

The Study of Social Media Communication: Analysis of Science Communication through Social Networking Sites with special reference to Scientists

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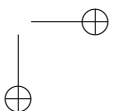
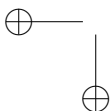
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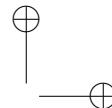
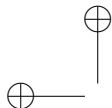
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SOCIAL NETWORKING is the grouping of individuals into specific groups, like small rural communities or a neighborhood subdivision. Although social networking is possible in person, especially in the workplace, universities, and high schools, it is most popular online. This is because unlike most high schools, colleges, or workplaces, the internet is filled with millions of individuals who are looking to meet other people, to gather and share first-hand information and experiences about any number of topics from life science, healthcare, technology with developing friendships and professional alliances.

When it comes to online social networking, websites are commonly used. These websites are known as social sites. Social networking websites function like an online community of internet users. Depending on the website in question, many of these online community members share common interests in hobbies, religion, or politics. Once the user is granted to access a social networking website they are began to socialize. This socialization may include reading the profile pages of other members and possibly even contacting others. Sorenson(2006)

As mentioned, social networking often involves grouping specific individuals or organizations together. While there are a number of social networking websites that focus on particular interests, there are others that do not. The websites without a main focus are often referred to as “traditional” social networking websites and usually have open memberships. This means that anyone can become a member, no matter what their hobbies, beliefs, or views are. Social Networking sites like MySpace and Facebook have received lots of press for capturing the attention of young people and changing the social landscape of college campuses and other teenagers. Although a few scientists





have MySpace or Facebook accounts, but many would be uncomfortable networking in these virtual environments due to their focus on students and youth culture.

Objective of the study

- To study the importance of science communication through social networking sites.
- To understand the purpose of social media network for communities like Scientists.
- To find the application and benefits of social networking sites in communicating scientific information to the people.

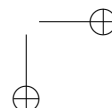
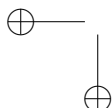
Social Media for Scientists

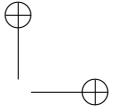
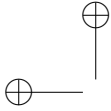
These social media were framed with the features of a social-networking with the addition of a daily science newsfeed, lab profiles, a science forum, blogs, and a science protocol database. Actually, the site provides space for researchers to create their own user profile, add their publication history, upload technical research protocols, blog about science, and share research articles with the community. And some of the sites were updated with more technologies to host a free video conferencing service to facilitate long distance collaborations and other science and journal clubs.

Scientists are not the most social people on the World. Many of them would rather be holed up in their labs trying to make the next big discovery than hanging out on Facebook throwing virtual pies at each other with some exceptions.

Analysis of Social Networking sites

The several websites was set up as a social networking site to connect like-minded people through forums, message boards and blogs. The scientists meet up in this virtual world to discuss their research and build new collaborations. Today the network seems to have evolved into a forum for young scientists to discuss their career aspirations, research and obstacles.





Social networking services build online communities of people that share common interests and are used by many people on a daily basis. While some large networks cater to personal needs (Facebook, Myspace, and Bebo), a recent entry on the networking scene, Lab Meeting, is tailored to the smaller market of today's modern researcher.

The profile of these researchers contains all the standard networking information plus sections relevant to their area of research (interests, summary, publications, and lab memberships). Like all good networking sites, the user can grab code for embedding a banner linking to their profile to place on sites like online curriculum vitae. Even they can add their floating picture to build up the profile of communication. Lab Meeting is another scientist networking site where the user can upload their favorite research papers to share with colleagues and also to access wherever they find an internet connection. Even the user can also recommend a paper to interested people and other colleagues to watch a video on Facebook.

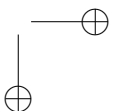
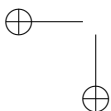
By analysing few social networking sites, the different opinions and ideas of their site have been collected from the bloggers and researchers through mail, were,

New Zealander Peter Matthews who works in Japan emailed:

"I am a full-time researcher from NZ, working in Japan, at a museum with many international research visitors. This multilingual environment made me very aware of: (1) the difficulties that non-English based researchers face when using English, and (2) the difficulties that English mono-linguals face when trying to access or publish research in other important research languages, such as Spanish, Chinese, Japanese, French, and so on. Hence my website: The Research Cooperative - <http://cooperative.ning.com/>. Please have a look, join if you want, and please tell any friends and colleagues about this site if you think they might find it useful."

