Enterprise Social Networking: The next competitive advantage

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Contents

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Executive Summary

Social networking software such as Facebook has changed the way that we communicate with our friends and family. Looking forward, this communication revolution will sweep the workplace, as the next generation demands that the sophistication and flexibility available for personal communication is matched in the corporate setting.

Adopting Enterprise Social Networking (ESN) software also holds several benefits for organizations such as enhanced innovation, higher engagement and better decision-making. However, before these benefits can be realized, senior management has to understand the size of the relevant group and its needs. It must then match these with the best tools available, or consider custom software to reap the benefits of ESN software.

Successfully implementing ESN software will provide an important competitive advantage for companies as they compete in the global marketplace for customers and employees. It is also likely that a wait-and-see approach or a fast follower strategy will not work because the cultural change required to facilitate open communication will take longer than implementing the software itself. Thus companies that build up a head start today are likely to be more successful.

Introduction

Social tasks

Social groups radiate energy as a group, but harnessing and focusing this social power on a desired task requires some planning.1

A social task is one in which a group of people are interactively involved or engaged to complete it together. An example is a medical device R&D team working together to solve the different problems with a pacemaker product – the software interface for the cardiologist, the biocompatibility of the embedded leads, the capacitor design to generate the current to "shock" the heart. Another example is an author, editor and publisher working to write and refine a book, and distribute it to the neighborhood bookstore.

It differs from a discrete or single-participant task in that it tries to get a sub-set of the overall membership involved in providing input, performing some of the steps, make a decision or consume some information. The beneficiaries of a social task could include the task participant (someone actively involved in completing the task), an ecosystem member (not actively involved but able to access the results) or the sponsor (individual or organization that provides the social system)[2].

The forms of aggregation could include independent (participants work independently and their results are shared in aggregate), autonomous (participants work independently but their results are distinctly visible), consensus (group of members works to deliver an overall collective result), deliberative (group of members works together but not with the intent of an overall collective result) and combative (members compete against each other to derive the best result from the group).

Definition of terms

- Online social network: An online social network focuses on building and reflecting social networks or social relations among people, e.g., who share interests and/or activities. It essentially consists of a representation of each user (often a profile), his/her social links,

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[1] Rawn Shah, *Social Networking for Business, Choosing the Right Tools and Resources to Fit Your Needs,* (Wharton School Publishing, 2010), 45
[2] Rawn Shah, 47

and a variety of additional services. Social networking sites allow users to share ideas, activities, events, and interests within their individual networks.[3]

- Social media: This refers to the sharing of content (e.g. messages, documents, audio and video) via an online social network (typically Facebook or a similar site but could even be via email). While this project focuses on the underlying social networks and software that allow the spread of media, in practice, the content and the network can be hard to distinguish. For example, the thriving Youtube community consists of millions of people who use the website to share and watch videos, and also comment on them.

Consumer social networking

Online social networking has seen a meteoric rise in the last decade, as names such as MySpace, Facebook and Twitter have become household names. Most recently, Facebook.com overtook Google.com as the most visited site on the Internet[4] (Figure 1). Not only are users visiting social networking sites more, they are also spending more time on them than ever before, with the average Facebook user spending 7 hours a month[5] (Figure 2) on the site in January 2010, a 10% increase over the previous month. Put another way, the amount of time users spent on Facebook increased by 80 million man hours in just one month!

While social networking sites were initially dismissed as catering to niche audiences such as artists and teenagers (MySpace) or college students (Facebook), the average user has changed considerably over the last few years. Today users over the age of 25 form 75% of the membership of these sites[6] (Figure 3), with 64% and 61% of Twitter's and Facebook's users being over 35 years of age. In fact, the average age of a LinkedIn (career networking website) user is 44 years (Figure 4). Social networking is clearly no longer a niche or youth-driven phenomenon.

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[3] http://en.wikipedia.org/wiki/Social_network_service
[4] http://www.fastcompany.com/1584920/facebook-now-more-popular-than-google-let-the-ad-wars-begin
[5] http://blog.nielsen.com/nielsenwire/online_mobile/facebook-users-average-7-hrs-a-month-in-january-as-digital-universe-expands/
[6] http://royal.pingdom.com/2010/02/16/study-ages-of-social-network-users/

Weekly Market Share of Visits to Facebook.com & Google.com

Weekly market share in 'All Categories', measured by visits, based on US usage.
Created: 03/15/2010. © Copyright 1998-2010 Hitwise Pty. Ltd.   Source: Experian Hitwise US
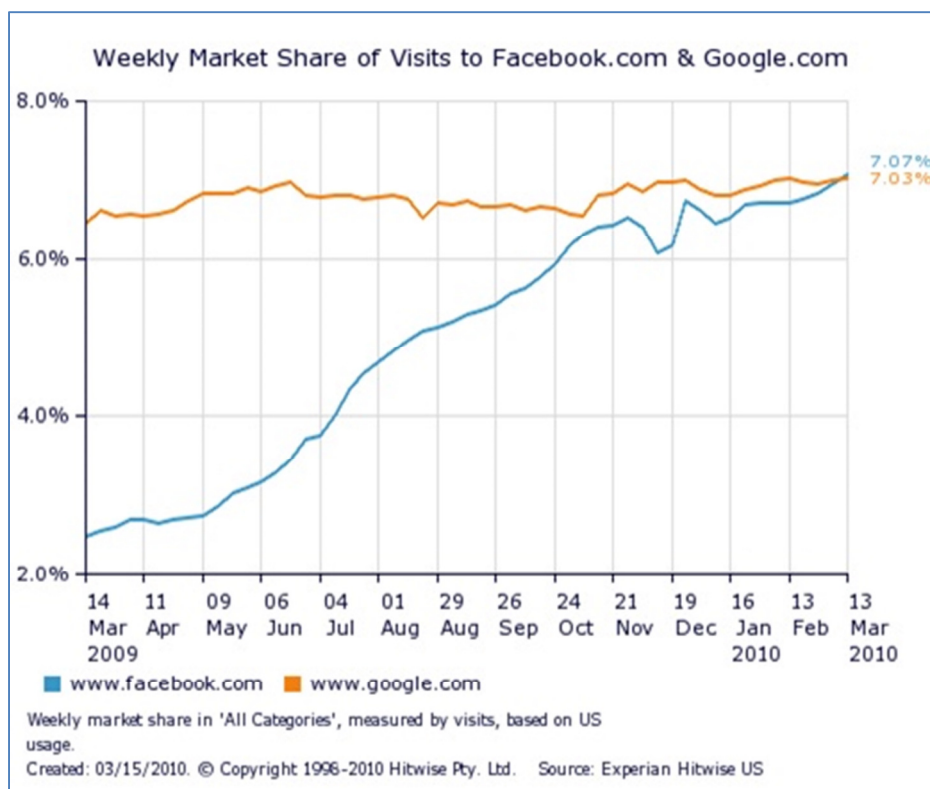
Figure 1

Top 10 Parent Companies/Divisions for January 2010 (U.S., Home and Work)					
Rank	Parent	Unique Audience (000)	Time Per Person (hh:mm:ss)	MOM UA % Change	MOM Time % Change
1	Google	162,536	2:05:19	4.4%	-11.7%
2	Microsoft	143,893	1:57:58	5.9%	-4.1%
3	Yahoo!	138,850	2:28:33	6.6%	-15.8%
4	Facebook	116,329	7:01:41	5.8%	9.7%
5	AOL LLC	87,629	2:14:12	-0.8%	-7.5%
6	News Corp. Online	83,540	1:10:56	4.2%	-9.4%
7	InterActiveCorp	75,433	0:14:16	5.4%	-9.3%
8	Amazon	70,942	0:25:23	-4.7%	-28.4%
9	eBay	68,909	1:18:41	1.4%	-5.8%
10	Apple Computer	68,877	1:18:58	7.9%	-10.0%
Source: The Nielsen Company					

MOM UA % Change: Percentage change in Unique Audience over the previous month

MOM Time % Change: Percentage change in average time spent per person on the website

Figure 2

Figure 3

Figure 4

Enterprise social networking (ESN)

