

Web 2.0: Business Opportunities in Pharmaceuticals

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1 Executive Summary

Web 2.0 has created a buzz in the last few years in both the general public and private enterprise. Following the dot-com collapse in the fall of 2001, a study of surviving Web-based companies introduced the idea of harnessing people and networks, in short , the use of “collective intelligence” as first described by Tim O’Reilly, president of O’Reilly Media; active participation from all parties involved in Web 2.0 applications has been successful.

Based on research of Web 2.0 technology and an understanding of a group of pharmaceutical prescriptions and Over-the-Counter drugs, a matrix was developed as a way to highlight the relationship between a social networking website and a fit it would create for a particular drug. This matrix further served as a tool to analyze opportunities for collaboration and /or acquisition.

As required by a major pharmaceutical company (hereafter called the Company), we conducted further research on cervical cancer, smoking, weight loss, and targeting the mature segment, provided initial business opportunity assessments. Based on the Company’s needs and resources, we recommended an alliance with existing well-established social network websites. Acquisitions of general health or niche health community websites should provide better value since they would allow for a positive image fit and provide a target audience with the brand awareness required.

Further, we observed that the engagement metric is one of the metrics that web analytic software developers and marketing personnel would find useful in their analysis and/or forecast of the best fit by metrics provided by a social network (or any other) website. The engagement metric provides a means to gain the drivers for members in the community and position the website in the direction of those drivers.

2 Matrix

2.1 Purpose

The matrix was created with the y-axis representing prescription and OTC drugs and the x-axis representing social networks and websites grouped by segment. The segments were made with consideration of the target segments or the pharmaceutical company’s drug consumer groups. Segment groups include general websites, women, fashion, parents/children, seniors, niche health and general health.

The matrix sub-cells denote the correlation between the brand and its “fit” available in the segment targeted by the website. The following table shows the criteria used to evaluate the “fit” other than demographics and considerations of “the job done for the target segment by the social network or website.”

Drugs and social network relations		
	Prescription	OTC
	The conditions/diseases are more of the long-term or "serious" category. Thus, it is required that these be depicted in sites which would help show their relative importance to the targeted segment.	The conditions for which, or the use of these drugs are general in nature. They sometimes turn out to be more of the "commodity" type of drugs. Thus, it is required to leverage the right "fit" of social networks to improve "brand knowledge."
Website uses	Advertising	Advertising
<i>General</i>	General information on dispersing drugs. Formation of health-related communities.	Knowledge and education about diseases → brands and drugs.
<i>Women</i>	Building communities. Using communities → information. Community Knowledge sharing and brand awareness by matching product with segment.	
<i>Fashion</i>	Building communities. Using communities → information.	
<i>Parents / kids</i>	Building communities. Using communities → information. Community Knowledge sharing and brand awareness by matching product with segment.	
<i>Seniors</i>	Building communities. Using communities → information. Community Knowledge sharing and brand awareness by matching product with segment.	
<i>General health</i>	Building communities. Using communities → information. Gain feedback from users. Information about competitors.	
<i>Niche health</i>	Community Knowledge sharing and brand awareness by matching product with segment.	

The matrix shown in the attached xls file includes cells denoting the fit category between the brand and the website. High indicates the best fit, medium, "fair fit", and low, "possible but low penetration".

From the best fits given in the matrix and other information gleaned, this paper outlines business cases for various opportunities and recommendations.

3 Cervical Cancer

The viability of a startup social network for the Company was evaluated based on its new vaccine for the disease, Cervarix. This network was designed to help create awareness of the disease and the Company's new vaccine, and provide a medium for like-minded people to connect on a social level.

There are three necessary requirements for starting a social network:

1. **Form a core user base** with an interest in spreading the word. The key is gaining access to "sneezers," a group of individuals with a large base of acquaintances willing to spread the word about the social network.

2. **Developing a software infrastructure through an alliance.** In many cases, such as with social networks, MySpace and Facebook, software development is done inhouse. However, in the case of the corporate developed social network site, Joga, a technology partnership was formed between Nike and Google. This type of alliance would likely make sense for the pharmaceutical company, which like Nike, is not a software development company.
3. **Identify meaningful topics for discussions.** A compelling reason must exist to sign up and continue visiting the network, as well as to inform friends and acquaintances about the new social network.

