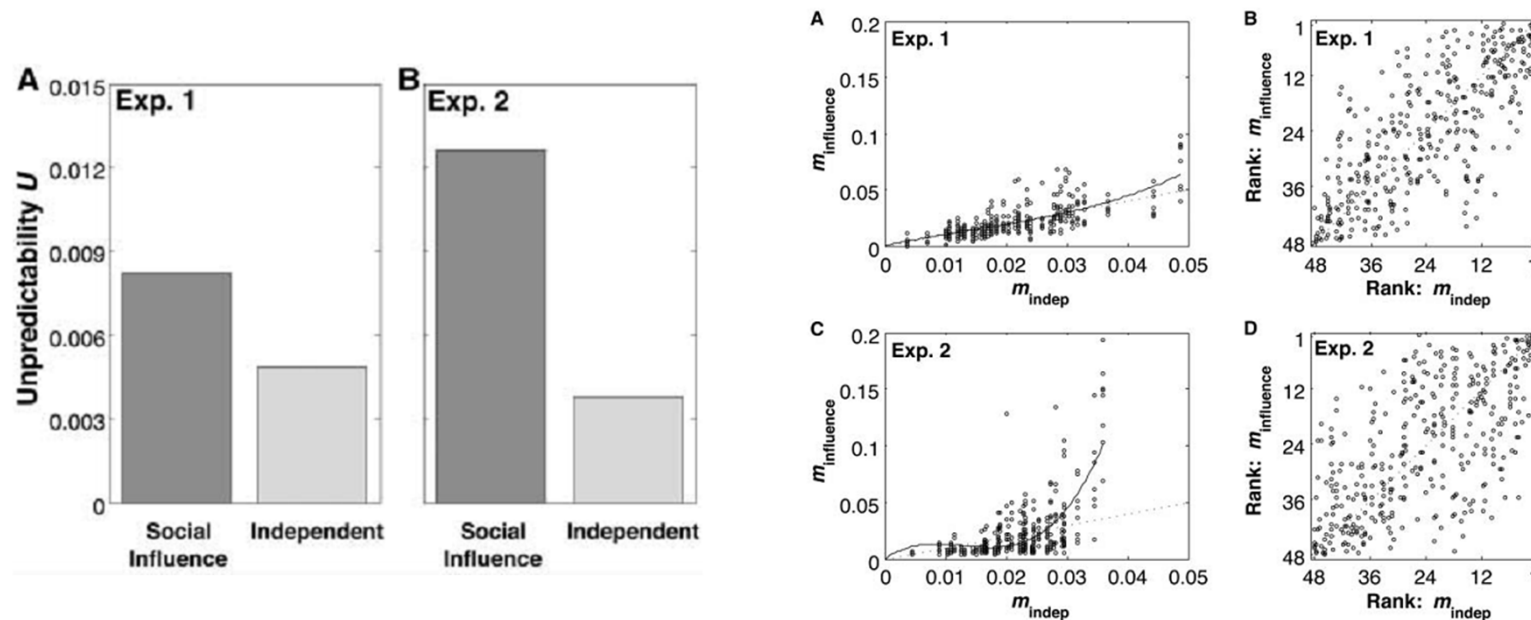
Social influence

Participants could also see how many times each song had been downloaded by previous participants.

2. EXPERIMENTAL STUDY OF INEQUALITY AND UNPREDICTABILITY IN AN ARTIFICIAL CULTURAL MARKET

In the social influence condition in experiment 1, the songs, along with the number of previous downloads.

In experiment 2, participants in the social influence condition were shown the songs, with download counts.



2. EXPERIMENTAL STUDY OF INEQUALITY AND UNPREDICTABILITY IN AN ARTIFICIAL CULTURAL MARKET

Results

The more information participants have regarding the decisions of others, the greater agreement they will seem to display regarding their musical preferences;

On the other hand, looking across different realizations of the same process, we see that as social influence increases (i.E., From experiment 1 to experiment 2), which particular products turn out to be regarded as good or bad becomes increasingly unpredictable.

3. FEEDBACK EFFECTS BETWEEN SIMILARITY AND SOCIAL INFLUENCE IN ONLINE COMMUNITIES

In this paper the authors describe a framework for using data from large online communities to analyze the interactions between social influence and selection social influence and selection.

A fundamental property of social networks is that people tend to have attributes similar to those of their friends.

