Innovation: Web 2.0, Online-Communities and Mobile Social Networking

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Abstract: Recently, an online social network phenomenon has swept over the Web and the signs say that Social Networking Sites (SNS) are growing in importance not just as places for individuals to communicate, network, and express themselves but also as advertising and marketing vehicles. Combining social networks to the mobile environment is a growing interest as it allows users to be in their online social community despite their mobility. To date, several surveys and studies have brought some insights into this field. However, methods are often not general or detailed enough for evaluation and comparison. In this study we highlight latest trends and evolution of Mobile Social Networking and Online-Communities. The existing research is reviewed and organized to summarize what we know about their usage. This paper concludes with discussion of new developments, challenges and opportunities. There are many opportunities for future research and organizational applications of SNS as SNS adoption grows at incredible rates. What we present in this study can be generalized for other enterprise-grade Social Networks, either for their own business purposes or as a contract job for another company.

Key-Words: Mobile, Social Networking, Web 2.0, E-Communities, Social Networks, Social Web

1 Introduction

The Web is no longer simply an online resource of information to be consulted, searched and acted upon. It has become a network of social communities and information databases that are constantly growing and improving as they continue to harness the collective intelligence of users. It could therefore be argued that whereas Web 1.0 served essentially as a broadcast medium (i.e. of information/knowledge) 'Web 2.0' [7, 13] takes the form of a platform whereby the creator of content, has become the focus. [32] The recent development of Web 2.0 has provided for an enormous increase in human interactions across all corners of the earth. One manifestation of this is the growth of computer mediated social networks. Many notable Web 2.0 applications such as Facebook, Myspace and LinkedIn are social networks [28]. Social relational networks are becoming an important technology in human behavioral modeling. [37]

In 2007, a third generation of mobile social networking emerged offering richer services predominantly based on Wireless Application Protocol (WAP 2.0) and Multimedia Messaging Service (MMS). In 2008, a 4th generation of MSN provides users with a much high level of control over their information broadcast through active handset services or their profiles. Technologies such as Web 2.0 widgets, Open Social Flash Lite, and the OHA (Open Handset Alliance) operating system, coupled with advanced social media capture and transfer systems, has delivered a higher level of functionality to MSN. Recently, there has been growth in companies on the Internet which have

focused on the development of on-line social networks. Such networks range in purpose from being purely social in nature to those which are commercial-oriented with content development being a key purpose for these networks.

Online social networking has evolved into a phenomenon on websites such MySpace.com and Facebook.com, with More than 250 million active users; more than 120 million users log on to Facebook at least once each day; more than two-thirds of Facebook users are outside of college. Average user has 120 friends on the site. There are more than 30 million active users currently accessing Facebook through their mobile devices. People that use Facebook on their mobile devices are almost 50% more active on Facebook than non-mobile users. There are more than 150 mobile operators in 50 countries working to deploy and promote Facebook mobile products. The fastest growing demographic is those 35 years old and older on the sites [12]. Ryze and LinkedIn have enabled business users to establish networks of business associated and potential clients. While these virtual social networks are intrinsically interesting as places where young people socialize with one another in an online setting and are seen by marketers as a perfect target for advertising products and services designed specifically for population [10], more importantly, they have become a new and fertile locus for innovation.

Mobile technology is shaping social networking and dating trends. Research firm eMarketer forecasts that over 800 million people worldwide will be participating in a social network via their mobile phones by 2012, up from 82 million in 2007. [11] By 2012 revenues generated from all business models in this industry is forecast to reach US\$28.9 billion in the most conservative scenario and \$52 billion in the high growth scenario. (see Fig. 1) [31]

The trend can be expected to spread into business applications of social networks, a market that Forrester Research expects will account for \$4.6 billion in annual spending by 2012. Furthermore, Juniper Research has just released a new report that claims the value of the mobile dating and chatroom market will grow to nearly \$1.4 billion by 2013, and also pegs the total UGC market to reach \$7.3 billion by the same time. The estimate is up almost half from a report by the research agency that was presented in May 2008, which said revenues from mobile dating and chat services were expected to exceed \$1 billion by 2010. [16]