Two types of web sites currently exist in Web 2.0 for cancer survivors and their loved ones. A social network, (www.mycancerplace.com) launched in July 2006, markets itself as an educational and informational social network targeted at cancer survivors, and their friends and loved ones. Other “support group” sites target specific types of cancer. For example, www.lchelp.org targets lung cancer.

One major concern with starting a cervical cancer site is the relatively small size of the community. According to the American Cancer Society, 11,150 cases of cervical cancer are projected to be diagnosed in the U.S. in 2007, with 3,670 of those cases resulting in death. Between 1955 and 1992, the number of deaths due to cervical cancer has fallen by 74%.

Since the cervical cancer vaccine is targeting teenagers and children, not cancer survivors, the responsibility for generating awareness about the disease would have to come from cancer survivors and their loved ones. But teenagers and children, the “sneezers,” who could ultimately expand the network, are not likely to be interested in spreading the word about cervical cancer on a large scale. Despite the opportunity for a Web 2.0-based cervical cancer site, the community is not large enough to support a standalone social network in this capacity.

Therefore a site structured similar to www.lchelp.org would be a superior alternative to a standalone social network. A site like this would be ideal for a smaller community and could include features such as a message board, blogs, and referral links to generate awareness for the vaccine. The site could also feature separate sections for teenagers, parents and survivors and build a community from there.

4 Smoking/ Weight loss

4.1 Situation Analysis

Smoking and obesity are both significant problems in the U.S population. According to the National Center for Health Statistics, approximately 21.0% of adults aged 18 years and over were currently smokers (Jan-Sept 2006) and 26.1% of U.S. adults aged 20 years and over were obese (Jan-Sept 2006).

Aside from the relatively large potential population, smoking cessation and weight loss also are very popular topics on the Internet. Among the top three U.S. Internet portals—Yahoo, MSN, and AOL—two have smoking cessation sections (Yahoo and MSN) and all three have weight control-related sections.

There are also lots of websites—including personal weblogs, non-profit organization websites and government websites providing smoking cessation and weight control information.

Compared to other niche health segments, we believe the smoking cessation and weight loss segments have two similar characteristics:

First, smoking cessation and weight loss communities are widespread over various websites. Both MySpace and Yahoo, for instance, have thousands of smoking cessation groups and similarly have groups for weight loss.

Second, although there are some social networking oriented websites that focus on smoking cessation or weight loss, most are content-oriented. For instance, by searching “stop smoking” as keywords in Google, only one—quintet.com—out of five search results is social networking oriented. When we searched other keywords, such as “smoking cessation”, “weight control” or “weight loss”, most of the Google search results in the first page were content-oriented.

4.2 Strategy Statement

Based on the findings above, we developed two strategies for smoking cessation and weight loss segments.

1. Leverage group therapy

Group therapy is widely used for smoking cessation and weight control in real treatment, as is the case on the Internet. In some big websites, we found even when smoking cessation or weight control is content oriented, people still tend to post their stories of success or failure on the website. These interactions between members of the group become the material with which the therapy is conducted. Meanwhile, the interactions (stories or dialogs) also become the incentive for more users to get involved.

Smoking cessation or weight loss communities tend to be more cohesive and have tangible goals rather than just interest sharing. “Achievable” is a very common concept among smoking cessation and weight control communities. In regular social networking communities, the motivation for communities of people to gather is to share common interests. In other health niche social networking websites, the motivation is to find someone and have similar experiences, but not to achieve anything. However, in smoking cessation and weight control communities, we can easily find that communities share the same goal, and usually provide assistance for members to achieve smoking cessation or weight loss.

2. Offer calendar or content to track smoking or weight loss history

We believe a tool which is able to provide both group therapy and help users achieve a tangible goal has the high potential to attract smoking cessation and weight control communities. For example, if we provide a

calendar or content widgets to track smoking or weight loss history, these tools could serve as useful tools for both individuals and the group.

4.3 Objectives

We listed three possible objectives for leveraging smoking cessation and weight control communities below:

- 1. Effectiveness testimony**
- 2. Product awareness**
- 3. Trial product distribution**

The cooperation of community members could help achieve product testimony campaigns and smoking cessation or weight loss competitions.

