

Groups Formation and Operations in the Web 2.0 Environment and Social Networks

Linda S. L. Lai · Efraim Turban

Published online: 10 June 2008
© Springer Science+Business Media B.V. 2008

Abstract The Internet and the Web are evolving to a platform for collaboration, sharing, innovation and user-created content—the so-called Web 2.0 environment. This environment includes social and business networks, and it is influencing what people do on the Web and intranets, individually and in groups. This paper describes the Web 2.0 environment, its tools, applications, characteristics. It also describes various types of online groups, especially social networks, and how they operate in the Web 2.0 environment. Of special interest is the way organization members communicate and collaborate mainly via wikis and blogs. In addition, the paper includes a proposed triad relational model (Technology–People–Community) of social/work life on the Internet. Particularly, social/work groups are becoming sustainable because of the incentives for participants to connect and network with other users. A discussion of group dynamics that is based on the human needs for trust, support, and sharing, regardless if the setting is a physical or virtual one, follows. Finally, future research directions are outlined.

Keywords Blogs · Collaboration · Communication · Enterprise 2.0 · Group dynamics · Virtual community · Social networks · Social network services · Web 2.0 · Wikis

L. S. L. Lai (✉)
School of Business, Macau Polytechnic University, Rua de Luís Gonzaga Gomes, Macau SAR, China
e-mail: sllai@ipm.edu.mo

E. Turban
Pacific Institute for Information Systems Management, College of Business, University of Hawaii,
Honolulu, HI, USA
e-mail: efraintur@yahoo.com

1 Part I: Introduction

Web 2.0 is the popular term for advanced Internet technology and applications including blogs, wikis, RSS, podcasting, mashups, and social networks. One of the most significant differences between Web 2.0 and the traditional Web is that content is user-generated, and there is greater collaboration among Internet users. As an umbrella term for an emerging core of technologies, trends, and principles, Web 2.0 is not only changing what's on the Web, but also how the Web works. Many believe that organizations that understand these new applications and technologies—and utilize their benefits early stand to greatly improve internal business processes and their supply chains. Among the biggest advantages is better collaboration with customers, suppliers, and other partners, as well as among internal users.

This paper describes the Web 2.0 environment, its characteristics, tools and applications. It also describes various types of social and other groups and how they operate in the Web 2.0 environment. Special attention is given to the use of wikis and blogs by organizations to enhance group communication and collaboration. The paper also proposes a model that describes social/work groups and their operation. The paper ends with a discussion of group dynamics in online groups and suggested research directions.

The remainder of this paper is divided into the following parts:

Part II—The characteristics, tools and applications of the Web 2.0 environment.

Part III—Social Networks groups and operations

Part IV—Enterprise 2.0 applications: Collaboration and sharing

Part V—Discussion

Part VI—A proposed model of social life on the Internet

Part VII—Research opportunities

2 Part II: Representative Characteristics of Web 2.0

The following are representative characteristics of Web 2.0:

- User-created content (self publishing)
- The ability to tap into the collective intelligence of users. The more users contribute the more popular and valuable a Web 2.0 site becomes.
- Unique communication and collaborative environment.
- Making data available in new or never-intended ways. Web 2.0 data can be remixed or “mashed up,” often through Web-Service interfaces, much the way dance-club DJ mixes music
- The presence of lightweight programming techniques and tools let nearly anyone act as a developer (e.g., wikis, blogs, RSS, and podcasting).
- The virtual elimination of software-upgrade cycles makes everything a perpetual beta or work in progress, and allows rapid prototyping using the Web as a platform.
- Unique sharing of content or all media.
- Networks as platforms, delivering and allowing users to use applications entirely through a browser.

- Open source architecture which makes connectivity to computing resources simple.
- Users own the data on the site and exercise control over that data.
- An architecture of participation and digital democracy encourages users to add value to the application as they use it.
- New business models are created ([Chesbrough 2006](#)).
- A major emphasis on social networks.
- A rich interactive, user-friendly interface based on Ajax or similar frameworks. Ajax, (Asynchronous JavaScript and XML), is a Web development technique for creating interactive Web applications.
- More productive organization communication due to improved search, links, user authority, etc. ([McAfee 2006](#)).

2.1 Web 2.0 Technologies

The evolving Web 2.0 technology has the following components: server-software, messaging protocols, content-syndication, various client applications, and standards-based browsers with plugins and extensions. The following techniques are featured ([Borland 2007](#)):

- Wiki software that allows users to collectively create and edit Web pages using a common Web browser;
- Weblog software that is made up of specialized content management systems. These are designed to create and maintain blogs. Blogs allow people to express their opinions and post comments on specific subjects;
- Mashups tools which enable consolidation of data from two or more sources (Web sites) in order to create new applications;
- RSS (Really Simple Syndication or Rich Site Summary), a family of data feed formats that forwards to users regularly changing Web content. RSS feeds are disseminated via related technology called *podcasting*;
- Rich Internet Application (RIA) technologies. Examples of these are Macromedia Flash, AJAX and Flex, that enable delivery of rich content;
- Folksonomy, (in contrast to taxonomy), a collaborative site categorization style using freely chosen keywords which are often referred to as tags;
- Personalization tools for the creation of personalized Web pages with constantly updated information, and
- Social bookmarking systems that maintain Internet resources for the purpose of public sharing.