3. FEEDBACK EFFECTS BETWEEN SIMILARITY AND SOCIAL INFLUENCE IN ONLINE COMMUNITIES

SOCIAL INFLUENCE AND SELECTION OVER TIME

Wikipedia is a large task-focused community whose goal is to produce a free online encyclopedia. The entire edit history of wikipedia is freely available for analysis, making it attractive for research.

Wikipedia has a rich social structure in which a large number of users interact during the course of producing articles. To facilitate social interaction, wikipedia allows free-form discussion pages to be created for each article and wikipedia user.

3. FEEDBACK EFFECTS BETWEEN SIMILARITY AND SOCIAL INFLUENCE IN ONLINE COMMUNITIES

Modeling the choice of activities

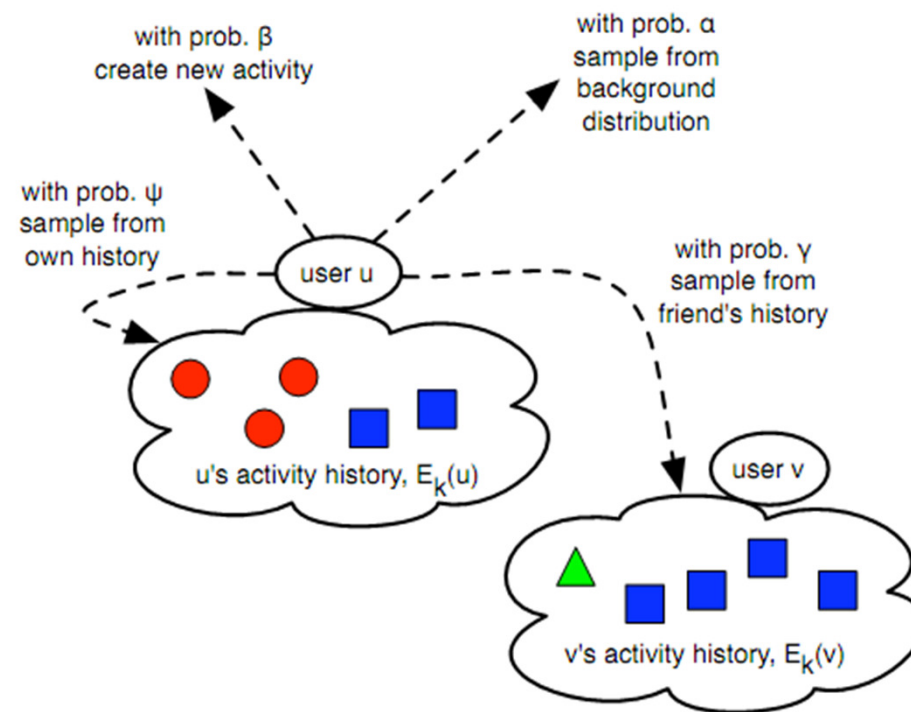
The authors model a user's choice of activities through the following ingredients:

People's future behavior in any of these settings is strongly correlated with their past behavior.

The effects of social influence can be captured by assuming that a user may also choose a next activity by sampling from the past history of his or her friends in the social network.

3. FEEDBACK EFFECTS BETWEEN SIMILARITY AND SOCIAL INFLUENCE IN ONLINE COMMUNITIES

Schematic of the model for selecting activities



3. FEEDBACK EFFECTS BETWEEN SIMILARITY AND SOCIAL INFLUENCE IN ONLINE COMMUNITIES

There are four possible ways in which a user selects an activity to add to their history $e(u)$:

- Sample from one's own history. With probability ψ , choose a random instance from $e_k(u)$ and perform a new instance of this activity.
- Sample from a neighbor's history. With probability γ , choose a random interaction from $n(u)$; suppose this interaction was with user v . Choose a random instance from $e_k(v)$ and perform a new instance of this activity.
- Sample from the world's history. Let E be the concatenation of all users' entire activity histories. With probability α , choose a random instance from E , and perform a new instance of this activity.
- Start a new activity. With probability β , create a new activity that has never been done before, and perform one instance of this activity.

3. FEEDBACK EFFECTS BETWEEN SIMILARITY AND SOCIAL INFLUENCE IN ONLINE COMMUNITIES

Modeling the choice of interactions

Is also necessary to model how the interactions happen.