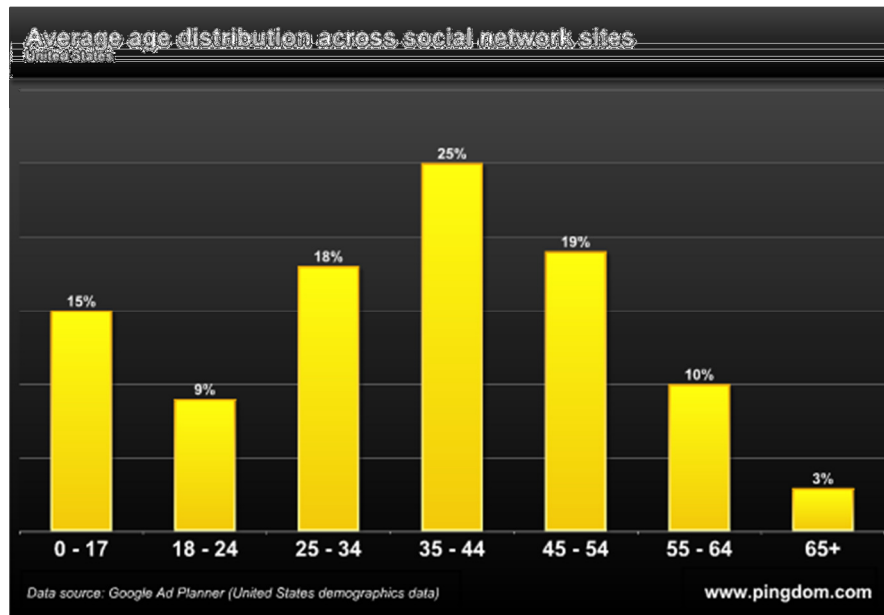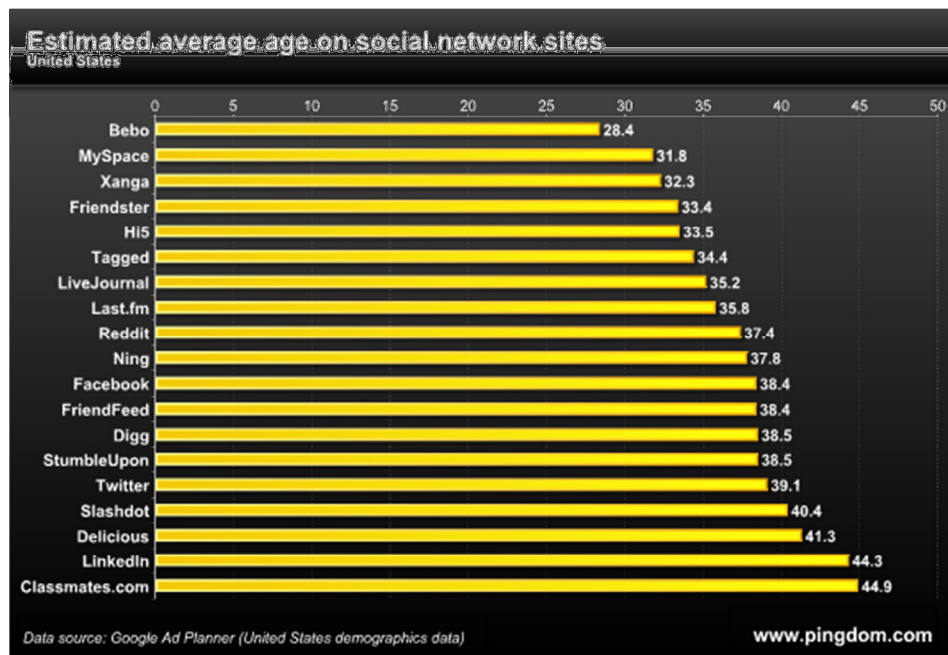With social networking becoming a mainstream phenomenon, there is increasing interest within businesses to take advantage of their employees' familiarity with peer-to-peer technology to increase employee communication and collaboration. There are several benefits to companies embracing social networking including:

1. Greater customer and employee engagement[7] (e.g. spotting consumer needs earlier)
2. Enhanced innovation[8] through peer-to-peer knowledge sharing (e.g. cross-divisional collaboration)
3. Better decision making[9] (e.g. through prediction markets)

Both large companies, including IBM, and venture-backed startups, are attempting to corner this market, which is expected to be worth $2B in 2013 (Figure 5) and account for the majority of the revenue for Web 2.0 products.

On the other side, a wide range of companies, including giants like Best Buy and Groupe Danone, and smaller organizations like Cordarounds.com, a small American clothing company, have implemented social networking technologies because they believe them to be essential for future success.

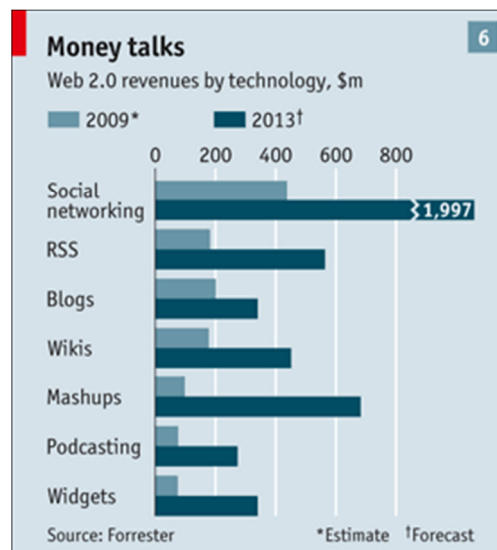**Figure 5**

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[7] http://www.communitelligence.com/blps/article.cfm?page=693
[8] http://www.newscientist.com/article/dn16681-innovation-how-social-networking-might-change-the-world.html
[9] http://mashable.com/2010/03/05/companies-crowdsourcing

Methods

Key questions

The key questions that this research report will attempt to answer are:

- What are the primary benefits that companies hope to gain from implementing social networking? Specifically, what benefits do companies seek in:
    1. Higher customer and employee engagement[10] (e.g. spotting consumer needs earlier)
    2. Innovation[11] through peer-to-peer knowledge sharing (e.g. cross-divisional collaboration)
    3. Decision making[12] (e.g. through prediction markets)
- Have these technologies delivered what they promised?
- How can organizations choose the most effective tools for their needs?

Interviews

Enterprise social networking is an evolving field with several players and no entrenched winners or standards. IT focused consulting firms such as Gartner and Forrester have attempted to bring order to the field by conducting surveys of management and classifying the different tools available. However, the primary means of understanding user needs, level of satisfaction and future scenarios in this field remains interviews with industry experts.

Interviews were conducted of a wide range of social networking experts, including those at market leaders (e.g. Jive Software), startups (Meeteor.com), emerging markets (Kinetic Glue in India), wireless technologies (Scott Synder) and possible customers, including educational institutions (Wharton School of Business).

Key questions for software providers (Jive Software, Meeteor.com and Kinetic Glue):

1. What are the biggest factors pushing organizations to adopt social software in the workplace and what is holding them back?
2. What could accelerate the shift towards social software?
3. What characteristics of an organization (size, employee age, geographical spread) make them more likely to implement enterprise social networking software?

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[10] http://www.communitelligence.com/blps/article.cfm?page=693
[11] http://www.newscientist.com/article/dn16681-innovation-how-social-networking-might-change-the-world.html
[12] http://mashable.com/2010/03/05/companies-crowdsourcing

4. How do they differentiate their product offering from other vendors?

Key questions for experts and customers (Scott Snyder and Wharton School of Business):

1. What issues have organizations faced in implementing social software?
2. How can organizations choose the best software that meets their needs?
3. What benefits have companies enjoyed as a result of adopting social software?
4. What catalysts could increase the adoption of social software in the near future?

Scenario planning

Description

All businesses deal with uncertainty in the marketplace. New technologies, changing customer needs and volatile raw material prices are examples of some of the moving parts that businesses have to grapple with in order to be successful. In understanding emerging technologies, this becomes even more difficult. In the early days when the technology has not been widely adopted, it is unclear what path it will follow. Spectacular losses snatched from the jaws of victory include the ill-fated but technologically advanced Sony Betamax[13] and Apple Newton products. While significantly superior to their contemporary technologies, these products ultimately lost in the marketplace and were discontinued.

In the face of such uncertainty, scenario analysis is a tool for management to understand possible states that the world could evolve to in the short, medium and long term. From the point of view of a manager considering deploying social networking software in his organization, understanding the possible ways that the market for this software could evolve is an extremely important "gedanken experiment" or thought experiment; specifically scenario analysis is helpful in determining whether his company could be a possible adopter of social networking technology. This would help him understand the benefits of the technology, reaction of the employees, possible downsides, and ultimately the return on investment. Furthermore, issues around interoperability with existing IT systems, software obsolescence and data security can be modeled and anticipated prior to actual implementation, resulting in a plan on how to tackle them.

The process steps and a possible example of the initial steps is presented below (see Scenario Planning section for analysis).

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[13] http://www.mediacollege.com/video/format/compare/betamax-vhs.html

Methodology

Step 1: Map enterprise social networking technologies

1. Wikis
2. Social software
3. Blogs
4. Social Tagging
5. Mobile integration

Step 2: Identify stakeholders

1. Firms
2. Employees
3. Customers and suppliers
4. Social software providers

Step 3: Understand key long-term trends

1. Changing demographic makeup of work force
2. Decreasing cost of technology
3. Distributed geographical footprint of businesses
4. Increasing importance of customer interaction
5. Lower retention rate
6. Increasing need for innovation

Step 4: Understand key uncertainties

1. Adoption of ESN software by companies?
2. Does ESN software deliver on promised benefits?
3. Will privacy concerns of employees be addressed?
4. Will intellectual property and security concerns of organizations be addressed?

Step 5: Develop internally consistent scenarios

1. Triumph of connectivity
2. The next competitive advantage
3. Missed opportunities
4. Backlash against ENS
5. Drag on organization
6. Status quo

Benefits of enterprise social networking

The three main benefits of ESN can be related to the size of the group working on the relevant task and also the needs of the group. (Figure 5) Enhanced innovation can be achieved in a group of any size if the ESN software enables better collaboration. A 3-member team of a small biotech startup in Boston can collaborate better if ESN software makes it easier to understand what their teammates on the other end of the table are working on. Large, geographically distributed organizations can also benefit from better collaboration tools.

Higher employee engagement is typically important for larger organizations. Providing better communication tools makes it much easier for employees to get to know their co-workers and possibly customers better, increasing engagement.

Lastly, better decision-making requires relatively simple tools where the need for collaboration is lower. However, decision markets are relevant only for larger organizations where the participation of several individuals results in a well-functioning marketplace.

It is important to note that there is no specific number of employees that propels a firm from small to medium or medium to large. Some larger organizations can be very effective with simpler tools because of a culture of open communication. On the flip side, a small geographically distributed firm can have dysfunctional communication. Similarly, the distinction between communication and collaboration tools is not well demarcated; better communication tools are likely to increase collaboration.