Web 2.0 technologies enable the emergence of social networks services and mass *social media*. Social media refers to the online platforms and tools that people use to share opinions and experiences including photos, videos, music, insights, and perceptions with each other. The key is that individuals control the use of these social media. Moreover, people can use these media with little or no cost and with great ease. Therefore, social media is considered a powerful democratization force because on a massive scale, it enables communication and collaboration which goes beyond geographical barriers ([Hinchcliffe 2007](#)).

According to Tim Berners-Lee, the creator of the Web, the above-mentioned range of tools and technologies represents Web adolescence ([The Economist 2007](#)). The access to user-generated content, which is enabled by Web 2.0 technologies, brings the Web closer to an ideal personal, democratic, and do-it-yourself communications medium ([Rheingold 2003](#)). These technologies enable the following applications.

2.2 Web 2.0 Applications

There are thousands of Web 2.0 applications and specialized sites. Most typical categories are the different types of social networks, business networks, collaborative encyclopaedias, enterprise 2.0, and many other specialized sites. See [Swearingen \(2007\)](#) and [Schonfield and Yen \(2007\)](#) for examples. Most known and talked about are the social and business networks which are supported by social networks services (SCN) that organize and manage them. There is a large variety of such SCN, for example, Meetup.com helps people with common hobbies find real-world pals ([Schoenberger 2007](#)).

3 Part III: Social Networks Groups and Operations

The emergence of the online social networks has been the most interesting Web 2.0 application in recent years ([Wellman 2005](#)). A social network is defined as a social structure comprised of nodes (individuals or organizations) that are connected by one or more specific types of relation/s ([Barnes 1954](#)). Examples of such relations are group works, financial exchanges, kinship, friendship, trading relations, and professional associations, among others. Studies ([Arrow et al. 2000](#); [Johnson and Ambrose 2006](#)) indicate that social networks perform a variety of important functions such as determining the way groups operate, problems are solved and companies are run, and the extent to which people succeed in attaining their goals.

Online social networks are Web sites where people create their own virtual space (or home page), on which they post pictures, write blogs, share ideas, and link to other Web locations which they find interesting ([Wikipedia 2008](#)). These people, often called social networkers, tag the content they post with keywords which they themselves have chosen. These keywords make their Web sites' content searchable. As a result, they form online communities comprised of people who share similar interests.

3.1 Social Networking Groups Formation

Online groups, social or others, are becoming increasingly popular in the Web 2.0 era, and this is attributed to the growth of social networking sites and communication/collaboration technologies. Online coherent groups tend to be created within larger social networks. Social networks which may have hundreds of millions registered members may comprise of hundreds of thousands of groups usually organized by categories. For example, according to [Silver \(2007\)](#), the over 30 million members of the Cyworld community are organized in over 2,500 groups, called clubs, in 27 different

categories of interest (e.g., education, games) and one million sub clubs. Therefore, the groups that individuals identify with can be thought of to correspond to sub-branches of this network, given a collection of individuals linked in an underlying social network. These groups are overlapping one another and continuously growing in a potentially complex fashion (Backstrom et al. 2006). However, operation and group formation vary widely among social networking sites. Within older mega sites like eBay and Amazon, there is no explicit group formation, but users perform operations, both as individuals or in groups, such as review assessment, using techniques such as merchant and product review. In some sites like WorldofWarcraft (online gaming), there is both formal and informal group formation, and the users of these sites perform mostly group operations. In many large social networking sites like YouTube and MySpace, there are both personal networks (e.g., “friend” groups) and interest-based groups, while others have only interest-based groups.