Pascal Boels, Managing Director of SurgTec.com emailed with a medical tale:

"Our website is for and by medical professionals. It's a video-sharing site for surgeons and medical professionals to show off their newly minted skills. It makes it easy for medical professionals to upload videos or slide-shows and share those with the community. You can search for videos by specialty, organ/region, tissue, etiology, operation type, or technique.



Many surgeons perform original and high-quality techniques in their operating room and equally many surgeons would like to learn from these new and inspiring techniques. Up till now it was very difficult, time consuming and expensive to take a look in each other's operating room and share practical knowledge, tips and tricks. Surgytec.com provides the solution for this problem. We are currently serving over 4000 surgeons from more than 124 countries, sharing over 400 procedures".

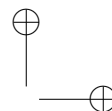
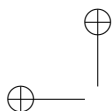
"Research GATE by its name symbolizes the importance of an efficient and result-driven search functionality within research in general and within the network in particular. ReFind is one of the first search engines based on semantic, "intelligent" correlations. (David, 2008). It enables the scientists to find groups, papers, fellow researchers and everything else within and outside of ResearchGATE.

Then there was: "ScienceStage.com - Science in the 21st century - A wide forum for science - on an interdisciplinary, international and individual level. ScienceStage.com, the only universal online portal for science, advanced teaching and academic research, bridges a major gap in scientific research and learning. ScienceStage.com is a virtual conference room, lecture hall, laboratory, library and meeting venue all in one."

Typically, scientists have stacks of papers, protocols, and notes in their offices that they pass around as PDFs. Certain social networking sites was designed first and foremost as a document management site that allows scientists and students to easily upload all of those PDFs, to organize, to search and to share. Scientist can create groups, and invite other members of their related research to create a common repository of works and ideas that can be accessed from anywhere.

Then, perhaps more well-known social media sites and networks for scientists that are listed below without any particular order:

- Nature Network - uber network from the publishing giant
- BioMedExperts - Scientific social networking
- BioWizard - Blogged up Pubmed search
- Mendeley - Digital paper repository and sharing
- Labmeeting - Ditto
- YourLabData - socialised LIMS
- SciLink - Sci-Linkedin
- Myexperiment.com - mostly workflows.



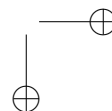
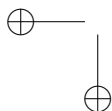
- Laboratree.org - similar to Researchgate. Not particularly social beyond groups and sharing documents with collaborators, but email is better, and arguably more secure.
- scitizen.com - collaborative science news publishing
- SocialMD - Med-Linkedin
- Ozmosis - Ditto
- DNA Network - network of DNA/genetics bloggers
- ResearchCrossroads - Socialised grant databases
- MyNetResearch - Socialised LIMS at a price
- SciVee - YouTube for scientists (Sciencebase)
- Scientist Solutions - science chat

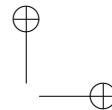
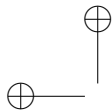
There are, of course, many networking sites around aimed specifically at scientists and have been since the heady days of ChemWeb.com and BioMed-Net.com in the late 1990s. Today, there are dozens of general science networking sites, academic networking sites, and specialist, niche sites. However, if we are generous and suggest that the top ten of those have on average 50,000 members and that they overlap in membership still left to account for millions of other researchers who are simply not using these services. (Hills, 2008).

Application of Social Networking sites.

It widened the pool of users of science bloggers, and shifted the focus more to how new media technology, platforms, and tools can be utilized by the scientific community, both internally and for outreach purposes.

Social networking sites need their population to reach a critical mass before they're actually able to work as a social network, even if they're targeted at a very specific community; otherwise, all they succeed in doing is separating venture capitalists from their money. When analysed the broad application of similar Social networking sites, it is founded that the Scientists can recommend papers to colleagues, mark them up, create collections, and follow what other scientists are collecting. Each scientist gets a profile page. By interacting through their research, they are more likely to interact with each other. They could also form a community ranking system for scientific papers, based on who is reading, writing, and sharing them. Eventually, certain net-





work charges a subscription fees to corporate users such as drug and biotech companies.