4.4 Potential Partners and Market Initiatives

Weight loss – Diet.com

For weight loss communities, there are many partnership candidates. Compared with other weight loss social networking websites, diet.com has already accumulated abundant content and their credibility is recognized by other well known partners such as WSJ.com, MSN Fitness and People Magazine.

Diet.com is also experiencing a high level of traffic increase. According to Alexa traffic analysis, diet.com's reach (the percentage of overall Internet users visiting the website) is 0.0155 percent and 85 percent of its traffic comes from visitors in the U.S.

Smoking cessation – QuitNet

Launched in 1995, QuitNet is the Web's original smoking cessation site. QuitNet is owned by Healthways and operates in association with the Boston University School of Public Health. Quitnet claims it is the largest quit smoking program in the world with about 60,000 smokers and ex-smokers gathering together online each month with the intention of quitting for good.

Quitnet provides comprehensive smoking cessation tools for communities such as Quit-smoking stats calculator, Quit Date Wizard, and Quit Buddies, all potential cooperation tools.

Yahoo Health

Yahoo is the most popular portal website with very high traffic volume. Alexa reports its daily traffic reach totals 30 percent. Although Yahoo is not a smoking cessation and weight-control-focused website, Yahoo has some sections dedicated to related topics. And Yahoo already has many social networking tools including Yahoo! Groups and Yahoo! Personal.

We believe Yahoo health or a health section in another portal could be a smoking cessation and weight control partner candidate based on high traffic

volume, existing content and the existence of some established partnerships. For example, Yahoo Health and P&G established a new website called “Capessa” found in Yahoo! Health. Capessa focuses on women’s health and uses “Yahoo Groups” for member interactions.

4.5 Smoking / Weight Loss – Takeaway

Smoking cessation or weight loss information or communities are widespread in various health-related websites, so we believe partnerships with websites will access more audiences than acquiring a single website.

Most smoking cessation or weight loss communities provide weight or smoking tracking functions. Considering the characteristics of smoking cessation or weight loss websites, we believe these tracking functions or tools could be used for effectiveness testimony, product awareness or trial product distribution.

5 Mature Network

5.1 Situation Analysis

The Graying U.S. Population

The U.S. population is rapidly aging. By 2030, the number of Americans aged 65 and older will more than double to 71 million older Americans, comprising roughly 20 percent of the U.S. population. In some states, fully a quarter of the population will be aged 65 and older. The growing number and proportion of older adults places increasing demands on healthcare services.

Growing Silver Surfer

With advances in technology, people can acquire health information more easily from a variety of media, especially via the Internet. Further, 76 million aging boomers born between 1946 and 1964, who gained Web knowledge in the workplace, are forming a “silver tsunami” that will dramatically increase the older online population.

5.2 Strategy Statement

With the growing population of seniors, the availability of health information via websites is becoming more important. In addition to websites which focus on personal healthcare information, there are social networking websites which form clusters of certain kinds of people. These provide potential opportunities for the Company to deliver health or product information for target segments.

5.3 Objectives

- Reach out to more seniors in target segments with fewer resources.
- Create word-of-mouth loyalty among seniors.

- Maintain the pharmaceutical company's fine reputation in healthcare.
- Create a pull market where customers pull things toward themselves.

5.4 Strategic alliance with Eons.com

Eons.com is a new, full-fledged social network and information portal for baby boomers. It encourages them to celebrate life, get things done, learn and connect with other people over the age of 50. Eons.com has the highest traffic volume when compared to several other senior social networking websites, ex. seniorpeoplemeet.com, seniorpassion.com, cranky.com, and 50connect.co.uk. To form a strategic alliance with Eons, GSK can deliver its fine reputation in healthcare by providing personal healthcare suggestions.

Eons divides its websites into nine categories – People, Fun, Love, Money, Body, LifeDreams, Obits, LifeMap and Travel. The website is highly focused on people being active and realizing their dreams. In the LifeDream section, for example, it lets members publish the top 10 goals they would like to accomplish before they turn 100. Instead of career and school sections, Eons.com has interactive games to build brain strength, news on entertainment and hobbies for older people, a personalized longevity calculator and tips for living longer.