3.2 Values and Characteristics of Web 2.0 Social Networking Groups

The socialization process differentiates a Web 2.0 social networking community, and some earlier virtual communities from traditional Web 1.0 Internet groups. The process of socialization involves activity where people are shaped by the norm, culture, and value of their identified group. The following are representative values of Web 2.0 social groups (O'Reilly 2005; Boyd 2006):

- **Friendship**—Many social network sites cater to users with like minds and thus potentially form friendships. Having friends is a critical signal of conveying the expected social boundaries. Alternatively, people invite their existing friends to join the virtual groups.
- **Democratic Participation**—Web 2.0 social network sites leverage user-self service to reach out to the entire Web, that is, to the edges and not just to the centre and to the long tail and not just to the head, so to speak (Anderson 2006).
- **Harnessing Collective Intelligence**—The competitive advantage of Web 2.0 sites almost entirely rests on the critical mass of participants. Therefore, the key to group dynamics is the network effects from user contributions (Surowiecki 2004).
- **Viral Promotion**—The Web 2.0 social network relies on promotion via word-of-mouth. This is done when users advertise a site, a service, activity, event, or a product by sharing with others their positive experiences (Phelps et al. 2005).
- **Innovation in Assembly**—By integrating services provided by different individuals, Web 2.0 communities can create value. This is what Web 2.0 is all about—creating something new and valuable (e.g., money lending).
- **Pull but not Push**—Pull systems let people bring to them the relationships and content that they want. This is instead of having an external entity force it upon them. In Web 2.0 social media, people and not pushers are in control of the conversations.
- **Cooperation, Collaboration, but no Control**—Web 2.0 applications are built of network of cooperative data services. Therefore, there is no control on data use at the other ends of the connection.

The above values and characteristics are demonstrated in one way or another in the following five types of groups.

3.2.1 Groups that Operate on Friendship and Participatory Democracy: YouTube & MySpace

Free video-sharing Web sites, where users can upload, view, and share video clips, have recently become very popular after the inception of YouTube in February 2005. Due to its massive success, many companies have tried to compete with YouTube, named by Time magazine as the “Invention of the Year” for 2006. As of January 2007, over 100 million clips have been viewed daily on YouTube, with an additional 70,000 new videos uploaded each day. Today, one can find almost any topic and almost every level of video quality imaginable. As more people capture special moments on video, YouTube is fast becoming a medium that empowers users to become the broadcasters of tomorrow.

A major competitor of YouTube is MySpace. MySpace is the world’s most popular interactive social network with features such as an internal e-mail system and user-submitted blogs, profiles, groups, photos, MP3s, and videos. Through Web 2.0 technologies, MySpace participants share events to the world, be it personal or otherwise, in a way that is usually more immediate than traditional media. For this reason, it has become an increasingly influential part of contemporary pop culture. The site claims to have over 150 million members and has drawn 500,000 new members each week in the first half of 2007 alone.

Both websites can be viewed as phenomenal social networks of democratic participation (Chambers 2005) wherein people create what the people want and need, on an equal basis. Social networks like MySpace and YouTube offer a selection of social media tools like blogs, photo sharing, etc., to give an author a venue wherein he or she can express their passions and preferences, while at the same time serving as a central communication hub for a group of friends or those sharing an interest. Participants of social network sites bring their respective communities into being through the process of “friending” (Boyd 2006). Such process even allows individuals to first choose the people who they like to be friends with and then establish interests later. Thus, the participants egocentrically form their groups. Their friend list defines the grouping context which in turn defines the audiences that these individuals believe they are addressing whenever they update their profiles or post a bulletin. “Friends” combined with profile content therefore send a signal to all visitors about the relevant group dynamics. Group members are able to find other possible friends and make meaning from their social networks by making the friendship “visible.” Some social networks accept members by invitation only, while most allow anyone to join. For example, Mixi is a by invitation only popular social network in Japan (mixi.co.jp) which has more than 10 million members.

3.2.2 Groups that Operate on Viral Supports and Shared Experiences

The auction site eBay has a long history of building a community and making connections that go beyond e-commerce. Its product is the collective activity of all its users. Like the web itself, eBay grows organically in response to user activity, and in this way, the company’s role as an enabler of a context in which user activity can happen continues to grow. Within eBay itself, wikis and blogs are being used to build

community and conversation around products and around selling and buying on eBay itself (Regan 2006).

Amazon also adopts Web 2.0 tools such as wikis and blogs to engage users and foster collaboration. What makes the company different from its competitors is that it has more user reviews, invitations to participate in varied ways on virtually every page, and even more importantly, they use user activity to produce better search and match results. Amazon outpaces competitors like Barnes and Noble by integrating buyer experience with “flow,” or multi-levelled data bases on real-time changes of attitudes, interests, and trends.

Amazon and eBay and other companies such as Netflix, provide consumers with rich social context and relevancy to the purchases which they are making. The companies have promoted a meme of three activities which shoppers can do collectively via wikis, blogs, and other online tools: *find*, *collect*, and *share/recommend*. It is these three acts which comprise the phenomenon of online group shopping. Such sites have a mechanism for inter-group feedback in that they allow users to leave a short review of the product they bought as well as the services they can obtain from the sellers. Meanwhile, other participants rely on the other group members who have previously rated the product/service or seller. Therefore, it can be said that the group formation systems of companies like eBay, Amazon, and other e-commerce sites operate on the basis of word-of-mouth promotion.