Rather, the framework helps to distinguish specific capabilities of the software. For example, Wikis allow several people to work together on a text project but by themselves do not create a dashboard displaying sales-force effectiveness.

When assessing ESN software it is critical for senior management to exercise its judgment to understand where in the continuum the firm stands.

Benefits of Enterprise Social Networking Software
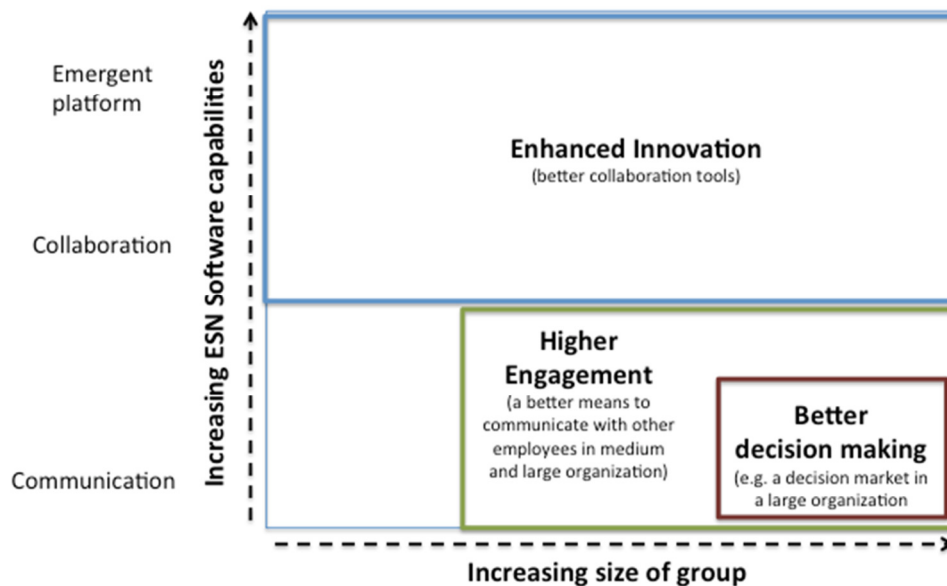
Figure 6

Benefit 1: Higher employee and customer engagement

The relationships between workers in a company can be broadly classified into strong ties, weak ties and potential ties. Strong ties refers to relationships between workers who know each other well, have worked with each other and are strongly integrated in each other's professional social networks. The most common example is project teams where each member is aware of what another is working on. Weak ties include relationships where the participants know each other but have not worked together or are not fully aware of each other's potential complementary skills. Lastly, potential ties are between workers that do not know each other but could benefit from collaborating. These ties are effectively mapped out as a bulls-eye (Figure 7) where the strong ties are the least in number and the potential ties are the most.[14]

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[14] Andrew McAfee, *Enterprise 2.0, New Collaborative Tools for your Organization's Toughest Challenges,* (Harvard Business Press, 2009), 97.

<u>Relative volume of different types of ties for a prototypical knowledge worker</u>

Figure 7

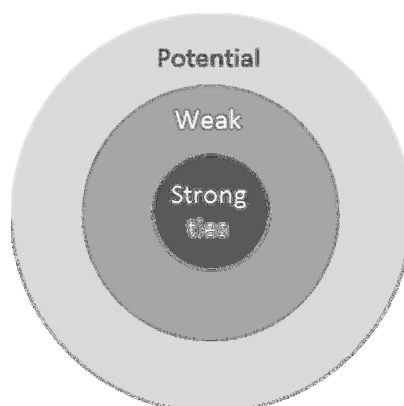There are several tools for creating and modifying documents for workers in the center of the bulls-eye. These include wikis and collaborative office software such as Google Docs or the Zoho Office suite. ESN is most useful for enhancing the weak ties in an organization. An example could be a small company that creates a Facebook group and encourages its employees to join. If implemented well, employees could get to know each other better, reducing the friction between employees that do not know each other personally. After encouraging its employees to post status updates on what they were doing, the vice-president at Serena Software commented,"…now I have context when I speak to each of them. I actually need to call John about a project we are working on later today and I will bring up his Starbucks comment (John had indicated that he enjoys Starbucks coffee)".[15]

At their heart, most business discussions are negotiations and it is known that even in a transactional situation 90% of people are willing to help if a human connection is made vs. 15% if it is not.[16] Ultimately, any information that helps make a personal connection with another employee could make the difference between achieving your goals and failing at what you set out to do.

There are new tools to convert potential ties into actual ones. One of the most powerful is Emergent Social Software Platforms[17] that have been deployed by many organizations including the CIA. In sharp contrast to the knowledge-sharing nightmare that 9/11 investigators faced, today blogs and wikis span all agencies of the Intelligence Community and Google's search technology has been

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[15] Andrew McAfee, 98.
[16] Stuart Diamond, *Getting More,* (Crown Business, 2010), 36
[17] Andrew McAfee, 69.

deployed across all of these networks. In fact a Wikipedia-like project, known as the Intellipedia, was prototyped in 2005 and officially announced in 2006. By 2008, the project's impact was being felt and one agency analyst commented, "[We] are seasoned enough to know this isn't just a piece of software – this could change the way we're doing business, and to me this is the antithesis of the way we used to do things."[18]

Kinetic Glue, an ESN software provider based in India, also reports that the ESN software helps new employees build more relationships in less time, increasing the chances that they will stay with the company longer.

Early results from a survey conducted by Jive Software[19] indicate implementing an ESN software solution can lead to a 39% increase in employee connectedness, a 29% increase in executive communication and a 30% increase in employee satisfaction.

Benefit 2: Enhanced innovation

Social networks are critical for innovation and there are several ways to enhance or accelerate this in organizations.

Exaptation

All decisive events in the history of scientific thought can be described in terms of mental cross-fertilization between different disciplines[20].

Exaptation is a concept from evolutionary biology and was first proposed in an essay in 1971 by Stephen Jay Gould and Elisabeth Vrba[21]. It refers to a trait in an organism that was optimized for a specific use, but then gets hijacked for a completely different function. An example of this is the invention of the hyperlink. Tim Berners-Lee designed the original protocols of the World Wide Web with an academic environment in mind, but it eventually got used for everything from online shopping to swapping photographs.

Exaptation is also the reason that larger cities tend to be disproportionately more innovative than smaller ones – big cities nurture subcultures that can only exist once a certain scale has been reached. Inhabitants can specialize, resulting in a deep expertise in certain fields, but also intermingle, resulting in cross-fertilization of ideas. Reflecting this, when socioeconomic factors

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[18] Andrew McAfee, 131.
[19] The business value of social business, Jive Software, 9.
[20] Arthur Koestler, *The Act of Creation*
[21] Steven Johnson, *Where Good Ideas Come From, The Natural History of Innovation,* (Riverhead Books, 2010), 153.

(e.g. the number of educational institutions and the number of patents) in cities are examined, they tend to scale faster than the size of the city. In other words, if a city doubles in size, the number of patents it generates more than doubles[22].

Unfortunately this does not seem to be true of many large organizations; indeed smaller organizations and startups are better known for being more innovative. While the level of specialization typically increases as an organization increases in size, the loose "liquid networks" that are present in a city rarely materialize. The incentives and culture in most organizations might be to blame for this – they are typically focused on the performance of a narrow group or task. However, the tools for finding collaborators from other specialties are also lacking. The hierarchical organizational structure does not make it easy to know who might have the skills to solve a problem at hand; and geographical dispersion certainly does not help. Contrast this with the approach of LinkedIn where someone's projects, experience and skills are easy to ascertain in a quick glance. Indeed it might be easier to find a suitable collaborator in your company by going outside your company network and doing a LinkedIn search.

Going forward, this is likely to change as companies adopt platforms such as Yammer[23], which facilitate cross-talk across the organization. Yammer is a social micro-blogging social networking platform that asks users to reply to the question "What are you working on?" As users answer the question with descriptions of their projects, their daily tasks or their skillset, a database gets built up that can be searched subsequently to find relevant collaborators. This helps break down silos between previously isolated groups and also virtually connect groups that might be geographically separated.

Slow hunch

On July 10, 2001, Ken Williams, an FBI field agent warned about the possibility of Usama Bin Laden sending students to the United States to attend civil aviation universities and colleges. On August 16, 2001, the FBI arrested Zacarias Moussaoui and interrogated him because instructors at the Pan Am International Flight Academy tipped them off about his suspicious behavior. However, because the FBI could not get a search warrant to examine the files on Mossaoui's laptop, they were not able to stop the 9/11 tragedy[24]. If the FBI had been able to connect Williams' memo with Moussaoui's actions, they would have been able to crack the case. Instead, Williams' memo was stuck in the FBI

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[22] http://edge.org/conversation/geoffrey-west
[23] www.yammer.com
[24] Steven Johnson, 92.

Automated Case Support system. Like exaption where the collision of two ideas can result in unprecedented innovation, the slow hunch refers to "an idea that slowly took shape over time, a pattern detected after countless hours of observation and inquiry"[25].

Often an innovator needs his carefully cultivated hunch to be completed by someone else working on a similar project but perhaps following a different approach. However, because of the difference in when the two people were working on the project, the hunch may never come to fruition. The application of an enterprise social network fulfills both the purposes of storing the data and goals of a project with being able to connect different but similar projects. If implemented successfully, it could connect scientists in different divisions working on different projects who need each other to move to the next step.