Advertising alliance

Banner ads

Eons gives advertisers the option of advertising overall on certain product pages or displaying ad banners on a group of pages. In addition, it allows advertisers to base its advertisements on certain demographic characteristics, including member ages or gender, member geographical locations, member time of use, and member technology.

Text ads

These compose healthcare information about certain diseases. For example, on Eons, under Body for its body-and-health category, GSK can provide personal healthcare reflections of members about certain diseases, such as schizophrenia, for which GSK products exist.

Cost:

The minimum advertising campaign on Eons costs \$10,000 and includes a mix of text and banner ads that have an average CPM, or cost per thousand impressions, of \$15.

Content Alliance

e-Newsletter

Eon's e-Newsletter allows the Company to display information so that Eon members can learn more about it.

Health Index

Like the Longevity Calculator provided by Eons.com, the Company can provide a health calculator to help seniors understand their health situation. It can also provide medical information to members.

Health Map

Like LifeMap in Eons, the Company can transform it into HealthMap, which reminds seniors when to have a physical examination. Health Map can be based on a personal Health Index to provide specific personal care information.

6 Acquisition Opportunities

6.1 Criteria for valuation

While researching options for acquisition proposals, we concluded that the following questions are crucial for any social network website to consider when seeking to provide value.

1. Will it be ready for launch within a short timeframe?
2. Will it increase in value with anticipated growth in a particular community?
3. Will it cover several brands or product lines?

A social network should have a targeted segment or message about its capability of “marketing” several brands or product lines. Any community that supports specific brands or products will not be big enough. Only the community that can support several brands or products can be big enough to support the cost of the investment, regardless of whether the website is dedicated to one medical condition or many prescription or OTC drugs.

4. Do its communities have a balance of quantity and quality?

Quantity refers to an established or fast growing community of people while quality means that members of the community come to the website mainly looking for healthcare or medical information. When acquiring a social network, you should seek one with a good mix of quantity and quality that will provide a significant return on investment in the website. There should be a good mix of the segments, which can focus qualitatively and quantitatively via the message delivered by the website.

5. Does it have an established reputation and credibility among target users?

Providing online information about health issues requires credibility. Therefore the reputation and credibility of the information source is the key to the success of the health-related website. When providing information about prescription drugs or chronic health problems, it is imperative to have a website with the potential to attract users due to its reputation, image and credibility.

General social network websites, the ones targeting fashion and women are niche sites with an image that is difficult to change. Acquiring them would either require us to compromise the image or content we want to sell, or change the image they have established. Either of the options would have a dampening effect on our goal.

There are more niche social network websites suitable for collaboration since they might target particular segments. This could provide the opportunity for penetration by creating awareness about particular medical conditions and diseases and Company drugs available to treat them. The U.K, for instance, has social network websites including sites for seniors, senior dating sites, mature blogging, and websites targeting a parents and kids community. These markets are small and have an image which would not help with our goal of leveraging the community toward increasing its brand awareness.

The third category are general and niche health websites and/or social networks or message boards. Depending on their current level of corporate or private backing, their target audience, and other alliances, they can be evaluated and are considered good to acquire. General health websites—such as about.com’s health section, webmd.com, and dailystrength.org—provide the opportunity to reach a generic audience interested in a host of medical conditions and/or diseases. There are also niche health websites like diabetesforums.com, quitnet.com which can help in fulfilling the segment-specific brand awareness and community building.

We found the following four websites viable for acquisition based on their valuation-related criteria outlined above and other factors such as present funding.

6.2 Dailystrength.org

Dailystrength.org is a health-based social network with niche communities, also called a community of communities. It hosts 500+ support groups with 100,000 registered visitors comprising the largest and most comprehensive health network of people sharing advice, treatment experiences and support.

According to the website, members are encouraged to remain completely anonymous using only an email address, not shown to other users. Members of DailyStrength are typically female, ages 25 to 55. The average person spends almost 20 minutes on the site during each visit.