US\$ million/year	2007	2008	2009	2010	2011	2012
Conservative scenario						
North America	732	1,286	2,019	3,058	4,489	6,395
Latin America	35	64	109	184	296	489
Asia Pacific	1,664	2,739	4,075	5,931	8,517	11,896
Europe	945	1,848	3,179	5,013	7,192	9,754
AME	15	34	67	125	227	402
Total Conservative scenario	3,392	5,972	9,449	14,311	20,721	28,936
Middle scenario						
North America	766	1,411	2,327	3,701	5,685	8,429
Latin America	36	70	125	220	371	637
Asia Pacific	1,740	3,003	4,686	7,143	10,704	15,522
Europe	990	2,034	3,680	6,099	9,160	12,929
AME	16	36	74	146	274	505
Total Middle scenario	3,548	6,554	10,892	17,308	26,194	38,023
High Growth scenario						
North America	830	1,648	2,901	4,862	7,752	11,752
Latin America	39	82	155	290	509	898
Asia Pacific	1,867	3,436	5,673	9,053	14,040	20,837
Europe	1,073	2,376	4,587	7,998	12,447	17,934
AME	17	42	93	194	386	743
Total High Growth scenario	3,827	7,548	13,409	22,397	35,134	52,164

Fig 1 Global mobile community revenues forecast in three scenarios 2007-2012

The success of social networking sites and communication on such sites depends a lot on the innovation and adoption of such sites. With more and more businesses implementing these social networking sites, it becomes important to understand how and why people are deciding to use sites such as MySpace and Facebook. This paper will explore the development of mobile social networks, a subset of virtual social networks and online-communities. There are many opportunities for future research and organizational applications of SNS as SNS adoption grows at incredible rates. Our aim is to provide some perspective on the research from these literatures and concludes with discussion of new developments, challenges and opportunities. What we present in this study can be generalized for other enterprise-grade Social Networks, either for their own business purposes or as a contract job for another company.

2 Related Work

2.1 Online-communities

Online-communities are not a new phenomenon, but the creation of large online meeting spaces marks a new dimensions and new era. Online-communities are generally advertising supported although some are free; they focus on professional media such as trade magazines.

BusinessWeek.com, Examples include SmartMoney.com, and FastCompany.com. Less well-known e-communities include MediaPost.com, and allrecipes.com. [20] ASJA.org, communities offer professional content to embers and allow member (or visitor) dialogue. Onlinecommunities are going to be an increasingly important digital only category for connecting with and maintaining some kind of relationship with your most valued customer groups. Sites like IBM.com, Cisco.com. Sun.com. Microsoft.com. behospitable.com (Hilton Hotels) are Onlinecommunities. Hagel and Armstrong (1997) [14] propose four major types of online-communities based on people's desire to meet basic human needs: interest, relationship, fantasy, and transaction. Jones and Rafaeli (2000) [18] further segment these communities bv social structure. that communities formed based on social networks, for example, online voluntary associations, cyber inns, and so forth, and technology base, that is, types of technology platforms, for example, e-mail lists, Usenet groups, and so forth. Kozinets (2002) proposed the four types of communities as dungeons [19], that is, online environments where players interact, such as for online video games, circles, interest structured collection of common interests, rooms (computer-mediated environments where people interact socially in real time), and boards (online communities organized around interest specific bulletin boards). Kozinets (2002) [19] too delineates four kinds of online communities. These three typologies are reviewed, and a further popular typology of affinity groups proposed by Macchiette and Roy (1992) [3] as applied to the online environment is also proposed. Based on the above definitions the term may be simply defined as a group of individuals with common interests who interact with one another on the Internet.

Lastly, social network software provides social networking functions such as audio/video conferencing, IP telephony, desktop sharing, chat rooms, whiteboards, etc., for an online community to communicate and interact in a virtual environment. [5] It provides community-building functions such as an electronic portfolio, resume builder, and social networking, so that people can be connected together to form online communities to exchange and share knowledge. [30, 36]

2.2 Social networks

A social network is a social structure made of nodes that are tied by one or more specific types of interdependency, such as values, visions, ideas, financial exchange, friends, kinship, dislike, conflict, trade. web links, sexual relations, disease transmission (epidemiology), or airline routes.[30, 43] Online social networks (also referred to as social networking services) are the fabric of many of our interactions. Such networks include the relationships among friends and relatives with whom we share information and favors on a regular basis, and reach as far as influencing decisions by many of the world's companies regarding with whom and how they conduct their business. [15] In an initial study of online social networks [44], social networking companies were plotted along two matrices: technological and purpose (see Fig. 2).