A very preliminary version of the suggestive power of these networks can be seen in the "People you might know" box that suggests possible users of social networks (e.g. Facebook or LinkedIn) that you could connect with. Meeteor is a startup at The Wharton School focused on converting potential ties into weak or strong ties (see Interviews in Appendix). The software matches users based on interests and shared connections (on LinkedIn or Facebook). The users are then sent a common email, allowing them to connect and get to know each other. It is easy to see how this could be adapted in the future for use within a company. The electronic notebooks of a scientist could be compared with those of another and if there were overlaps, the software could identify them as potential collaborators.

Platforms

It is extremely powerful to have a common platform upon which different multi-disciplinary ideas can meet and evolve. An important example of this is the Johns Hopkins University Applied Physics Laboratory (APL) in Laurel, Maryland[26]. In 1957, after the Soviet Union launched the Sputnik satellite, the United States did not know how to react. Two young physicists, William Guier and George Weiffenbach were able to pick up Sputnik's audio signature with APL equipment. As they recorded the audio waves, they were able to hear the Doppler Effect[27] in action; as Sputnik ostensibly moved away from them, the frequency of the audio waves decreased in a predictable fashion. The two scientists eventually worked out how to track the satellite and calculate the

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[25] Steven Johnson, 76.

[26] Steven Johnson, 183.

[27] http://en.wikipedia.org/wiki/Doppler_effect

location of a ground transmitter from a moving satellite. This allowed US space satellites to pin-point the ground location of radar stations or enemy submarines for missile-based strikes. In the 1980s, the system took on its current name: Global Positioning System or GPS.

Speaking later, Guier and Weiffenbach explained:

"*APL was a superb environment for inquisitive young kids...it was an environment wherein kids, with an initial success, could turn to colleagues who were broadly expert in relevant fields*".

In a more recent example, Twitter's creators, Jack Dorsey, Evan Williams, and Biz Stone were able to build upon the infrastructure already available on the internet to build their revolutionary application[28]. However, they went one step further and allowed other developers to build their own applications using Twitter as the infrastructure, i.e. using Twitter's Application Programming Interface (API). This has fostered an active ecosystem of applications built on top of Twitter.

Similarly, an ESN can be the platform upon which innovation is built. Large, distributed companies such as General Electric and IBM have invested significantly into building their own proprietary social networks to bring scientists from many different disciplines together[29] to share their knowledge and to apply their skills to solve multi-disciplinary problems. However, even innovative companies such as Apple still depend on people who are prolific social connectors to bridge the knowledge gaps in the organization[30] and there remains significant room for improvement.

Results from a survey published by Jive Software[31] indicate that a successful ESN software implementation can lead to a 34% decrease in time to find information and experts, a 32% increase in ideas generated within the company and 37% increase in project collaboration and productivity.

Benefit 3: Better decision making through prediction markets

Executives in large companies are often faced with the paradox that decision-making occurs at the top of the organization while the information to make the best decision lies in the middle and bottom of the organization with the employees who interact directly with the customer. One of the

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[28] Steven Johnson, 192.
[29] Interview with Scott Synder (March 17, 2011)
[30] Interview with Christopher Lee, meeteor.com (February 27, 2011)
[31] The business value of social business, Jive Software, 9.

ways in which this can be solved is through prediction markets, which are small-scale electronic[32] markets, frequently open to any employee, that tie payoffs to measurable future events[33].

An example of a non-corporate decision market is the Iowa Electronics Market (IEM) run by the College of Business at the University of Iowa[34]. The IEM allows people to buy and sell futures "contracts" based on how they think a given candidate will do in an upcoming election. The two most common contracts are those which involve a bet on who is likely to win an election and by what percentage. For example, if you bought a contract that Obama would win the 2012 presidential election and Obama does indeed win the election, you would be paid $1. If Obama does not win, you would be paid $0. The price that someone is willing to pay for this contract is an indication of Obama's likelihood of winning the election. If the contract costs 80 cents, the market estimates that the chances of Obama winning are 80%. The contract to predict the percentage of votes a politician would receive also indicates the likelihood through its pricing. For example if you bought a contract that Obama would win and he receives 60 percent of the votes, you receive 60 cents. A study of IEM's performance in 49 different elections between 1988 and 2000 found that it generally outperformed major national polls, and has been more accurate than them even months in advance of the actual election.

Prediction markets have also been used within companies. In 2005, Best Buy asked its employees to predict its gift card sales in February and then its holiday sales later in the year. The non-experts were off by 0.5% in the former and 0.1% in the latter while the hired experts were off by 5% and 7% respectively[35]. This successful experiment then spurred Best Buy to get into prediction contracts and launch its internal prediction market: TagTrade[36]. In 3 years (2005-2008), the market saw 2,000 traders make a total of 70,000 trades in 147 contracts.

Similarly, Google launched its prediction market in April 2005. About one-quarter of the markets have to do with demand forecasting[37] such as predicting how many users will use Gmail in the next three months. Another 30 percent are about the company's performance such as project deadlines. Some of the remaining contracts have to do with industry level phenomena such as mergers and acquisitions that might impact Google significantly. The last 20 percent are about social events such

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[32] While prediction markets need not be electronic, the ones with a large number of participants typically are

[33] Renee Dye, *The Promise of Prediction Markets,* (McKinsey Quarterly, 2008), 83.

[34] James Surowiecki, *The Wisdom of Crowds,*(Anchor, 2005)

[35] Renee Dye, *The Promise of Prediction Markets,* (McKinsey Quarterly, 2008), 86.

[36] Rawn Shah, *Social Networking for Business* (Wharton School Publishing, 2010), 52.

[37] Renee Dye, *The Promise of Prediction Markets,* (McKinsey Quarterly, 2008), 87.

as sports. These fun markets are designed to draw people in and get them comfortable with making trades so that they progress on to other markets. Analysis revealed that the market was reasonable efficient (Figure 8) but had four biases: an overpricing of favorites, short aversion, optimism, and an underpricing of extreme outcomes[38]. The market also revealed a few surprising results regarding the flow of information. The most important of these was that the higher the trader was in the company, as measured by proximity to the CEO, the greater his disadvantage was in trying to make the right bet in the market.

Prices and Payoff Probabilities in Google's Prediction Market
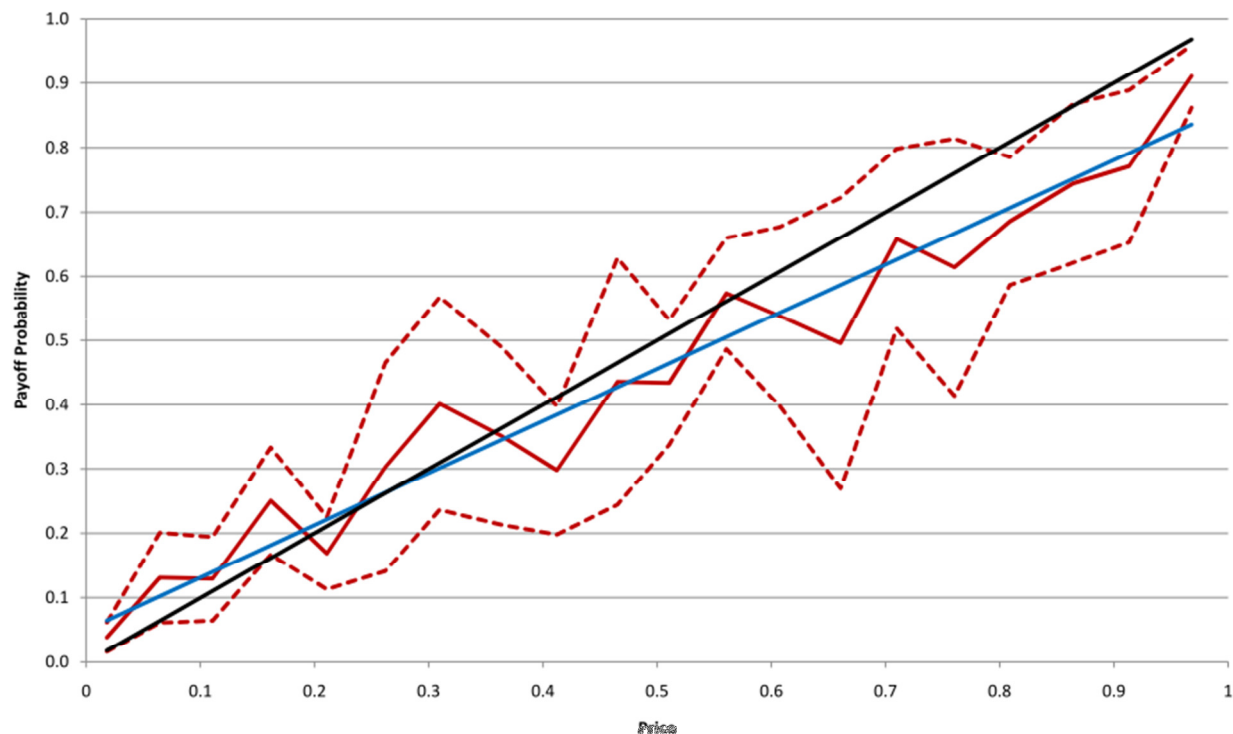
The 70,706 trades are sorted into 20 bins according to price (i.e., 0-5, 5-10, etc.) and then average price and payoff probability for the bin is plotted. The blue line is a regression equation obtained via OLS. Confidence intervals adjust for clustering of outcomes within market.

Figure 8

Prediction markets offer a company a valuable mechanism to unearth information that could be hidden from decision makers higher up in the hierarchy. This information could reside in places that the decision makers never would have thought possible, known as "hidden profiles". These are people within the organization who, because of their personality of position in the hierarchy, won't

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[38] Cowgill et al, *Using Prediction Markets to Track Information Flows: Evidence from Google,* 2009

have the incentive or wherewithal to reveal information. An easily accessible prediction market provides a way for them to do so[39].