Based on page views, DailyStrength is already ranked in the top 100 health sites on the Web, according to comScore. Ranked by pages viewed by unique users, DailyStrength already ranks in the top 20 health sites, comScore notes. A 2003 Cancer study of more than 60 cancer patients found clear evidence that participation in online support groups reduced depression and improved reactions to pain. Other studies have found that support groups increase life expectancy and life satisfaction.

DailyStrength was created by Doug Hirsch, Josh DeFord and Lars Nilsen, three Internet veterans with more than 20 years of experience conceiving, building, and running the largest communities on the web, including Yahoo Mail, Yahoo Photos, Yahoo Personals, Yahoo Groups, GeoCities, Facebook, My Yahoo, and Yahoo Message Boards.

Due to its entrepreneurial backing, its broad, established community, and the applicability of the Company's drugs in more than one segment, we find this website viable for acquisition.

6.3 PatientsLikeMe.com

PatientsLikeMe.com is a privately funded company dedicated to making a difference in the lives of patients diagnosed with life-changing diseases through an open online community of patients and doctors. Founded in 2004 by three MIT engineers whose collective experience spans from running the world's only non-profit biotechnology laboratory to large-scale online commerce applications, the site attracts a niche market of patients who have experienced life-changing events. PatientsLikeMe has current active communities for ALS (Lou Gehrig's Disease), Multiple Sclerosis and Parkinson's Disease. The site allows patients to select other patients with a similar profile, such as someone of the same age, stage of disease and gender, to see what treatment and outcomes that patient has had.

PatientsLikeMe.com claims to:

Create a community of patients, doctors, and organizations that inspires, informs, and empowers individuals.

Provide a better, more effective way to capture valuable results and share them with patients, healthcare professionals, and industry organizations trying to treat the disease.

Establish data-sharing partnerships with doctors, pharmaceutical and medical device companies, research organizations, and non-profits.

Given their backing from Commercenet, Omidyar network, Collaborative Growth and Seed, LLC, the founders and VC might find it more profitable for an IPO—one of the glitches which may be faced.

6.4 Diabetesforums.com and weight-loss.fitness.com

Jelsoft Enterprises, a UK based enterprise, has employed vbulletin, a community-builder software, to create two websites: diabetesforums.com and weight-loss.fitness.com among others.

As the oldest forum, Diabetesforums.com has more than 7000 members and has coverage of ads from Google and many other sub communities. It also is the most popular chat and forum site for diabetes.com according to alexa.com. It has the potential to give information about various drugs and links to Company information on conditions and cures.

With more than 12,000 members, weight-loss.fitness.com is the most frequently visited weight loss support forum after weightwatchers.com. It has an Internet traffic ranking of about 10,000 while weightwatchers.com is about 4000 in ranking.

Also, considering the different reasons for the use of the community by Jelsoft versus the use by the Company, the acquisition may be well suited for the Company and the technical and legal contracts can be aligned to gain Jelsoft's experience.

7 Engagement Metric

Among the variety of social networks and websites, pages are ranked in different ways. Some rankings are based on page visits, for instance, others on the number of unique members or usefulness.

Engagement is an estimate of the degree and depth of visitor interaction on the site against a clearly defined set of goals. Each organization's version of engagement will be unique. It will be derived from a number of root metrics, probably under a dozen. Common root metrics will include frequency, recency, length of visits, volume of purchases, and lifetime value. Some organizations may include visitor actions, such as subscribing, providing personal information, writing a comment, or participating in a blog.

According to blog updates by Eric T. Peterson, a veteran of web analytics vendors, the visitor engagement metric is composed of six sub-metrics, which each can be examined individually to provide context to the larger calculation. The six sub-metrics are:

1. **Click-Depth Index:** Percentage of visitor sessions of "n" or more pages
2. **Recency Index:** Percentage of visitor sessions occurring in the last "small n" weeks
3. **Duration Index:** Percentage of visitor sessions of "n" or more minutes
4. **Brand Index:** Percentage of visitor sessions originating directly or originating from search engine searches for terms like "eric t. peterson" and "web analytics demystified", etc.
5. **Blog Index:** Ratio of blog reading sessions to all sessions
6. **Conversion Index:** In this case, session- or order-based conversion

Other activities include bookmarking, emailing, and subscribing to RSS feed, which can be calculated within the engagement metric.