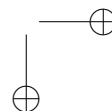
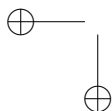
What should social network for science look like?

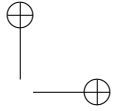
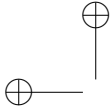
Social sites promote engagement with online scientific objects and through this encourage and provide paths to those with enthusiasm but insufficient expertise to gain sufficient expertise to contribute effectively. This includes but is certainly not limited to collaborations between professional scientists. These are merely a special case of the general. It provide single click through access to available online scientific objects and make it easy to bring references to those objects into the user's personal space or stream (see e.g. Friendfeed "Like" button) (Lackes, 2009)

Blogs made it easy for users to connect with other users and build networks based on a shared interest in specific research objects like Friendfeed . It helps the user exploit that network to collaboratively filter objects of interest to them and of importance to their work. These objects might be results, datasets, ideas, or people. The social networking sites integrate with the user's existing tools and workflow and enable them to gradually adopt more effective or efficient tools without requiring any severe breaks. Most of the scientists make their sites reliably and stably with high performance and low latency. It should be trusted and reliable with a strong community belief in its long term stability. No single organization holds or probably even can hold this trust so solutions will almost certainly need to be federated, open source, and supported by an active development community.

Some social networking sites look for the cost of scientific publication and it won't turn researchers into agreeable, supportive, and collaborative human beings. Something is beyond even the power of Web 2.0.

The same idea behind social networks such as twitter and facebook was use for the creation of wikipedia. The community and knowledge is out there already – social networks, social knowledge sites, social bookmarking sites simply organize these existing networks in a manner which makes them more efficient. A quick analysis of online social networks, such as LinkedIn and Xing would suggest that a mere 1 in 7 research scientists use such tools as part of their work. This contrasts starkly with the business world where up-



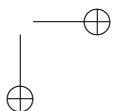
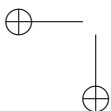


take is up to 88%. In other words almost 9 out of every ten employees in the commercial world are using online networking. (Lackes,2009). That scientific research is essentially a communication-driven process and that most of its participants are young and part of what might refer to as the Facebook generation (Gen-F). Members of the business world have a much more even spread of ages and differences in internet acceptance, and yet, it is business users who are much more committed to online social networking. No single site addresses all the needs of research scientists. The generic sites like LinkedIn and Facebook offer users a way to link up with other people and have specialist sub-groups and pages, but that seems only to dilute their benefits.

Science 2.0

Social Software like blogs, wikis and so on is used in scientific communities to facilitate the exchange of knowledge in the field faster than e.g. by journal papers. These new technologies are therefore challenging traditional communication channels in science and technology. Well known example is the science portals in Wikipedia, Open Wetware and Science Blogs. Science 2.0 is not actually the progeny of Web 2.0-it belongs more appropriately, to the Open Access and Open Data movements in scientific publishing. Science 2.0, however, has less to do with the ideological side of the open access movement than it do with the technical side and how information is actually shared (wikis, blogs, online journals, etc.). Of course, many of the criticisms and defenses of Science 2.0 are the same as those for open access in general.

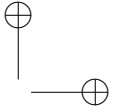
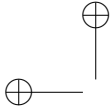
Many scientists remain highly skeptical of such openness-especially in the hyper-competitive biomedical fields, where patents, promotion and tenure can hinge on being the first to publish a new discovery. From that perspective, Science 2.0 seems dangerous: using blogs and social networks for serious work feels like an open invitation to have online lab notebooks vandalized or worse, have best ideas stolen and published by a rival. (Horrobin, 2001). But for Science 2.0 advocates, the real significance of Web technologies is their potential to move researchers away from an obsessive focus on priority and publication, toward the kind of openness and community that were supposed to be the hallmark of science in the first place.