While prediction markets can be implemented without an enterprise social network (e.g. IEM), understanding the backgrounds, biases and predictive effectiveness of the traders is not possible without gathering the information that an enterprise social network could provide. It was also noted that engaging the employee base through fun trades and peer pressure was key in increasing the number of active traders. An active social network within the organization could be the most effective and seamless way to promote participation in the prediction market. As an example, Facebook's "like" feature is used more often than posts or comments because it allows the user to provide input with a single click. Integrating prediction markets into an enterprise social networking solution could be as simple as posing a question, "do you think project X will be completed on time or will be late by 1 month, 6 months or 1 year?" and having employees click on one of the four options.

Benefits, needs and tools

Once the benefits of ESN software are well understood, senior management can map the benefits to the needs and size of the organization (Figure 9). The next step is to match the needs of the organization to the best tool. For example CNN needed a tool to get information on breaking news from the public and gather real-time viewer responses to its coverage i.e. it was focused on increasing engagement. Since the collaboration needs were minimal but the platform needed to support thousands of users, Twitter was a good choice (Figure 10).

In the 1990s, students and faculty at the Wharton School needed a platform that would allow collaboration on projects (see Appendix for more information). While the needs were more sophisticated than those of CNN, the number of people in the group was much smaller, typically less than a hundred. At that time the eRoom software by WebCafe provided a good solution. However, as needs have changed over the years, Wharton is now actively testing other software (e.g. Blackboard) to facilitate increased collaboration.

Understanding the needs of the organization becomes even more important when building custom software; seeing no tools that would adequately serve their needs, Google and the FBI created the Google Market and Intellipedia for decision markets and information sharing respectively.

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[39] Renee Dye, 89.

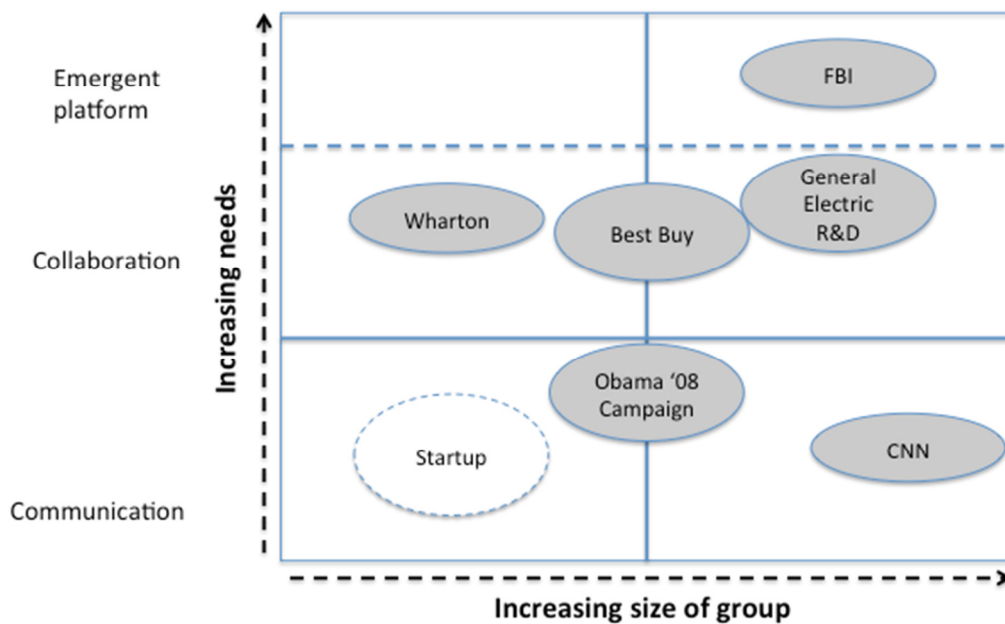## Examples of the ESN needs of different organizations

Figure 9

Examples of Enterprise Social Networking Software
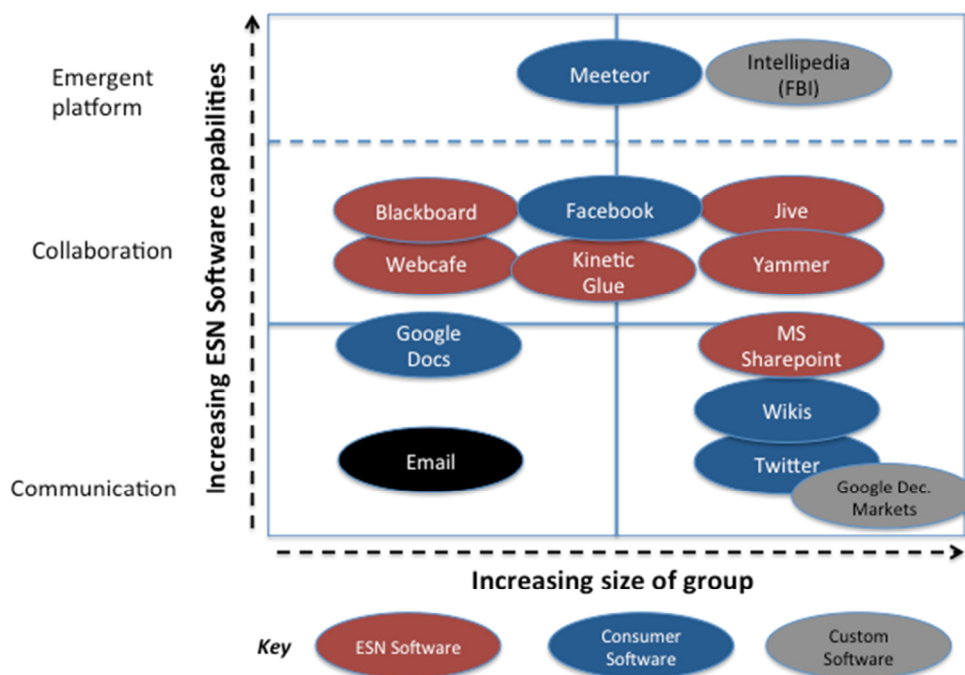

Figure 10

Scenario Analysis: Potential evolution of enterprise social networking

Critical issues
- o Time frame: 10 years
- o Project scope: Global
- o Analysis: Mapping of key technologies, stakeholders, trends and uncertainties

Step 1: Map enterprise social networking technologies
1. Wikis
    - o Online interactive documents that allow several people to edit a single document
    - o Easy to implement but depend on dedicated and active community to be effective
2. Social software
    - o Includes the full range of ESN software from Twitter to Jive
    - o Key features typically include capabilities to message other users and tools for searching and filtering information
3. Blogs
    - o An online publishing platform that allows easy creation and sharing of information.
    - o Typically longer form than other forms of messaging (e.g. Twitter, Jive)
    - o Allows other users to comment on the published message
4. Social Tagging
    - o Online markers that take advantage of users to categorize information. For example the website delicious.com allows users to store bookmarks online and tag them with keywords. Users who are then looking for information on a topic can search for the bookmarks classified according to the keyword of interest and follow them to the original webpage.
    - o In an enterprise setting, this could include tagging documents on the company server with key words so that other employees can access them easily in the future. For example a new employee might tag a list of important phone numbers as "New Employee Orientation" so that subsequent hires can easily access it.
5. Mobile integration
    - o This typically refers to the ability to access the social network via a mobile device such as a smartphone

o Going further, this could include location dependent features. For example, reminders could be delivered to a sales-force rep to visit key customers when he is in a particular location.

Step 2: Identify stakeholders

1. Firms and organizations

   o Companies and organizations (such as The Wharton School) are looking to reap the benefits of ESN software

   o Intellectual property and security concerns are especially important in certain organizations (e.g. R&D group at General Electric, FBI) and when the information is not hosted on the company's servers

2. Employees

   o Employees are interested in using ESN software but are concerned about having to learn new tools

   o A medium term (3-6 months) implementation plan is key to getting maximum employee participation

3. Customers and suppliers

   o Enterprise Social Networking software could connect employees with the firm's customers and suppliers, strengthening relationships and enhancing communication

   o Information access, implementation timelines and cost sharing have to be considered carefully

4. Social software providers

   o These include giants like Microsoft or IBM that are leveraging their large salesforces and marketing muscle to promote their products

   o Smaller, more focused players such as Jive and Yammer promise better customer service (especially to smaller customers) and can be cheaper to implement (especially when the customer can pick and choose which features to pay for).

Step 3: Understand key trends

1. Changing demographic makeup of work force (see Introduction)
2. Decreasing cost of technology

- o Cloud computing has allowed what was formerly a large fixed cost (e.g. installing a data center, maintaining a support staff) to be turned into a variable cost i.e. pay more if you use more storage or computing power
- o Moore's law in turn has made the cost of each clock cycle and gigabyte of storage significantly cheaper over the years
- o The advent of software-as-a-service and delivery via the web has made it cheaper to implement new software as companies do not have to maintain IT staff to periodically install and update software

3. Distributed geographical footprint of businesses
   - o Businesses today are more global today than even 20 years ago
   - o Multinationals are constantly looking for new markets and compete globally to attract the best talent
   - o Smaller companies are now part of a global value chain where their suppliers might be in Australia and the customer in Canada.

4. Increasing importance of customer interaction
   - o Just-in-time delivery and global value chains have made it increasingly important to maintain constant dialogue with your customers
   - o Several industries are now global in nature with competitors from the other side of the world wooing your customer
   - o Maintaining a close relationship with your customers, and having them give you feedback rather than looking for a replacement supplier is critical.