3.2.3 Groups that Operate on Peer Expectations and Appreciation: MMORPGs Networks

A related Web 2.0 activity is the Massively Multiplayer Online Role-Playing Games (MMORPGs) that have become a phenomenon which has exhibited growing cultural, social, and economic importance because of routinely attracting millions of interacting players (Woodcock 2005). A typical MMORPGs network, WorldofWarcraft was launched by Bizzard Entertainment in November 2004. The game was instantly sold out during its first appearance, and it attracted more than 240,000 subscribers in less than 24 hours. It is therefore not a big surprise why its subscriber base has easily ballooned to 4 million in less than a year (Woodcock 2005).

An online role playing game such as WorldofWarcraft combines many of the aspects of social networking sites with a goal-oriented behaviour. This in turn leads to less time spent in social interactions as compared to many social networking sites (Ducheneaut et al. 2006). WorldofWarcraft employs semi-formal system methods for group formation as compared to the less formal group formation methods used by social networking sites such as MySpace. In WorldofWarcraft, group membership is also not completely open because users must first prove that they will be useful to the group they wish to join before they can be full-fledged members. Therefore, a persistent group forms the basis of the more permanent groups within WorldofWarcraft. For instance, evidence suggests that guild membership increased the average play time spent by the players, and this indicates a degree of social pressure in participating in group activities by creating an expectation that users will be present online to play.

3.2.4 *Groups that Capitalize on Synergy and Collective Intelligence: Wikipedia & Wikia*

Another category of Web 2.0 applications are companies such as Wikipedia which is the largest free online pop culture collaborative encyclopaedia. In 2007, it has registered over 5.3 million articles in over 230 languages and has generated some 80 million hits per day. Wikipedia is 42 times bigger than the Encyclopaedia Britannica, which only contains as many as 120,000 articles (McNichol 2007). Murray-Buechner (2006) listed it as one of the 25 sites “we cannot live without” and labelled it as a “real Web wonder.” For all its uses, it is a typical Web 2.0 application done for people by people (Gillmor 2006).

Wikia is a for-profit Web site related to the Wikipedia Foundation, a not-for-profit organization. In two years time, this Web site has already expanded to include 500,000 Wikia articles submitted by 30,000 contributors in 45 languages (McNichol 2007). Its main goals are to utilize a collective (i.e., community) brain to build a better search engine than Google, tap into the interest of its users, and profit from the “Wisdom of Crowds” (Surowiecki 2004).

The “Wisdom of Crowds” is a simple idea that has profound implications. According to Surowiecki (2004), large groups of people are frequently smarter than an elite few, they may be better at solving problems, fostering innovation, coming to wise decisions, even predicting the future. The underlying principle behind the success of many Web 2.0 applications is the use of the collective intelligence of group members and the transformation of the Web into a global brain.

Wikipedia and Wikia illustrate a wiki implementation. This means that these two cases spearheaded a *collaborative* online encyclopaedia written by volunteers for the most part. The participants congregate around their preferred wiki sites, updating and editing as needed. Additionally, the formation of groups in both networks is bifurcated. For instance, lower-level functional groups are open, while higher-level administrative groups are populated by means of election or appointment. Then most editing projects are based on common areas of knowledge or interest such as hobbies, industries, geographic areas, and the like. These are open for all users to join. Collaborative sites like Wikipedia, Wikia encourage those who are educated or well-informed to submit entries with verifiable data through knowledge systems that add to the overall body of knowledge. In this case, what motivation do the group members have to contribute to this encyclopaedic knowledge? It could be argued that contributors to Wikipedia and Wikia have a need to spread their knowledge and insight in order to contribute to the common good. People, groups and the Internet have joined forces in the knowledge revolution of learning, education, communication, collaboration, and creativity on its head.

3.2.5 *Groups that Support Person-to-Person Money Lending Via Negotiation: ZOPA & Prosper*

Web 2.0 tools imply content created by individuals. An interesting application that involved negotiation is money lending. Given that individuals provide content on their financial needs, other individuals who desire to lend money can negotiate and find

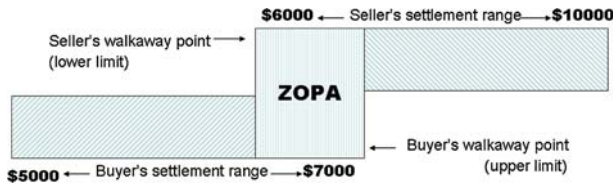


Fig. 1 ZOPA's Zone of Possible Agreement

borrowers. Two pioneering companies support this process: ZOPA in the U.K. and Prosper in the U.S. Particularly, these two companies allow their participating members to negotiate and receive loans from private individuals.