On the technological matrix, social networks were plotted along an axis which ranged from Webbased to mobile-based and included a middle ground, that is, a hybrid scenario where social networking companies incorporated both the Web and the mobile platform. It is clear from this chart that mobile social networks are in the minority in the overall social networking industry as presently constituted. [44]

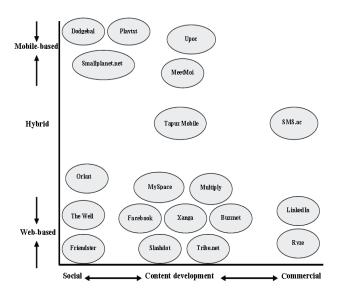


Fig. 2 Social network matrix [43]

Social networking is also one of many consumer technologies, including blogs, wikis, media sharing and virtual community, to cross over into the corporate world. In fact, digital social networks are interactive networks that use internet as a media for making a relation between human. Figure 3 shows different type of social networks like Emails, Forums, Weblogs, Instant Messaging and Chat rooms. Social softwares and electronic services used by internet users makes virtual network based on social relation like friendship, which are full of great valuable data, so with rapidly growing users of

these networks, mining in these large-scale of data, can provide better and efficient usage of hidden potential of this type of networks [39].



Fig. 3 Different type of social networks

Hitwise Global Research has just released a new report: The following report shows websites for the industry 'Computers and Internet - Social Networking and Forums', ranked by Visits for the week ending 09/26/2009.(see Fig. 4) [42]

Rank	Website	Visits			
1.	Facebook	41.80%			
2.	MySpace	21.29%			
3.	YouTube	14.12%			
4.	Tagged	1.69%			
5.	Twitter	1.30%			
6.	Yahoo! Answers	1.27%			
7.	Yahoo! Profiles	0.87%			
8.	myYearbook	0.81%			
9.	Windows Live Home	0.56%			
10.	Classmates	0.47%			
11.	Yahoo! Groups	0.43%			
12.	MocoSpace	0.36%			
13.	Mylife	0.32%			
14.	MySpaceTV	0.27%			
15.	LinkedIn	0.27%			
16.	BlackPlanet.com	0.24%			
17.	Yahoo! Buzz Index	0.24%			
18.	Meebo	0.23%			
19.	CaringBridge	0.21%			
20.	Club Penguin	0.19%			

Fig. 4 Top 20 Social Networking Websites

In the modern era of Web 2.0 social media and distance learning[13], people may acquire extensive professional knowledge without ever leaving the comfort of their office. Yet, worldwide there are over 1.2 million professional conferences and events ea [26], adding up to a hundred billion dollar industry attends conferences for two reasons: to learn from others, and to form meaningful

connections with clients and colleagues. As Nardi et al. [33] so aptly noted, in the modern world it is not what you know, it is who you know, that is most important in helping you get the job done.

Social networking has been a growing trend among Internet users for the last few years and the desire to stay connected has enabled the growth of many social networking sites (SNSs) like Facebook, Hi5, LinkedIn, MySpace, etc [2]. Facebook is the SNS with the highest number of users visits with 35.58% users visits. A recent, more dynamic incarnation of this paradigm is microblogging. Microblogging is a combination of blogging and instant messaging. Sites such as Twitter enables users to stay in immediate contact with all members of their twitter network via phone, web or IM. Twitter is known for being a highly dynamic and updated source of a user's interests and activities which is the self-proclaimed "telegraph system of Web 2.0." These services specialize in facilitating connections between people who share professional pursuits or similar interests.

Social networking has become a driving force on the Internet. Many people are part of at least one social network, while more often people are members of many different communities. For this reason many business people are trying to capitalize on this movement and are in a rush to put up their own social network. As the growth of social networks continues, we have started to see more and more niche communities popping up all over in favor of the larger, all-encompassing networks in an attempt to capture a sliver of the market.[40]

2.3 Types of Social Networks

There are three kinds of social networks:

1. The Indifferent social network:

MySpace, Facebook, Orkut are all examples of the indifferent social network. These networks have no bias, or prejudice, against their users. They don't give preferential treatment to users of a particular profession and are, in fact, totally disinterested in what you do. [24]

2. Niche networks:

Within3 is a community of physicians and health researchers. As per its website, Within3 also helps members recruit patients for clinical trials, and keep them informed of the latest medical advancements. Registration on the website is by invitation only, and is open for physicians or researchers in the health sciences, or for students training for an advanced health science degree. But registration-by-invite isn't the distinguishing feature of a discreet

network. It's their scope, which is big enough for the members, but limited for a general audience. An example of this is U.S. Presidential candidate Barack Obama's social network MyBarackObama [http://my.barackobama.com/]. Anyone can register on this network, but you wouldn't find many Republicans there AT&T is using niche networks, "where your ads are more meaningful — those are the real gems," said Carrie Frolich, who manages ad placements in social media sites for at MediaEdgeCIA, which is owned by marketing giant WPP. [24]

3. Business-Oriented Social Networks

Business-oriented social networks, where the network itself is designed to be used for what are generally business-specific purposes. LinkedIn, Plaxo, and more recent entrants such as Spock are part of this group. Facebook is in this set, too, as is Jigsaw, a socially driven contacts tool for business. Obviously, there are more. Each of these is designed to facilitate some aspect of a business transaction — a sales contact, a referral, or similar business purpose.