Communication between scientists will accelerate the distribution of new knowledge. Without anonymous review processes, the concept of open-access journals will assure research quality. Science is collaboration, so scientific social networks will facilitate and improve the way scientists collaborate. Cooperation on scientific publications can be facilitated through Wiki-like concepts. It's clear that the change is already happening. Old-fashioned lab notebooks have given way to Wikis, and the number of open-access journals is increasing. Raw research data is spread to the benefit of all. Researchers are beginning to no longer accept a scientific world without the new concepts of Web 2.0.

“Science happens not just because of people doing experiments, but because they're discussing those experiments,” explains Christopher Surridge, editor of the Web-based journal, Public Library of Science On-Line Edition (PLoS ONE). Critiquing, suggesting, sharing ideas and data--communication is the heart of science, the most powerful tool ever invented for correcting mistakes, building on colleagues' work and creating new knowledge. And not just communication in peer-reviewed papers; as important as those papers are, says Surridge, who publishes a lot of them, “they're effectively just snapshots of what the authors have done and thought at this moment in time. They are not collaborative beyond that, except for rudimentary mechanisms such as citations and letters to the editor.”

- Science 2.0 generally refers to new practices of scientists who post raw experimental results, nascent theories, claims of discovery and draft papers on the Web for others to see and comment on.
- Proponents say these “open access” practices make scientific progress more collaborative and therefore more productive.
- Critics say scientists who put preliminary findings online risk having others copy or exploit the work to gain credit or even patents.
- Despite pros and cons, Science 2.0 sites are beginning to proliferate; one notable example is the Open Wetware project started by biological engineers at the Massachusetts Institute of Technology.
- The first generation of World Wide Web capabilities rapidly transformed retailing and information search. More recent attributes such as blogging, tagging and social networking, dubbed Web 2.0, have just as quickly expanded people's ability not just to consume online information but to publish it, edit it and collaborate about it—forcing such old-



line institutions as journalism, marketing and even politicking to adopt whole new ways of thinking and operating.

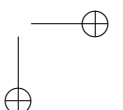
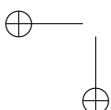
- Science could be next. A small but growing number of researchers have begun to carry out their work via the wide-open tools of Web 2.0. And although their efforts are still too scattered to be called a movement yet their experiences to date suggest that this kind of Web-based “Science 2.0” is not only more collegial than traditional science but considerably more productive.

Conclusion

The explosively growing World Wide Web has rapidly transformed retailing, publishing, personal communication and much more. Innovations such as e-commerce, blogging, downloading and open-source software have forced old-line institutions to adopt whole new ways of thinking, working and doing business. Science could be next. A small but growing number of researchers--and not just the younger ones--have begun to carry out their work via the wide-open blogs, wikis and social networks of Web 2.0. And although their efforts are still too scattered to be called a movement--yet--their experiences to date suggest that this kind of Web-based “Science 2.0” is not only more collegial than the traditional variety, but considerably more productive.

The web makes it technically possible for us to share data, process, and records in real time. Many of the details are technically and socially challenging but we *can* share pretty much anything we choose to on a wide variety of time frames. What should we do? We should make that choice easier through the development of tools and interfaces that recognize that it is usually humans doing and recording the research and exploiting the ability of machines to structure that record when they are doing the work. These tools need to exploit structure where it is appropriate and allow freedom where it is not. If any department or community people doesn't have a nice website they prefer for certain networking sites as a platform to share information about their work with the world. (Hoole, 2008)

A study of research patterns in networking of scientists found that they all have different patterns of accessing information. “Researchers use informal and trusted sources of advice from colleagues, rather than institutional service



teams, to help identify information sources. Depending on how an organisation is set up, this can be quite natural and easy or difficult, if the information team is isolated or in a 'bricks and mortar' library away from the user.

It is interesting that this report highlighted that social networking tools (blogs, podcasts, social bookmarking, etc) had not proven terribly appealing to all kind Scientists. That, firstly, "there is not the critical mass of individuals using such services to make it worthwhile" to use them to "enhance research". Secondly, "the time required in order to become a proficient user is prohibitive." There are highly trained people who, as it says in the next sentence, may use "grid technologies" and "an intricate array of analytical tools" in their day to day work. Especially the scientists were not bothered with this social networking stuff because of general complacency and then notion that Twitter and the other networking sites something new in near future.

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