Figure 1 illustrates the negotiation principle. For instance, you want to sell your used car. Typically, you have some expected price range within which you are willing to negotiate. You are aware that it will be impossible for you to get more than \$10,000 for your car, but in the worst case, you will accept \$6,000. The buyer also has a settlement range, for example, \$5,000 to \$7,000. Note that these ranges are dynamic and can be changed as a result of demand and supply in the marketplace. Notice also that in such a case there is an overlap between the ranges, indicating that a deal is possible. The seller, who in this case is you, will start to negotiate at \$10,000 and then, if needed, will reduce the price slowly; while the buyer will start with \$5,000 and increase the price slowly. We call the overlapping range the “Zone of Possible Agreements” (ZOPA), which is also the name of the pioneering company. In money lending an arrangement in this zone must be more beneficial to both sides than what they can get in the bank. Banks pay lenders usually 5% or less interest and charge up to 20% interest. ZOPA range is 8–12% after commission to the managing companies. Details on the negotiation process can be found at zopa.com and prosper.com.

Innovative intermediary sites such as ZOPA can be considered social network sites since they allow lenders and borrowers to find each other and negotiate and secure loans. The basic idea of person-to-person lending is that you lend money directly to a known consumer, instead of “selling” your money to the bank and the banks then “lending” your money to its borrowers. Disintermediation of the banks allows the lenders to get much more and the borrowers to pay much less. To reduce risks, potential lenders are not required to lend all of their money to one client but to a group of borrowers. Other measures are available too. It is interesting to know that the default rate is very low since the borrowers and the lenders know each other.

The participants of these sites have a fundamental belief that the deal they get is the fairest, whether you are a borrower or lender, since it involves people they know and trust (Stern 2006).

4 Part IV Enterprise 2.0 Applications: Collaboration and Sharing

Organizations use mainly blogs, wikis and RSS feeds to facilitate collaboration, communication and information sharing internally and externally (McAfee 2006). They use the intranet and the extranet (Gilroy and Ivas 2006). Here are a few examples:

- Dresdner Kleinwort bank (Germany) is using wikis to supplement regular collaboration tools within its global teams. The wikis also provide a complete audit trail (socialtext.com).
- According to [Weinstein \(2006\)](#), wikis, blogs and intranet knowledge bases are used by many companies to facilitate training of both individuals and groups (classes).
- Procter & Gamble using RSS feeds for news and business information dissemination, wikis for collaboration, blogs for communication and sharing and more. They even launched a social network that makes it easier to find people with needed expertise ([Hoover 2007a](#)).
- Stormhoek Vineyards, a small South African winery tripled its sales in 2 years by using wiki and blogs to create groups for wine tasting parties ([Bennett 2007](#)).
- Motorola is using ([Hoover 2007b](#)) 4,400 blogs and 4,200 wiki pages; and 2,600 people actively doing content tagging and social bookmarking.
- Stoneyfield Farm (stoneyfield.com), an organic yogurt producer, is using different blogs to personalize relationships with its customers. The segmented blogs (kids, women, etc.) help in viral marketing and creation of mass communities interested in the topics.
- McDonald's blog called "Open for Discussion", brings together all those interested in the social responsibility of the company. The blog is maintained by a professional corporate blogger. Customers, suppliers, and employees make contributions ([Scott 2007](#)).
- A comprehensive application is described by [Nerille \(2007\)](#) where Eastern Mountain Sport (ems.com), a speciality retailer, is using wikis, blogs and RSS feeds internally basically to invite comments on results of analysis via blogs and collaboration with the company's associates community. Also, RSS feeds are used to invite comments, and a wiki for preparing plans jointly with the suppliers. Both wikis' and blogs' comments are analyzed by management. The major benefit is that instead of having group conversations occurring in the hallways (where you need to be in the right place and time) conversations take place on blogs and wikis where all interested parties can participate.

Several tools were developed by vendors to facilitate the work of groups and even creating social networks (e.g., ming.com and ReachTree.com). For example, a podcast service offered by Liveoffice.com and Talkshoe.com. It enables internal subscribers to see and listen to past meetings. [Hoover \(2007b\)](#) describes several Web 2.0 tools that can facilitate collaboration. These include Lotus' Connection (from IBM) that provides most Web 2.0 tools. Microsoft offers in Reach Tree and their SharePoint Server 2007 support for blogs, wikis and calendar sharing. JotSpot's wiki-based software (jot.com) lets companies create wikis for business processes. Here are some end-user developments utilized by JotSpot's customers.

Create an intranet—Publish company information, such as news or employee guidelines.

Document collaboration—Multiple users author documents with the aid of version history and MS World integration.

Collaborate with virtual teams—Communicate with remote contractors or clients.

Call centre support—Access case histories and increase customer support.

Opsware (opsware.com), a data centre automation software vendor, has used JotSpot to create in a few hours applications that might have cost \$50,000 to \$100,000. Opsware's technical sales team uses a wiki to manage information such as proposals and status reports associated with pilot projects for prospective customers. It's a very rich document management system.