Like personal social networks, these businessoriented networks can be powerful components of your marketing plan. For example, you can use the data-searching capabilities in LinkedIn and the contacts tools in Jigsaw to develop a very focused prospect list, against which you can apply a highimpact, highly personalized direct marketing campaign. Or, you could use a network like Facebook to develop a group around a new application that you are launching. You can grow your beta audience and engage them to elicit feedback, saving you development cycles and speeding your entry into the larger market. You can also use these networks to build your own organization, whether you are looking for marketing or related talent or for the kinds of general expertise or "raw materials" from which to build an excellent team. Any way you approach it, the use of business social networks is very likely a factor in some aspect of your marketing plan. [8]

There is another side to social networks, and that is the community, contribution and collaboration aspect. Social networking generally allow interaction between users in a way that expands the social networking site itself, by contributing to the content of the communicating via discussion forums and blogs, making the site grow organically and become the product of all its contributors. Let's look at the collaborative and communicative features available on most social networks:

- Discussions, normally by means of a discussion forum
- Photograph galleries, allowing images to be shared with contacts, and in some cases associated with the people in them
- Custom profiles that allow users to share information about themselves with others
- Personal messaging and personal contact forms that allow users to communicate with each other directly [25]

2.4 Social Network Software Tool

A definition of Social Software: Tools that allow people to connect online to share ideas, collaborate in networks, and form communities. Includes things like blog and virtual conferencing (i.e. networks = 1:many / many:many), rather than email (i.e. linear = 1:1). Social software enables people to rendezvous, connect or collaborate through computer mediated discussion and to form online communities. Broadly conceived, this term could encompass older media such as mailing lists but some would restrict its meaning to more recent software genres such as blogs and wikis. [30]

Social software has played a major role in changing the ways people interact online. It has led to the birth of the read/write Web, where users are both consumers and producers of online content. Social software can be defined as a tool that must meet at least two of the three following conditions:

- 1. It allows people to communicate, collaborate, and build community online.
- 2. It can be syndicated, shared, reused, or remixed, or it facilitates syndication.
- 3. It lets people learn easily from and capitalize on the behavior or knowledge of others.[27]

Social network software allows people to create communities, connect with eachother, spread ideas, and share knowledge in a virtual community environment that facilitates social learning among students and overcomes geographical barriers for knowledge sharing and exchange. Thus, social network software can be used as a platform to build a community for social learning. People can exchange, share and create knowledge through such social interaction and communication. By using Social network software tools, people can build communities and learn through knowledge collaboration, exchange and sharing. Web 2.0 provides a networked environment for learners to interact with each other in a single place and to create new knowledge through social interaction and reflective thinking. Web 2.0 links up internet learning sources in a virtual and distributed environment that facilitates knowledge dissemination and distribution over the Internet. Learners can plan and implement their own learning activities with Web 2.0 applications and evaluate their learning outcomes by themselves. In other words, Web 2.0 technology links people and internet learning sources and builds communities. It overcomes some of the geographical and one-to-one mentoring problems for social and reflective learning. [29]

2.5 Social Networking in a Mobile

The era of on-line social networking is upon us --millions of users interact daily on sites such as MySpace, FaceBook or Xanga. As technologies continue to converge, consumers demand that on-line services be extended unto a more practical device: the MOBILE. eMarketer forecasts that mobile social networking will grow from 82 million users in 2007 to over 800 million worldwide by 2012. (See Fig. 5) [11]

Worldwide Mobile Social Network Users, 2007-2012 (millions)

	2007	2008	2009	2010	2011	2012
Mobile phone subscribers*		3,417	3,697	3,894	4,150	4,275
Mobile Internet users	406	490	596	757	982	1,228
Mobile social network users**	82	147	243	369	554	803
Mobile social network users % of mobile phone subscribers	2.7%	4.3%	6.6%	9.5%	13.3%	18.8%