5. Lower retention rate
   - o The talent race is now a global game with rapidly decreasing average tenure
   - o This is especially acute in developing markets where a shortage of experienced professionals means that companies are constantly looking to lure away their competitor's star performers.

6. Increasing need for innovation

Step 4: Understand key uncertainties
1. Does ESN software deliver on promised benefits?
2. Adoption of ESN software by companies?
3. Will privacy concerns of employees be addressed?
4. Will intellectual property and security concerns of organizations be addressed?

Uncertainties 1 & 2 are the most important. While vendors of the software claim to have hard data on the benefits of using their software, it is possible that the data is biased. Perhaps organizations that would benefit most from implementing ENS software have already done so, making the software appear to be more beneficial than it should for other businesses. The efficacy of the software could also vary significantly depending on organizational needs, culture and incentives. Another possibility is that even though current concerns around security, intellectual property and privacy are addressed, unforeseen issues emerge in the future. In this situation, even if ENS software delivers the promised benefits, the downside could be even greater. An example could be a cyber cold-war between the US and China where hackers attack ENS software, penetrating and disrupting corporate communications. Thus there are two possibilities – that ENS software delivers on the potential benefits or that it does not.

The adoption of ESN software by companies is another important factor; many large organizations have demonstrated interest (e.g. P&G, General Electric, IBM, FBI) but adoption remains far from universal. While the uncertainty around adoption is not independent of that around efficacy (higher efficacy will lead to higher adoption), there are other important factors at play such as management comfort with new communication tools and cost of implementing the software. Overall, adoption could remain at virtually nil, increase to partial adoption or explode such that most companies adopt ENS software.

Step 5: Develop internally consistent scenarios

The permutation of the two key uncertainties (adoption and benefits) results in 6 potential scenarios.

Possible scenarios

	Benefits delivered	Benefits not delivered/ problems emerge
Universal Adoption	*Scenario 1* *Triumph of connectivity*	*Scenario 4* *Backlash and rejection*
Partial Adoption	*Scenario 2* *The next competitive advantage*	*Scenario 5* *Drag on organization*
No Adoption	*Scenario 3* *Missed Opportunities*	*Scenario 6* *Status quo*

Figure 11

1. Triumph of connectivity: Demographic shift (Entry of Millennials), widespread 4G wireless access, cloud computing gains traction, universal adoption of ESN software. Initial privacy, security and intellectual property concerns are addressed and no significant issues emerge.
2. The next competitive advantage: Partial adoption of ESN software by certain companies, leading to them becoming stronger
3. Missed opportunities: Technology delivers promised benefits but is not adopted due to organizational inertia, privacy and intellectual property concerns
4. Backlash against ENS: Large-scale adoption but security, intellectual property and privacy issues crop up, leading to organizations rejecting the software
5. Drag on organization: ENS software adopted by some companies but fails to deliver its benefits, becoming a drag on the organization
6. Status quo: ENS software is not adopted by organizations and does not deliver on the promised benefits

Scenarios 1, 2 and 4 are detailed below. Scenario 1 (Triumph of connectivity) and 4 (Backlash) are important because they provide the extreme view of how the landscape could evolve, i.e. the upside

and downside scenarios respectively. Scenario 2 (The next competitive advantage) is important because it is the most likely outcome.

Scenario 1: Triumph of connectivity

The year is 2020. Millennials (individuals born between 1977 and 1997) now make up 70% of the workforce[40]. They are defined by being hyper-connected via their mobile devices and an increased blurring of business and personal lives, so much so that a new phase has been coined to refer to how the hyper-connected[41] spend their time – "weisure time"[42]. Weisure refers to the blurred line between work and fun. E.g. at Zappos[43], an online shoe retailer known for customer service, managers dedicate 20% of their time to after-hours, non-work activities with their team.

Companies too have changed considerably in how they communicate. Enabled by ENS software, the majority of companies use social media for internal communication, far more than the 41% in 2009[44]. The increased focus on wireless communications for salesforces and the cost pressure on the IT department has resulted in most internal and external communications functions being migrated to the cloud. The resulting ease in connecting to other cloud services, especially ESN software, has made IT's work easier and further increased the emphasis on security of company data.

The advent of high-speed, always-on, wireless networks has spawned the emergence of the "Digital Swarm"[45]. People, devices and other objects self-organize to carry out coordinated activities as geographically distributed entities with smartphones and other devices, using wireless as a collaboration and decision-making platform.

Since adoption of ESN software is universal, it is considered part of the infrastructure of a company like email was in 2010. It does not allow companies to gain competitive advantage in innovation, employee retention or decision-making.

Scenario 2: The next competitive advantage

While the benefits of ENS software are now apparent, only some companies invested in it early enough to be reaping the benefits. It has taken a few years to switch to cloud computing, change

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[40] Meister and Willyerd, *The 2020 Workplace* (HarperCollins, 2010), 16
[41] Hotz, (2011). *The Really Smart Phone.* Retrieved May 1, 2011 from wsj.com
[42] Meister and Willyerd, 28
[43] Zappos.com
[44] Meister and Willyerd, 30
[45] Scott Snyder, *The New World of Wireless* (Wharton School Publishing, 2010), 2

employee behavior and patch all the security holes but the companies which took the leap in 2010 have succeeded in enhancing their innovation engines, increasing employee engagement, and making better decisions. While newer versions of the software have made it easier to use, changing the organizational culture has taken more time than expected. As a result, firms that took a wait-and-see attitude, expecting to be successful fast followers, are struggling to catch up in leveraging the full potential of ESN software.

In this scenario, adopting and promoting social enterprise networking is an important competitive advantage. It is vital to recruit and retain the most talented Millennials who are likely to be most comfortable communicating via social networking technologies than voice calls and plain-vanilla email. The Millennials are likely to want or even demand that they are provided with tools to collaborate more with colleagues and socialize with them, even if they are geographically distributed. Secondly, adopting enterprise social networking is likely to be a much easier proposition than today once an organization's data is moved into the cloud. The ease with which other Web 2.0 or cloud-based applications can process the data is likely to reduce the current technological barriers that exist. Going back to the office to speak with your manager is likely to be time-consuming and impossible in many cases, given the wide geographic spread of the organization; a quick yammer update is likely to be more convenient.

Scenario 4: Backlash

The year is 2020. While Millennials make up the majority of the workforce, the backlash against ESN in 2014 was the decisive blow against the adoption of this technology in the workplace. Some people saw it coming with the collapse of Sony's Playstation Network after user data was leaked but no one knew just how bad it would get[46].

A jubilant but careless Boeing engineer in Australia happened to tweet after a breakthrough - "carbon-fibre composite finally adhered to titanium-germanium alloy but it's not worth the $$$ it costs!" The Chinese buyer who had put in the order for the Boeing 797 Skypalace had a social media monitoring service that alerted him of the tweet and he immediately video-conferenced the Boeing CEO to demand a huge discount on the 50-plane order. Meanwhile, a materials science professor in South Africa used the tweet to refine experiments of his own and published a paper in South African Scientist on "Upcoming Supermaterials", voiding Boeing's ability to apply for a key patent in Europe.

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[46] King, (2011). *Sony Playstation Network still down after three days* . Retrieved May 2, 2011 from http://www.zdnet.com/blog/gadgetreviews/sony-playstation-network-still-down-after-three-days/23913

When the global press got a hold of this, they ran several sensationalist stories on how "Frivolous Friending in companies" or ESN was causing companies to lose trillions of dollars in shareholder value. While the efforts of the Millennials to bring social networking technology to the enterprise had been gaining momentum, the aging boards of General Electric, Microsoft, Tata and Sinopec voted to ban the technology from the workplace, forcing a return to phone calls and email. The IT departments were overwhelmed with spam because no one had been working on spam filters since 2007 and consequently had to stop supporting wireless connectivity to the company's servers. Several rebellious younger workers started using consumer-focused social networking websites like Facebook to communicate with their colleagues, causing further suspicion.

While this scenario sounds unlikely, given the enthusiastic uptake of ESN today, it highlights the common issues with rapid adoption – security, intellectual property and decision making by a generation who views it as risky.

Conclusion

CEOs who have been paying close attention to their workforce know that a change is coming. The next generation joining the workforce communicates differently – it spends more time sending text-messages and visiting social networking sites than writing emails or making voice calls. In fact, the communication habits of the current workforce are also changing as more people join sites such as Facebook to keep in touch with their friends and family; these sites are no longer limited to teenagers and college students. This surge in popularity is also a global phenomenon, with an employee in China or India just as likely to be using these tools as one in the US or France.

As the personal communication habits of the workforce have changed, several software tools known as Enterprise Social Networking (ESN) software have become available for the CEO and CTO to deploy in their organizations. Benefits include higher employee engagement, more innovation and collaboration (especially across geographies) and better decision-making (Figure 6).

The ESN landscape is confusing and difficult to navigate with both giants like Microsoft, and small providers like Yammer promoting their software as the panacea for all problems. However, the collaboration and communication needs of a 3-person biotech startup in Boston are very different from a large, geographically dispersed organization such as General Electric's R&D division. Thus, choosing the right software is critical to achieving the possible benefits of ESN.

The two most important factors to consider are the size of the organization and its communication needs (Figure 10). Regarding size, ESN software typically has a certain number of users for which it is most effective. For example, email might be perfectly suitable for communicating with smaller groups of people but Twitter is a better medium for reaching thousands, or even millions of people.