Finally, "Google Apps for Your Domain", allows organizations to set up private versions of Google's collaboration services such as Google Talk, and Google Calendar. For more on Web 2.0 tools for collaboration, see Chapters 18 and 19 of [Turban et al. \(2008\)](#).

5 Part V Discussion: Trust and Social/Work Life in the Web 2.0 Environment

We present now several topics related to the process of using Web 2.0 applications.

5.1 A Trust-based Group Dynamics in Web 2.0 Social Networks

What all the Web 2.0 sites cited earlier have in common is a loyal user base that creates and re-creates social groups in terms of personal interaction, interest, whim, and the like. Group interaction in most social networking sites is superficially open because all comers are free to join and participate. Groups can be formed by common interest searches, recommendations, word of mouth, or by way of other groups. However, how do such groups, given their open nature, develop a sense of community? How were these groups specifically formed and why do they persist?

[Coleman \(1990\)](#) social theory may provide a framework for understanding group formation and interaction at least in organization-based social networking sites, and the placement of trust in individuals within groups. According to [Coleman \(1990\)](#), a social networking site is a "constructed social organization". There is both a macro-group, created by the corporate actor who designed it, and then there is a collection of micro-groups formed by the users. Trust is both a micro- and a macro-level phenomenon in which there is an interplay among actors who decide to place trust in another actor or break someone else's trust. There is likewise the transition that allows these actions to reform the system's behaviour, and the transition that allows the system to influence which actors are considered trustworthy. The identity sharing involved in virtual group participation can be seen as an expression of trust in the system ([Stutzman 2006](#)). This is evident in the transmission of personal data such as real name and address as well as information concerning political views, sexual orientation, and the like with the social networking sites or the individual users of the sites.

Evidence from virtual social groups indicates that users can and actually tend to trust their group members and even acquaintances with expertise, identity, personal information, even money lending, and the like.

5.2 Risks of Web 2.0 Tools and Applications

Use of Web 2.0 tools and applications may involve risks. For example, certain individuals may dominate blogs and wikis and may introduce biases. User-generated

content may be inaccurate or may be accurate but published without permission and/or royalty payments. Hoover (2007a) reports that in some companies, employees object to the use of additional collaboration/communication tools, claiming that there is more work for them. While the expenses of setting up and maintaining Web 2.0 applications may not be too high, the benefits are mostly intangible. This is the major reason why many companies elect not to use these technologies. Most of these issues need further research.

6 Part VI: A Proposed Triad Relational Model of Social Life on the Internet

Many would argue that the main reason social networks are so successful and pervasive is because they are not hampered and infused by too many rules (The Economist 2007). At present, Web 2.0 detractors might be surprised to learn that there are also less intrusions and online crimes in social networks than in other computer systems. The reason for this may partly be attributed to the human need for community and social connection: users want to be trusted and want to build dependable networks (Lim et al. 2006). Figure 2 proposes a triad relational model of social life on the Internet. To conceptually represent the three spheres of human perspective in relation to this paper, a community is viewed as integral to the online social networks and Web 2.0 technologies, and tools.

Technology is a pragmatic reality. This is evident in Web 2.0 tools such as wikis and blogs with which users can build communities into social networks and operate them. For example, RSS feeds are embedded into social networks, and the purpose of which is to deliver live and dynamic contents. Wikis are used to encourage collaborative interaction and information sharing. Blogs are created around specific topics to facilitate exchange of opinions and coalesce a critical mass.

The creation of social networks is a major goal of Web 2.0 technologies. It has been said that humans are by nature social beings (Hagel and Armstrong 1997). Online social networking has transformed the lives of many of those who participate in virtual groups on a frequent basis. The process of communication, negotiation, and collaboration and content creation is supported by innovative technologies, and it can be said that the rewards of Web 2.0 communities are mainly social and cultural in nature.



Fig. 2 A proposed model of social life on the internet

Community, akin to the need to belong and communicate with trusted people about common issues and interests, is viewed as the reward of the whole system (Blanchard and Markus 2004). This is because without its stronghold, there could be no continued progress and innovation. Every user has a specific click sequence, link, and motivation for participating in these networks. Every user also receives a specific incentive such as friendship, appreciation, knowledge sharing, democratic participation, financial support, collective creation, and the like.

Figure 2 demonstrates the integration of tools, people, and thinking within a trustworthy setting. As a constructed social organisation, the Internet creates success and rewards for participants in every cluster. In particular, each participant in the conceptual map gains rewards when the relationships are bound by quality, fulfilment, and respect.

7 Part VII: Research Opportunities

In the structure of our society, it is inherent for people to come together and form groups. The ways in which such groups emerged, take shape and revolve over time is a central research issue in the field of social science (Coleman 1990). We need to explore it for virtual communities. For instance, important research topics related to groups include membership, growth, change, evolution and the like (Backstrom et al. 2006).