Note: *data for 2007-2010 from European information Technology Observatory (EITO), March 2007; **registered users (identified by their mobile number) who create, edit and view personal content using their phone

Source: eMarketer, April 2008

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www.eMarketer.com

Fig. 5 Worldwide Mobile Social Network Users, 2007-2012 (millions)

More than 200 million people in the United States, and almost 3 billion people worldwide, are now using mobile Internet services on their mobile phones every day — in every way. According to data from mobile industry market research firm M:Metrics, there are 7 1/2 million users of mobile social networking services in the United States. [29] Examples include Plazes, Dodgeball, Jambo, Jaiku or Bluepulse. All of them build around the location awareness concept, which is typically combined with traditional social networking functionality, such as the centralized exploration of friendship links. Some of them, such as Jaiku also offer some Bluetooth based features. The power of such features has been recognized by the developers of mainly decentralized applications. Commercial examples are Nokia Sensor, or MobiLuck, which both offer profile-based matchmaking via Bluetooth. [23]

A majority of these mobile social-networking users are teens and college students using MySpace and Facebook. Virtually all popular social networking sites have opened their services for access by people using mobile phones to upload content, retrieve content, and communicate with their peers. Accessing social networking sites from mobile phones is becoming an integrated part of a kid's cyber-lifestyle. [29]

3. New Developments, Challenges and Opportunities

This section summarizes some of the recent and foreseeable developments that may lead to new opportunities for subject use. Social networking, online-Communities and User-Created Content (UCC) are already an important economic phenomenon notwithstanding it originally being largely non-profitable used. The spread of it and the amount of attention devoted to it by users appears to be a significant disruptive force for how content is created and consumed and for traditional content suppliers. This disruption creates both opportunities and challenges for established market participants and their strategies.

3.1 Developments in SNS

Social networking sites (SNS) are a type of online or virtual communities (such as Yahoogroups or Google Groups) with a few differences. [22] Mobile access, via mobile phones, to SNS such as MySpace and Facebook is growing. Mobile social networking will help put users' content into context since their social interactions will be able to occur in real time. [9] Mobile social networking systems are also developing that, among other things, allow users to be aware in real time of social activities. SNS are also evolving to attempt to offer more value to users. For example, MySpace is developing a music service with Universal, Song BMG and Warner and is working with Merlin on future licencing arrangements. [6] SNS are spreading to new countries and cultures e.g., MySpace launched a dedicated community for Indian users. And given the high level of Facebook use in university settings, it is natural that educators are considering if and how to use Facebook as a learning tool. One developer recently received funding to work on a learning management system based on Facebook. Potential other applications include health care [41] where users can get personal health information from SNS like Facebook. [38]

3.2 Challenges

The challenges that need to be overcome for the successful adoption of social software include: (1) Security of public storage: concerns that resources will disappear as public sites disappear, (2) Privacy organizations' operational knowledge and students' work [17] (3) Integrity of information available: learning to "know who to trust" as reliable and valid sources, (4) Adaptation: managers, teachers and students are required to take on new roles within new learning communities. They are now creators and publishers, guides and scouts for new knowledge, moderators and teachers and learners, (5) Time: it takes time to learn and implement, (6) Usability is not enough: going beyond Usability: The need to design for persuasion, emotion, and trust (7) Bandwidth: in some rural communities or even in the major cities bandwidth is an issue with some social software tools, (8) OS Limitations: Although top-end mobile phones have good computational capability, often including multiple processors, they are limited in terms of the programmability and resource usage control offered to the developer, (9) API Limitations: These API limitations may not be resolved by the supplier because new models replace old models in rapid succession. For that reason, the programmer is forced to propose creative solutions to API limitations, (10) Security Limitations: To protect the network from malicious attacks and preserve the phone's integrity, phone manufacturers and network operators control access to critical components, including the APIs for access to the file system, multimedia features, and communications via Wi-Fi or GPRS, through a rights management system. Properly signed keys from a Certificate Authority which are needed to remove all restrictions on using these APIs, (11) In the online social networking space, there is a large gap clearly between the big two social networks (MySpace and Facebook) and the others. Consumers do not want to recreate brand new and separate social networks for mobile. They would rather use their existing social network and have it accompany them through mobile phone. (12) Enhancing R&D, innovation and technology.