Talk to a random person

Talk to someone based on a common activity

3. FEEDBACK EFFECTS BETWEEN SIMILARITY AND SOCIAL INFLUENCE IN ONLINE COMMUNITIES

Insight from selected interactions

There are a number of reasons why wikipedia users might meet. For instance, a group of self-selected wikipedians known as the welcoming committee writes greetings to a large number of new users; administrators (and others) post instructions and warnings to users who violate the community's norms; people notice others through their contributions to articles they are reading; and so on.

This sample of interactions suggests that people most often come to talk to each other in wikipedia when they become aware of the other person through recent shared activity around an artifact.

3. FEEDBACK EFFECTS BETWEEN SIMILARITY AND SOCIAL INFLUENCE IN ONLINE COMMUNITIES

The authors' shows that in wikipedia, people rapidly become more similar shortly before their first communication and continue to become more similar for a long time afterward. And find strong evidence that people become aware of others through shared, recent activity around artifacts.

This parallels the relationship between social interaction and selection in the physical world: people are more likely to talk to others they encounter in the same church, school, or workplace.

3. FEEDBACK EFFECTS BETWEEN SIMILARITY AND SOCIAL INFLUENCE IN ONLINE COMMUNITIES

Conclusions

In wikipedia social interaction is a better predictor of future behavior than similarity of interests.

They found that the dynamics of the community are important in understanding the relative power of social interaction and similarity-based predictors.

Using both as sources of information might be a useful approach for recommender systems.

4. HOW OPEN SOURCE SOFTWARE WORKS: “FREE” USER-TO-USER ASSISTANCE

In this research they have explored the “necessary but mundane” task — **provision of online technical support** — by and for users of apache open source software.

Apache is web server software used on “webserver” computers connected to the internet.

4. HOW OPEN SOURCE SOFTWARE WORKS: “FREE” USER-TO-USER ASSISTANCE

Motivations to contribute to open source

“Why should thousands of top-notch programmers contribute freely to the provision of a public good?” Raymond (1999)

They have at least three basic motives for writing or contributing to the writing of open source software.

- They may directly benefit from the software code they develop, because they intend to use it themselves.
- They may enjoy the work of programming itself.
- They may gain an enhanced reputation in the eyes of peers from making high-quality contributions to an open source project

4. HOW OPEN SOURCE SOFTWARE WORKS: “FREE” USER-TO-USER ASSISTANCE

Effectiveness of the apache help process

Web server users rank apache technical support overall as somewhat better than that of its major commercial rivals in the server software field.

Only 9.6% of all information seekers said that the problem they posted online was extremely critical and that they needed an answer right away.

At least 50% were answered on the day of or on the day after posting, 39% of information seekers received no public reply, but could occur that one or more replies were sent privately via e-mail instead.

4. HOW OPEN SOURCE SOFTWARE WORKS: “FREE” USER-TO-USER ASSISTANCE

Costs and benefits of information providing

The cost of question and answer match-up falls upon the information provider. However, providers accomplish the match-up task by reading or scanning questions posted on usenet.

The authors found that the actual answering of questions (task (3)) took up only 2% of an information provider’s time on site, with providers reporting that they invested only 1–5min per question answered.

They found that information providers were able to answer at this low cost because they only posted information they already knew “off the shelf”—they seldom did new problem-solving or searching in order to provide additional information to a help-seeker.

4. HOW OPEN SOURCE SOFTWARE WORKS: “FREE” USER-TO-USER ASSISTANCE

The authors were able to reduce this puzzle considerably by disaggregating the total task of help provision into subtasks.

This in turn allowed understand that 98% of the effort invested by help providers was intrinsically rewarding to those providers via a particular feature of the task setting.

4. HOW OPEN SOURCE SOFTWARE WORKS: “FREE” USER-TO-USER ASSISTANCE

Conclusion

The authors found that the public posting of both questions and answers created a site that potential information providers wanted to visit and study in order to gain valuable information for themselves. In addition, the public posting of answers with the names of providers attached created the possibility of gaining reputation and related benefits through helping.

These specific features of help site design were probably the result of happenstance rather than intent—but they appear to be crucial to the successful functioning of the system we studied.

5. STRANGERS AND FRIENDS: COLLABORATIVE PLAY IN WORLD OF WARCRAFT

The authors describe how the social organization of the game and player culture affect players, enjoyment and learning of the game.

Based on a tolkienesque high fantasy motif, world of warcraft is a MMOG in which players create characters with distinctive looks and qualities such as intellect, strength, stamina, and agility. Characters advance through 60 levels of play.