Other issues are implied by the growth of Web 2.0 social networking groups. These issues include the digital divide, security and trust, cultural identities and hierarchies, ethnic diversity and tolerance, anonymity and global networks, ability to influence social change, and motivations or incentives for the maintenance and creation of social networks where little, if any, face-to-face interactions exist. Some people resist and even reject online social networking. There are those who suggest that cultural interactions in the Web are without principles and morals, often creating shallow or unfounded knowledge systems, along with superfluous activities that influence work productivity, personal relationship stability, and the inability to track activity (Farrell 2007). Some critics contend that the Internet is unhampered by adequate rules and control, thereby effectively resulting in problems as severe as easily accessible pornography to identity theft and large-scale scams and crimes.

McAfee (2006) points to the following implementation issues which need to be examined (how best to do them): First, it is necessary to create a receptive culture in order to prepare the way for new practices. Second, a common platform must be created to allow for a collaboration infrastructure. Third, an informal rollout of the technologies may be preferred to a more formal procedural change. And fourth, managerial support and leadership is crucial. Even when implanted and implemented well, these new technologies will certainly bring with them new challenges. These tools may well reduce management's ability to exert unilateral control and to express some level of negativity. Whether a company's leaders really want this to happen and will be able to resist the temptation to silence dissent is an open question. Leaders will have to play a delicate role if they want Enterprise 2.0 technologies to succeed.

Among specific topics are issues related to mobile-based social networks, paying for transactions done within social networks, especially when trading virtual properties

(e.g., at secondlife.com and habbo.com), the process of virtual marketing, video blogging, monitoring and analyzing blogs (e.g., via text mining), biases in blogs, risk assessment of blogging, security and computer crime issues, motivation to join and participate and how collaboration is improved in groups with Web 2.0 tools. Other topics may deal with group performance and leadership in social networks.

8 Conclusion

It was in the year 2006 that social networking became a cultural phenomenon. In 2007, we have seen the influences of social networks intensify as professionals, educators, students, youth, enterprises, media, and governments fully utilized the potential of Web 2.0 applications for communication, co-operation, collaboration, negotiation and creation. Without a doubt, Internet social networks serve many millions of people by providing satisfaction of their desires, at least presumably. If we consider the unprecedented growth of MySpace, YouTube, and Wikipedia, to name a few examples, then Web 2.0 technologies appear to have discovered a way to fulfil some of our social desires. Online social groups are sustainable because of our need for community and social connection. The desire for trust and the urge to build a dependable social network reaches into cyberspace and manifests itself in thriving, versatile Web 2.0 social networking groups.

The use of Web 2.0 tools and applications is increasing both in small groups inside organizations as well as in social networks. The major reasons to use these techniques are the flexibility of adding more modes of communication, the accessibility to wikis and blogs by all, the relatively small required investment and the control of content by the users.

Companies are using these tools both internally and externally, facilitating relationships among employer and with customers and suppliers. Social and business networks use the Web 2.0 to foster trust and collaboration. In either case, implementation should be done carefully due to the potential risks in certain applications.

References

- Anderson C (2006) *The long tail: how endless choice is creating unlimited demand*. Random House Business Books, New York
- Arrow H, McGrath JE, Berdahl JL (2000) *Small groups as complex systems: formation, coordination, development, and adaptation*. Sage Publications, Inc, California
- Backstrom L, Huttenlocher D, Kleinberg J, Lan X (2006) Group formation in large social networks: membership, growth and evolution. In: *Proceedings of the 12th international conference on knowledge discovery and data mining*. Philadelphia, Pennsylvania, USA, 20–23 August, 2006
- Barnes JA (1954) Class and Committees in a Norwegian Island Parish. *Hum Relat* 7:39–58
- Bennett E (2007) Web 2.0: turning browsers into buyers. *Baseline*, June 14. <http://www.baselinemag.com/article2/0,1540,2141586,00.asp>. Cited November 2007
- Blanchard AL, Markus ML (2004) The experienced ‘Sense’ of a virtual community: characteristics and processes. *The DATA BASE for Adv Inform Syst* 35(4):64–79
- Borland J (2007) A smarter web. *Technol Rev*. March. <http://www.technologyreview.com/Infotech/18306>. Accessed August 2007