3.3 Opportunities

Social networking is all about developing connections or ties between friends and associates. While people have always networked with one another, the Internet has allowed us to do this in a global manner. These communities are able to generate income from advertising and additional paid services. [40] From a marketer's perspective, social networks offer two things: traditional media-

buying and ad placement opportunities — let's face it, getting your brand in front of a subscriber base of 200 million is worth something. At the same time, and growing in importance, is your forward-looking opportunity to develop non-interruptive, memberdriven social campaigns. [8]

Market research firms are increasingly following individuals into virtual communities from large services such as Facebook and MySpace to simpler services such as Twitter and FriendFeed. By using online focus groups and questionnaires, they are able to get immediate feedback and make decisions about how best to target them in these environments. For example, at CC Metro, an imagined island on the Web, visitors can set up an "avatar" or a virtual alter ego, which can then shop and dance at the Coca Cola diner, visit a movie theater, as well as buy clothes and other accessories for their avatars, while surreptitiously being monitored by the firm. [22]

Some Social Networking Sites (SNS) are dedicated to particular topics, sharing knowledge, or purchases of products and services, transforming, for example, how users research, search and decide on travel plans. Yahoo's Trip Planner, Google's Co-Op, TripAdvisor's Inside, VirtualTourist's Trip Planner and others share travel journals, itineraries and photos. Similar social networking tools are used for real estate purchases. [34]

Social Networking, as exemplified in the 'Web 2.0 concept' by online applications such as MySpace, Facebook, Flickr, LinkedIn, Bebo, Hi5, Friendster, Gather, Friendster and more, have been making headlines in the national newspapers, not only for their high profile acquisition by major media companies, but also for their ability to potentially create a whole new revenue stream, or even to create a new exploitation route. However, the interesting question is whether these are the future of the Internet (as the Web 2.0 badge implies), or merely the latest 'dot.com' bomb.

There are many opportunities for companies to use SNS. Departments that should benefit from SNS include sales (identifying and engaging customers) and operations (so employees can help each other and find more effective ways of working). Research and development could also use SNS to gather ideas and insights from customers. [4] Brands can actually create Facebook and MySpace accounts and get users to add them as friends. This will help brands create a list of consumers who are interested in getting information from the brand. Facebook and MySpace are the social sites most visited by mobile users mean that advertisers need to be able to access their target audience via the mobile versions of these

networking Technology social sites. has revolutionised communications, massively irrevocably, to the benefit of the consumer, the adaptive and agile organisation, and those who cherish an open society. The future of the Web is going to be about branded destinations, which include social networks. Social networks are increasingly popular for personal and professional use. Social networks will prove to be the most powerful tool for both the social side and the working/business side of online marketing. [35] The web is a big social network and the trick is to get your messages to spread further and faster than your competitors. The web was designed to give away useful information. The closer you can align a portion of your business model with that, the better a chance you have at achieving extreme success. [1]

4. Recommendations and Strategies

Social networks provide a means of making connections with people who have similar goals and interests. Those connections are the reason social networks are big and are continuing to grow. As more and more businesses are adopting the mobile Web, it is increasingly important for enterprises interested in mobile commerce to have a mobile storefront.

Social networks are not only for high school or college kids. LinkedIn, a social networking site for business and professional contacts, has over 46 million members in over 200 countries and territories around the world. Executives from all Fortune 500 companies are LinkedIn members. [21] People contribute to them to increase their intellectual, cultural and social capital. They provide a place for opinions to be heard, for achievements to be acknowledged, a place to stay connected, and a place for growth. We would recommend that advertisers create integrated campaigns leverage the viral aspects of these networks. As an entrepreneur, you can create information about your business, maintain your network, and be continually informed of what's going on in your peer group. You can use social networking, online-Communities and mobile Web site services as well as make information on your business available to billions of mobile Internet users.

5. Future trend and Conclusion

Over the next few years mobile social networking will in turn become massive. On a more global level, mobile social networks can have a

transformative effect on urban centers. While blogs have indeed transformed business, politics and publishing, online social networking at social networking sites such as MySpace, Facebook, and Linked In have impacted an even greater crosssection of businesses and people. Many businesses have also created social networking sites to encourage and support staff collaboration. The mobile becomes a research tool to give its user the capacity to collect and share information. Open information repositories can be created for advocacy work. One outcome is increasing transparency. Mobile phones can be a key for collectivity contributing to new information systems and receiving all sorts of information. With Webenabled mobile phones touching one-third of the world's population or twice as many as the number of Internet-connected PCs, mobile Web presence enables brands to reach a far greater audience with the content they want, when and where they want it. The mobile serves as a publishing and broadcasting tool. Text, audio and video is already possible – its contributions can support own communication channels and coincide with existing forms of citizen journalism. Another trend is about the potential for peer-to-peer networking. It is the convergence from the social web with the mobile. The mobile let you interact within a network in a highly contextual way.