Regarding communication needs, the organization's requirements need to be assessed carefully to match them with effective software tools. For an organization with simple needs such as messaging, occasional document sharing, Google Docs might be the best solution. However, when the FBI is trying to link seemingly disparate pieces of data collected around the world to form a coherent view of the next terror threat, it needs considerably more sophisticated tools. Once the right tools are chosen, the implementation of the software and an onboarding program (to help employees to start using the software) are just as important as the software itself.

Picking the right software and implementing it effectively could lead to a step change in employee communication, retention and collaboration, providing the next source of competitive advantage in a global marketplace.

A useful analog is the implementation of Six Sigma by General Electric (GE). Originally developed by Motorola, Six Sigma methodology was widely adopted throughout the GE organization in business units ranging from Healthcare to Aircraft Engines. Despite initial resistance, the Six Sigma toolkit has served an important purpose in providing a quantitative framework for managers to understand their businesses better. It has also served to provide a common language for managers in different business units to communicate and for senior management to compare projects across businesses. However it took several years for the organization to become comfortable with the new framework, with specialists known as "Black Belts" embedded in businesses to help teach and implement Six Sigma techniques. Several organizations have tried to follow GE's lead but with limited success, leading Six Sigma to become an important part of GE competitive advantage.

Organizations which invest in ENS software today are likely to gain a valuable head start in the future; while future versions of the software will be easier to use, the cultural change necessary to fully take advantage of the software is likely to take a few years.

Appendix

Network theory underpinnings of social networking

Individuals who span different divisions within a company or different companies altogether (e.g. board members) are key to spreading information and bringing different teams together. It was earlier assumed that each person in an organization knew approximately the same number of people. This implied that each person has an equal impact on the knowledge transfer, communication and innovation in an organization. If the number of links each person has were mapped onto a distribution, they would follow a random or normal distribution (Figure 12).

However, it is now evident that certain people have disproportionally more links than others[47]. When mapped, they follow a power law distribution (Figure 12).
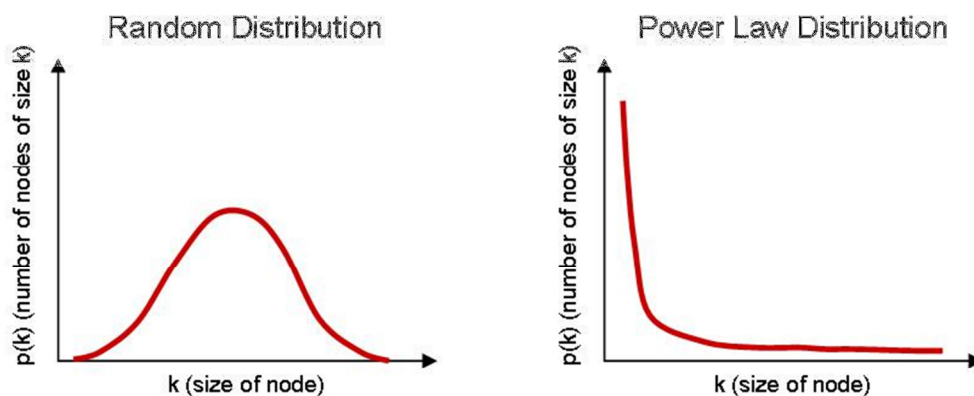
Random vs. Power Law Distributions[48]

Figure 12

Critically, this means that a few people act as hubs that provide connections across clusters of people[49]. Their high number of connections results in cross-pollination of ideas and information transfer between different parts of the organization. However this also means that the organization is dependent on these people and if they were to leave, the organization's ability to innovate and respond would suffer greatly. Work by Rob Cross et al.[50] to map the social network within

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[47] Malcolm Gladwell, *The Tipping Point, How Little Things Can Make a Big Difference,* (Little, Brown and Company)
[48] http://futureperfectpublishing.com/2007/06/
[49] Gartner, Five Case Study Examples of Social Network Analysis, 2008
[50] Rob Cross, Andrew Hargadon, and Salvatore Praise, " Critical Connections: Driving Rapid Innovation with a Network Perspective", The Network Roundtable at the University of Virginia

organizations (Figure 13) demonstrates this dependence on key people or nodes within the organization. While critical to the success of the organization, the importance of these employees might never be appreciated until they leave.
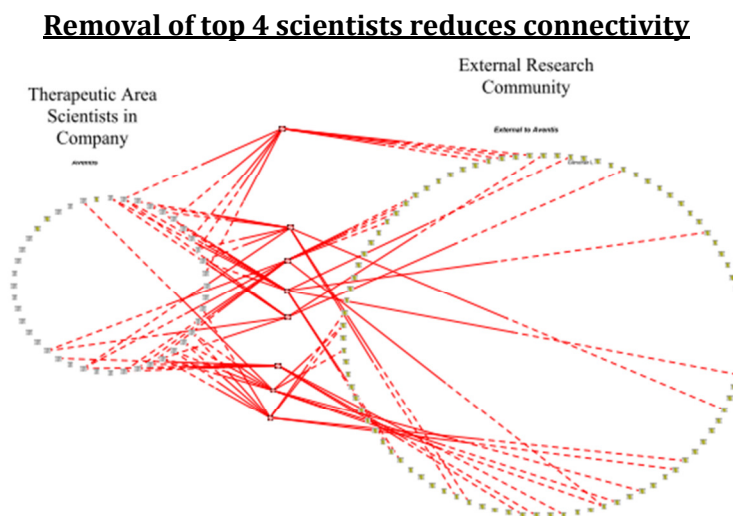
Removal of top 4 scientists reduces connectivity

Relevance of enterprise social networking

ESN software aims to augment and complement these "connectors" or "hubs". By providing employees with an easy medium to connect with other employees, regardless of location or function, the software can help increase the number of inter-cluster links. Secondly, enterprise social networking software can increase the number of links that a "connector" could normally have by providing a tool to manage those connections. Lastly, as a result of using the software, the management will be aware of who the "hubs" are and will be able to take steps to reward and retain them[51].

New organizational designs enabled by technology

Dominant players often fail to adapt because it means dismantling the very organizations that have led to their success.[52]

Description

The connection of emerging technologies with organization is two-fold. On the one hand, emerging technologies enable new organizations to emerge; the contributors of various blog networks are

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[51] Gartner, Value Network Analysis Highlights Tangible and Intangible Value Exchanges, Aug 2008

[52] Jennifer Herber, Jitendra V.Singh and Michael Useem, "The Design of New Organizational Forms" in Wharton on Emerging Technologies, edited by George S. Day and Paul J.H. Schoemaker (John Wiley & Sons, Inc, 2000) p. 377.

scattered around the country or perhaps even around the world. An example of this is the Lifehacker.com where the team is scattered throughout the country but uses software tools to publish a coherent coordinated blog read by millions daily. On the other hand, organizations need to have a structure that allows the incubation of innovation and emerging technologies. Google is an example of an organization in which engineers are regarded as the most important people and are given spare time to develop new technologies.

Newer organization forms include:

- Virtual organization – functions or processes are migrated to the internet (e.g. Lifehacker)
- Network (external) – the organization is connected to other organizations (e.g. Toyota Motor's keiretsu or network of suppliers)
- Network (internal) – a division is connected to other divisions (e.g. GE's Global R&D center in Niskayuna, New York collaborating with international R&D centers in Bangalore and Shanghai)
- Spin-out – when a fresh entity is formed from a business idea within an organization and pushed out of the larger organization (e.g. Agilent Technologies was spun out of Hewlett-Packard)
- Ambidextrous – when an organization retains the ability to improve existing products and serve existing customers while having the capability to develop new products and incubate new markets (e.g. Apple launching the iPod while continuing to develop the Mac)
- Front-back – arranged to serve customer in the front and served by company backend functions (e.g. internet banking by ING Direct)
- Sense and respond – focused even more intensely on customer and understanding customer needs (e.g. fast fashion retailers such as Zara)

Relevance of social networking

Social networking software is important because it overcomes some of the potential downsides of these new organization forms, enabling companies to reorganize with lower cost and higher effectiveness. These benefits include:

- Allowing an organization to retain the advantages of being in same physical space, even when geographically distant. As organizations become geographically spread out, it becomes more difficult to communicate with team members as employees have to rely less on face-to-face meetings. The efficiency of walking over to a colleague's desk for a

clarification or spontaneity of being pulled into a water-cooler conversation is lost. A well-designed social networking solution can overcome some of these disadvantages and is particularly helpful for virtual organizations. E.g. Cisco's engineering team is using its own ESS solution, Cisco Quad, to design future iterations of the Quad platform. Engineers are able to start IM, voice calls or web conferences with a single click through this virtual forum.[53]

- Increased number of connections within organization, important for ambidextrous and sense-and-respond organizations which want to innovate and reduce response time. The implementation of ESN software is critical because along with increasing the availability of data, it provides tools to easily filter and search for information relevant to a particular person.

Interviews

Kinetic Glue – enterprise social networking in India

Market need

Enterprise social networking holds the same promise in India as it does in the rest of the world. However, the market need is slightly different. Firstly, mobile access through text messaging is essential[54]. While in developed markets smart phones are common, they are much less common in developing markets and SMS-based functionality is a key feature. Also, the ubiquitous mobile phone is a more common device than a computer and is a better medium than email or instant messenger, especially outside of the office. Businesses in fast growing developing markets also face higher employee turnover. This brings challenges of ramping employees up, retaining them and also capturing their work in a medium that can be accessed once they leave.