5. STRANGERS AND FRIENDS: COLLABORATIVE PLAY IN WORLD OF WARCRAFT

TYPES OF COLLABORATION IN WORLD OF WARCRAFT

Strangers in the fight

Bufs are the simplest form of engagement between players

Bufs are part of the culture of the game in which players commit small acts of kindness to maintain a mutually beneficial atmosphere even though no immediate reciprocity is in the offing and no rewards such as experience points are gained.

A “kill assist” is another common favor.

5. STRANGERS AND FRIENDS: COLLABORATIVE PLAY IN WORLD OF WARCRAFT

Not all interactions with strangers are beneficial.

The level 20 clicks on the character only to see a skull icon next to her name—wow's way of saying that a fight with this person will surely bring death.

World of warcraft provides several means of structured collaboration where much play takes place. Players may play with players they don't know, with friends and family from offline life, or with in-game friends.

5. STRANGERS AND FRIENDS: COLLABORATIVE PLAY IN WORLD OF WARCRAFT

OFFLINE SOCIAL CONNECTION

WoW promotes offline social connection by providing a shared activity. College roommates and friends often play together (we had many more offers of interviews from college students who played together than we could handle in the first round of interviews).

Collaborations

Participation in a guild, collaboration in knots, and pairwise collaborations with friends lend the game variety, novelty, and surprise. These interleaved collaborations create a richly textured space in which play flows between community-based and lighter weight collaborations.

5. STRANGERS AND FRIENDS: COLLABORATIVE PLAY IN WORLD OF WARCRAFT

Conclusion

A space of mixed collaborations provides variety in play experience and flexibility in learning.

The authors findings suggest that lightweight collaborations can be enjoyable and enlightening and need not be negatively valued.

The design of world of warcraft and the player culture that have developed within the game provide an innovative space in which strangers collaborate and can become friends.

6. VIRTUAL COMMUNITY ATTRACTION: WHY PEOPLE HANG OUT ONLINE

This exploratory study empirically examines the importance of these reasons in assessing why people come to virtual communities by directly asking virtual community members why they joined.

6. VIRTUAL COMMUNITY ATTRACTION: WHY PEOPLE HANG OUT ONLINE

Motivations to join a group

Humans have a need to belong and be affiliated with because groups provide individuals with a source of information and help in achieving goals, give rewards, and, according to social identity theory, people form a social identity of values, attitudes and behavioral intentions from the perceived membership in distinct self-inclusive real or imagined social groups.

6. VIRTUAL COMMUNITY ATTRACTION: WHY PEOPLE HANG OUT ONLINE

Social support exchange

Another reason why people join a virtual community is the social support that the community can provide. Social support is "the degree to which a person's basic social needs are gratified through interaction with others.

Friendship

The interactivity achieved with chat rooms, instant messaging, and bulletin boards, and the various search facilities available on the internet provide a way for individuals to search for and to communicate with others for the purpose of establishing and continuing friendships. The structure of the internet makes it easier to find others in similar situations and meet with them than it is in real life.

6. VIRTUAL COMMUNITY ATTRACTION: WHY PEOPLE HANG OUT ONLINE

Conclusions

The reasons for joining a virtual community did seem to be linked to the type of community. Information exchange was cited most often with friendship being the second most popular reason for the interest, pets, and recreation communities.

Social psychology has found that people join groups in general for both feelings of affiliation and belonging as well as for information and aid in goal achievement.

Inclusion in face-to-face groups gives individuals information as well as self-identity, values, attitudes, and notions of accepted behaviors. For similar reasons, people also seek to join groups of others in the online environment of virtual communities.

6. VIRTUAL COMMUNITY ATTRACTION: WHY PEOPLE HANG OUT ONLINE

Conclusions

On the other hand, the last few years have seen a tremendous sustained growth in virtual community membership. The results of this study present an interesting perspective on these tendencies. While caution is clearly needed in extrapolating from this exploratory study, the results suggest that virtual communities may be filling in the social void in conventional communities. The data show that a main reason why people join a specific virtual community is for information exchange.

6. VIRTUAL COMMUNITY ATTRACTION: WHY PEOPLE HANG OUT ONLINE

The major contribution of the study

Showing that virtual communities, like real ones, are joined not only because of utilitarian information exchange, but also because they serve the social need of having a friend and getting social support.