When interactivity is combined with unified communications and location awareness, nextgeneration social networks will have significant business value. Businesses will be the most enthusiastic adopters of mobile social networks. They can build knowledge maps on a foundation of expertise contributed by employees and business partners, and enriched by data captured from projects, experiences and observations of others. Workforces will grow more distributed as the network replaces the office as the lifeline of information. Logistics will become more efficient, and group interactions faster and more flexible. We will come to expect information to be at our fingertips. Regardless of where information comes from, the mobile social networks of the future will give users nearly unlimited choice over how they choose to share and consume information. Businesses may learn eventually that the types of powerful communication tools now available for personal purposes on social-networking sites can be leveraged for perfectly appropriate and advantageous business uses. We provide some perspective on the research from these literatures, with a focus on the mobile social networks. These conclusions have implications for managers in technology-enabled organizations who wish to foster an innovative environment in their companies. This calls for more research that can improve our knowledge on the Mobile social networking strategies, system design requirements, business models and relevant technologies involved.

References

- [1] Aaron, Aaron Matthew Wall, Search Engine Optimization book, 2005
- [2] A. C. Weaver and B. B. Morrison. Social Networking, *IEEE Computer*, Volume 41, Issue 2, February 2008.
- [3] Bart Macchiette, Abhijit Roy, Affinity Marketing: What is it and How does it Work? *Journal of Services Marketing*, Volume 6 Issue 3, 1992 (pp. 47-57)
- [4] Bernoff, J., & Li, C. Harnessing the power of the oh-so-social web. *MIT Sloan Management Review*, 49(3), 36., 2008]
- [5] Bonniface, L., & Green, L., Finding a new kind of knowledge on the HeartNET website. *Health Information and Libraries Journal*, 2007, 24(1), 67-76.
- [6] Cardew, B., & Emanuel, H. Merlin enters MySpace talks. *Music Week*, 1, 2007
- [7] Chang-Chun Tsai, Cheng-Jung Lee, Shung-Ming Tang, The Web 2.0 Movement: Mashups Driven and Web Services, WSEAS TRANSACTIONS on COMPUTERS, Issue 8, Volume 8, August 2009, pp.1235-1244
- [8] Dave Evans, *Social Media Marketing An Hour a Day*, Wiley Publishing, Inc., 2008, ISBN: 978-0-470-34402-6
- [9] DeJean, D. Social networking gets moving. *Computerworld*, 42(15), 30, 2008
- [10] Elliott, S., A CBS take on the YouTube madness. *The New York Times*, Feb. 28, 2007
- [11] eMarketer, "Mobile Social Networks" report, http://www.emarketer.com/Report.aspx?code=em arketer_2000489, Accessed Aug. 28, 2009
- [13] Fan Yang, Zhi-Mei Wang, A Mobile Location-based Information Recommendation System Based on GPS and WEB2.0 Services, WSEAS TRANSACTIONS on COMPUTERS, Issue 4, Volume 8, April 2009, pp. 725-734
- [14] Hagel, J., and Amstrong, AG. Net Gain: Expanding Markets Through Virtual Vommunities, *McKinsey & Company*, 1997.
- [15] Jackson Matthew, "The Economics of Social Networks", *Working Paper*, 2005.