Background

Kinetic Glue was founded in 2007 as a collaboration platform that offers the simplicity of social networks and the document storage and handling needs that an enterprise requires[55]. Microsoft Sharepoint had been the primary collaboration software in the Indian market and was still based on the email and intranet paradigm rather than social networking and cloud-based services. Other services such as Ning and Collective X had restricted functionality and were not serving the market need well. As a soft launch, 5 people in the development team put out an invite on itfundas.com (a

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[53]http://www.industryweek.com/articles/what_business_value_does_social_software_bring_to_manufacturing_23158.aspx?ShowAll=1&SectionID=1
[54] Interview with Meeta Malhotra, Kinetic Glue, September 2010
[55] http://www.kineticglue.com/site/about-us

software development forum) and today the community has expanded to 7,000 users without any spend on marketing.

Today Kinetic Glue remains free for small businesses with fewer than 100 employees. Larger organizations can choose to buy a cloud-based solution or one hosted on their own servers. The latter is preferred by companies with sensitive data e.g. banks.

Strategy
Kinetic Glue has a three-fold strategy of building presence in the consumer space through the launch of ITfundas (an online networking platform for IT professionals), building a cloud-based software application for enterprises and building global industry networks to expand globally after achieving success in the Indian market.

The consulting service is also a large part of the value proposition. Simply setting up an online social network does not guarantee success and employee participation, the employees need to be incentivized into participating (see Results section below).

The company charges Rs.225 (~$5) per user per month for companies with more than 100 employees.

Challenges
The biggest challenge has been to convince organizations that they need ESN software; the decision makers do not understand social networking. There has also been concern around security, especially in organizations with sensitive data.

The employees also have concerns that any data they share regarding their projects or performance could be used against them. For example, in the ideal scenario, a scientist who is not able to get past a hurdle shares the results of his failed experiment and gets assistance from another employee that he would have never thought to ask for help. However, in a different scenario, a shortsighted manager could fire the scientist for failing.

Management is also suspicious that the employees might use the tools to organize against management and gain more bargaining power.

Results
Typically the consulting team creates a roadmap for "onboarding" the employees. As soon as the system is online, 25-30% of employees tend to sign up but the majority wait to see what benefits the new system brings. Groups based on secondary information, e.g. sharing links and jokes, are

seeded and gather momentum, eventually creating a core group of power users who are comfortable using the platform. Eventually about 70% of employees adopt the platform, with several "stars" who post a lot and contribute to the discussion and many "lurkers" who consume rather than create new content. New employees have found it very helpful to get up to speed on projects and company culture and norms since data that was previously on hard disks and email is now available and searchable.

Kinetic Glue has been successful at gaining marque Indian companies as customers, including Airtel, The Future Group and Yes Bank. Overall, 600 enterprises in India are using Kinetic Glue on a trial or subscription basis[56]. It is expected to break even in 2011.

The Wharton School – enterprise social networking in Education

Background

The Wharton School of Business at the University of Pennsylvania is the world's first collegiate business school, established in 1881. It has more than 250 faculty members, 11 academic departments, 86,000 alumni in 145 countries around the world and 4800 undergraduate, MBA, executive MBA and doctoral students at any one time[57].

Like other educational institutions, the Wharton School has three primary needs with regard to social networking and social software

1. Collaboration for coursework
2. Remote learning
3. Maintaining connections between students, alumni, faculty and the administration

Wharton started with the eRoom/Webcafe[58] software in 1993[59]. At that time, the web-based software was considered state-of-the-art. It allowed instructors to create online document repositories for course materials and forums for discussions. While Wharton has continued to use the Webcafe software, the University of Pennsylvania has moved on to using the Blackboard[60] system. While Blackboard offers more social media features (e.g. easy to use interface, comments, likes), it still follows the teacher-centric paradigm where the teacher controls content distribution.

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[56] Organization 2.0, Entrepreneur, December 2010
[57] http://www.wharton.upenn.edu/about/about-wharton.cfm
[58] http://www.eroom.net/
[59] Interview with Don Huesman, Managing Director, Innovation Group at The Wharton School
[60] http://www.blackboard.com/

While this might work for undergraduate classes, it is not ideal for an MBA classroom where the students contribute significantly to the content.

While Wharton does not have a distributed campus system, it does have a satellite campus in San Francisco and has relied on video conferencing and WebCT to conduct remote classroom sessions. It also has links with the INSEAD campuses in France and Singapore.

Wharton has had an online student directory, known until recently as the "Facebook", which allowed students to search out others with particular job experience or interests. In 2010, this was rebranded "Community" and integrated with the Wharton Alumni website, WhartonConnect[61].

Challenges

The biggest challenge is the large number of stakeholders who have different needs and priorities. The students are typically familiar with the cutting edge of technology through their experience with consumer social networking websites (e.g. Facebook) and expect the same level of transparency and ease-of-use. The faculty on the other hand prefers to work with tools that they are accustomed to. Faculty are concerned that a constant churn in these tools will negatively impact their productivity, and unless the software itself is part of their research, they prefer not to change their habits. As an example, a faculty member at Wharton did not want to transition off the console-based email program Elm in the early 2000s because he knew that he was going to retire, and did not want to learn a new program just for a few months[62]. Administrators are concerned about security and confidentiality. The transparency of social networking has to be paired with sufficient controls to restrict the flow of information to prevent the loss of intellectual property and other sensitive information.

The Wharton Computing staff is concerned with reliability. While consumers might tolerate an outage on Facebook as it is primarily seen as entertainment, they are unlikely to be as forgiving of downtime on a project discussion group. An email outage in April 2010 when Microsoft's Outlook Live service delayed email delivery for hours or even days has made Wharton Computing even more sensitive to using outsourced cloud technology[63]. Even within Wharton Computing opinions differ over implementing new technology. About a third of the staff has gone through a Computer Information Systems education and is risk averse, with a "if nothing is broken, don't mess with it" mentality. On the opposite end of the spectrum, a third of the staff believes that "if we are not

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[61] www.whartonconnect.com
[62] Interview with Don Huesman, Managing Director, Innovation Group at The Wharton School
[63] Wharton Computing subsequently migrated all email back to their own hosted servers

failing, we are not trying hard enough". The healthy tension ensures a vibrant debate that results in careful consideration of what software to implement. However, it can also result in slower decision making.

Funding is not a major issue at Wharton since Wharton Computing has revenue-generating programs such as the Wharton Research Data Services[64]. However, in other educational institutions, especially state-schools and community colleges, educational programs are in danger of being cut and there is little left in the budget for investing in social networking initiatives.

Lastly, with any institution that is large and evolving, there is always a transition period that needs to be handled carefully to prevent different stakeholders from feeling neglected.

Vision

In the future, Wharton might integrate its multiple touch points into a single enterprise social network. Knowledge@Wharton already has a high-school edition[65] (along with versions that target specific geographies and industries) and it is conceivable that teenagers would be able to build an online profile that would enable them to connect with other students interested in similar projects or subject matter. They could also build a document repository by saving and articles that they find interesting.

When the student joins Wharton as an undergraduate or MBA student, she will already have several years worth of contacts and material and will be able to network easily with other students. The course materials from her classes would then be added to her online documents; her online profile will allow other students to understand her background and experience when she takes part in discussions. During her summer internship, the student could take part in online courses, such as the upcoming OPIM 416 course on new product design, that will allow her to bring his academic and work experience together and also share her knowledge with the rest of the community. Seamless networking with alumni will also facilitate networking for recruiting and career purposes.

After graduation, the social network could be a portal for the student to continue to interact with alumni, students and faculty. With continuing education becoming more important, the network would facilitate distance learning no matter where in the world the student is located. Alumni could also participate in the Wharton Global Economic Forum.

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[64] https://wrds-web.wharton.upenn.edu/wrds/
[65] http://kwhs.wharton.upenn.edu/

Meeteor.com – an enterprise social networking startup

Background

One of the founders of Meeteor[66], Christopher Lee, worked at Apple before joining the MBA program at Wharton. He was a program manager in the operating systems division and realized that many teams were siloed and would benefit greatly from collaborating. Also, even if an employee knew who to reach out to for help, a request to another employee whom he has never seen is typically ignored and gets buried under hundreds of emails.

Encountering the same situation at Wharton, Christopher and his co-founder Philip Cortes started meeteor.com to help introduce people with similar interests.

Strategy

The core value proposition of Meeteor is that it makes it easy for two people to connect. It can be used by an individual to network with other professionals or by an organization to increase the number of links within its social network, creating a dense network environment. When a user signs up, he builds a profile of interests, which is matched with other existing users, similar to Facebook's "You might know this person" feature[67]. To add social pressure, peers can also recommend other users for you to meet. The initial version of the software was built with the aim of facilitating face-to-face meetings but it became too cumbersome to match calendars and decide when the best time for people to meet up was. The current version was streamlined to provide introductions; it is left up to the users to continue the relationship.

The Meeteor team feels that it is significantly differentiated from other competitors. Also, while the enterprise collaboration space is crowded, the enterprise social networking space is not. Yammer and Jive have made inroads but do not focus on plugging the gaps that exist in the networks of large companies. As shown earlier (Figure 7), the number of potential ties is large and converting them to weak or strong ties could be an extremely powerful way to increase innovation and engagement in an organization over time.

Challenges

The biggest challenge that the Meeteor team has faced is that while networking is regarded as important, it is not regarded as urgent[68]. Consequently, individuals and organizations tend to push it to the bottom of their priority list. The team also found it difficult to engage organizations

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[66] http://meeteor.com/
[67] http://ja-jp.facebook.com/blog.php?post=15610312130
[68] Interview with Christopher Lee, Founder, meeteor.com

because of the multiple layers of bureaucracy and the number of stakeholders involved. While the IT department would implement a launch, HR's buy-in is required to share employee data, and support from senior leadership is critical so that employees feel that it is a priority for the company.