- Boyd D (2006) Friends, friendsters, and mySpace Top 8: writing community into being on social network sites. *First Monday* 11(12), December. http://www.firstmonday.org/issues/issue11_12/boyd. Accessed August 2007
- Chambers SA (2005) Working on the democratic imagination and the limits of deliberative democracy. *Pol Res Q* 58(4):619–623
- Chesbrough H (2006) *Open business models: how to thrive in the new innovation landscape*. Harvard Business School Press, Boston
- Coleman J (1990) *Foundations of social theory*. Harvard University Press, Boston
- Ducheneaut N, Yee N, Nickell Y, Moore R (2006) "Alone together?" Exploring the social dynamics of massively multiplayer online games. In: *Proceedings of the SIGCHI conference on human factors in computing systems: CHI '06*. Montreal, Quebec, Canada, 22–27 April, 2006
- Farrell N (2007) Microsoft rambled over wikipedia edits. <http://www.theinquirer.net/print.aspx?article=37170>. Accessed August 2007
- Gillmor D (2006) *We the media: grassroots journalism by the people, for the people*. O' Reilly Media, Sebastopol
- Gilroy K, Ivas B (2006) *Intranet 2.0: collaboration, self publishing and tools mash-up new driving force*. Special Report, Mekrum Corp. London UK
- Hagel J, Armstrong A (1997) *Net gain*. Harvard Business School Press, Boston
- Hinchcliffe D (2007) Profitably running an online business in the Web 2.0 Era. *SOA Web Serv J*. November. <http://www.web2.wsj2.com>. Accessed May 2007
- Hoover JN (2007a) Beyond E-mail. *Information Week*. June 25
- Hoover JN (2007b) Fire enterprise 2.0 start ups worth a second look. *Information week* June 18
- Johnson GJ, Ambrose PJ (2006) Neo-tribes: the power and potential of online communities in health care. *Commun ACM* 49(1):107–113
- Lim KH, Sia CL, Lee MKO, Benbasat I (2006) Do I trust you online, and if so, will I buy? An empirical study of two trust-Building strategies. *J Manage Inform Syst* 23(2):233–266
- McAfee A (2006) Enterprise 2.0: the dawn of emergent collaboration. *Eng Manage Rev, IEEE* 34(3):38–38
- McNichol T (2007) Wikipedia founder hunts for gold. *Business 2.0*, March
- Murray-Buechner M (2006) 25 sites we can't live without. *Time*, August. Accessed May 2007
- Nerille J (2007) X-treme Web 2.0. *Optimize Magazine*, January
- O'Reilly T (2005) What is Web 2.0? *OReillynet.Com*. September. <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>. Accessed August 2007
- Phelps JE, Lewis R, Mobilio L, Pery D, Raman N (2005) Viral marketing or electronic word-of-mouth advertising: examining consumer responses and motivations to pass along email. *J Advert Res* 44(04):333–348
- Regan K (2006) Plugging in: can e-commerce leverage social networks? *E-commerce times*, February. <http://www.ecommercetimes.com/story/54035.html>. Accessed August 2007
- Rheingold H (2003) *Smart mobs: the next social revolution*. Basic Books, New York
- Schoenberger CR (2007) Nice to meet you. *Forbes*, April 23
- Schonfield E, Yen YW (2007) It's a Web, Web, Web 2.0 World. *Business 2.0*, February
- Scott DM (2007) *The new rules of marketing and PR*. Wiley and Sons, Hoboken, NJ
- Silver D (2007) *Smart start-ups*. Hoboken, NJ
- Stern A (2006) Social lending the next Web 2.0 phenomenon—part I. *Centernetworks*, November. <http://www.centernetworks.com/social-lending-web-2-0>. Accessed August 2007
- Stutzman F (2006) An evaluation of identity-sharing behaviour in social network communities. Paper presented at the international digital media and arts association and the Miami University Centre for interactive media studies code conference, Oxford, Ohio, 6–8 April
- Surowiecki J (2004) *The wisdom of crowds: why the many are smarter than the few and how collective wisdom shapes business, economies, societies and nations*. Doubleday Books, New York
- Swearingen J (2007) Where are they now. *Business 2.0*. http://money.cnn.com/galleries/2007/biz2/0707/gallery.web_world_06.biz2/index.html. Accessed November 2007
- The Economist (2007) Watching the Web grow up. *Technol Quart*, March. Accessed May 2007
- Turban E, Lee JK, King D, McKay J, Marshal P (2008) *Electronic commerce 2008: a managerial perspective* (5th edn). Prentice Hall, Upper Saddle River NJ
- Weinstein M (2006) *On Demand is in Demand*. Training, October
- Wellman B (2005) Community: from neighborhood to network. *Commun ACM* 48(10):53–55

-
- Wikipedia (2008) Social Networking Websites. http://www.en.wikipedia.org/wiki/List_of_social_networking_websites. Accessed March 2008
- Woodcock B (2005) An analysis of MMOG subscription growth—version 18. <http://www.mmogchart.com>. Accessed April 2006
- Yin RK (2003) Case study research: design and methods. Sage Publications, Inc, Thousand Oaks, California

Copyright of *Group Decision & Negotiation* is the property of Springer Science & Business Media B.V. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.