- [16] Juniper Research: There's Money In Mobile Dating Services, by Robin Wauters on January 19, 2009. Accessed Aug. 20, 2009. http://www.techcrunch.com/2009/01/19/juniper-research-theres-money-in-mobile-dating-services/
- [17] Johann Schrammel, Christina Köffel, Manfred Tscheligi, How Much do You Tell?, Information Disclosure Behaviour in Different Types of Online Communities, C&T'09, June 25–27, 2009, University Park, Pennsylvania, USA. ACM 978-1-60558-601-4/09/06.
- [18] Jones, Q., and Rafaeli, S. "What do virtual "Tells" tell? Placing Cybersociety Research into a Hierarchy of Social Explanation ", *Proceedings of th 33*" Haiwaii International Conference on SystemScience, Hawaii, Jan. 2000.
- [19] Kozinets, R. V., The Field Behind the Screen: Using Netnography for Marketing Research in Online Communities. *Journal of Marketing Research*, 39 (February), 61-72, 2002
- [20] Larry Weber, Marketing to the Social Web, John Wiley & Sons, Inc., 2009, ISBN: 978-0470-41097-4
- [21] Latest LinkedIn Facts, http://press.linkedin.com/about, Accessed Aug. 25, 2009.
- [22] Margherita Pagani, Encyclopedia of Multimedia Technology and Networking, Information Science reference, ISBN 978-1-60566-015-8, 2009
- [23] Marco von Arb , Matthias Bader , Michael Kuhn and Roger Wattenhofer, VENETA: Serverless Friend-of-Friend Detection in Mobile Social Networking, *IEEE International Conference on Wireless & Mobile Computing, Networking & Communication*, 2008
- [24] Mayank Sharma, Elgg Social Networking, Packt Publishing, ISBN 978-1-847192-80-6, 2008
- [25] Michael Peacock, *Drupal 6 Social Networking*, Packt Publishing Ltd., ISBN 978-1-847196-10-1, 2009
- [26] Meetings Market Report. 2006, Meetings and Conventions Magazine. https://cc.northstartravelmedia.com/mc/mmr.aspx
- [27] Meredith G. Farkas, Social Software in Libraries: Building Collaboration, Communication, and Community Online, Information Today, Inc.,ISBN: 978-1-57387-275-1, 2007
- [28] Meredith M. Skeels and Jonathan Grudin, When Social Networks Cross Boundaries: A Case Study of Workplace Use of Facebook and LinkedIn, GROUP'09, May 10–13, 2009, Sanibel Island, Florida, USA

- [29] Michael J. O'Farrell, John R. Levine, Jostein Algroy, James Pearce, Daniel Appelquist, Mobile Internet For Dummies, *Wiley Publishing*, Inc. 2008, ISBN: 978-0-470-23953-7
- [30] Miltiadis D. Lytras, Social Web Evolution: Integrating Semantic Applications and Web 2.0 Technologies, Information Science Reference (an imprint of IGI Global), ISBN 978-1-60566-273-2, 2009
- [31] Mobile Social Networking growth accelerates, Reported on 2008, Informa Telecoms & Media, http://www.informatm.com/itmgcontent/icoms/s/press-
 - <u>releases/20017504078.html;jsessionid=676E2FB</u> <u>707FF5889A34F61435E85F4E1</u>, Accessed Aug. 20, 2009
- [32] Mobile Web 2.0 Leveraging 'Location, IM, Social Web & Search' 2008-2013, Publisher: Juniper Research, May 2008
- [33] Nardi, B., Whittake, S., & Scharz, H. 2002. NetWORKers and their activity in intensional networks, CSCW 11, 1, 205-242.
- [34] Participative Web and User-Created Content: WEB 2.0, WIKIS AND SOCIAL NETWORKING, OECD publications, 2007, ISBN 978-92-64-03746-5
- [35] Philip Sheldrake, The Social Web Analytics eBook, 2008
- [36] Rapoza, J., Social Engineering. *eWeek*, 25(3), 39-45, 2008
- [37] Ronald R. Yager, Intelligent Social Network Modeling and Analysis, Proceedings of 2008 3rd International Conference on Intelligent System and Knowledge Engineering
- [38] Sinnema, J., Facebook could help save health care: Expert. CanWest News, 2008
- [39] S. Staab, P. Domingos, P. Mike, J. Golbeck, L. Ding, T. Finin, A. Joshi, A. Nowak, and R. Vallacher, "Social Networks Applied", *IEEE Intelligent Systems*, vol. 20, 2005,pp. 80–93.
- [40] Steven M. Swafford, ASP.NET 3.5 Social Networking, Packt Publishing, ISBN 978-1-847194-78-7, 2008
- [41] Watson, M., Social networking: An opportunity for health and social care? *Journal of Integrated Care*, 16(1), 41, 2008
- [42] Web resources, Hitwise Global Research, http://www.hitwise.com/us/datacenter/main/dashb oard-10133.html, Accessed Oct. 24, 2009
- [43] Zhi-mei Wang, Ling-Ning Li, Enable collaborative learning: an improved e-learning social network exploiting approach, Proceedings of the 6th Conference on WSEAS International Conference on Applied Computer Science, Vol.6, 2007, pp.311-314.

[44] Ziv, N., & Mulloth, B., An exploration on mobile social networking: Dodgeball as a case in point. *Proceedings of the Mobile Business Conference*. Copenhagen, Demark, 2006