PHARMA 2.0
BUSINESS PLAN

by

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PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF BUSINESS ADMINISTRATION

In the
Faculty of Business Administration

SIMON FRASER UNIVERSITY

Summer 2008

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EXECUTIVE SUMMARY

According to recent analyst reports, merger / acquisition (M&A) and technology licensing activity in the pharmaceutical industry is not going to see any slow downs in the next few years (The Boston Globe, 2008). With patents of high revenue drugs expiring, risk of development increasing and changes in the global landscape, M&A and licensing remain key strategies that companies use to improve their competitive position in the industry. Managing these processes is incredibly resource intensive for companies. Understanding competition, locating partners, and maintaining ongoing communication is resource intensive and there remains an unmet need to improve services for organizations embarking on this aspect of business development.

Web 2.0 is a term used to describe web sites that have a specific set of competences and provide a platform where users can interact with the site and with each other. Most of us are familiar with successful Web 2.0 sites, like Google, Facebook and YouTube. These sites have an unmatched ability to exponentially rise in value and the entrepreneurs that have pursued these types of service platforms have produced immense returns for themselves and their investors.

We propose the creation of Pharma 2.0. A company that provides a free web portal and online service centre for pharmaceutical and biotechnology partnering and communication. Our team has a combined experience of over 25 years in the areas of intellectual property (IP) and contracts law, mergers, acquisitions, licensing and operations. This experience has indicated that an unmet need remains. Companies expend high amounts of resources to carry out the processes involved in understanding their competitive landscape, finding partners, communicating and completing deals. Our service will provide organizations with a user-friendly web site where all of their partnering needs can be met.

The anticipated start up financing is $500,000. This funding is expected to be received through grants and other personal investment. In year 2 we will seek an additional $1.0 million investment funding to continue to expand operations. We will offer investors 30% of the firm, an amount above the actual 23% value.

Our exit strategy is by acquisition. Year 3 valuation has been calculated at $5.3 million using an industry EBIT multiple of 6. While the multiple is high (due to Web 2.0 industry values), this estimate is still considered to be conservative as revenue estimations were kept below industry forecasts (as per benchmark organizations). The values provide investors with an IRR of 26.5% (Appendix 2). While we feel this value is sufficient, we may extend the exit time to Year 5 in order to achieve a higher value and higher ROI.

DEDICATION

This project is dedicated to my Father, Jack Seltenrich (April 13, 1942 – May 17, 2006) for showing me that success is built on kindness, integrity and hard work.

ACKNOWLEDGEMENTS

I would like to acknowledge my business partner, Ms. Susan Ben-Oliel, B.Sc., LLB, for the seeds of thought, the encouragement and the support during this project.

Ms. Laura Wessman and Mr. Kirk Homenick for their invaluable mentorship.

My family and friends for their support and patience over the past two years.

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1: BUSINESS OVERVIEW

Pharma 2.0 is a service company consisting of a web portal and additional services that offer a peer-to-peer networking environment for corporations, universities, and research facilities to locate, coordinate and collaborate on various projects without the necessity of extensive resources. This business venture will combine the power of an unlimited, advertising-based Web 2.0 application with the dynamic world of pharmaceutical (pharma) and biotechnology (biotech) drug development.

Pharma 2.0 is;

- **Part of the 650 billion dollar global pharmaceutical / biotechnology industry;**
- **A professional web portal with clear networks and search features to provide companies with everything they need to gain a competitive advantage in the industry in one place, with no cost;**
- **A site for breaking industry news through: news feeds, RSS feeds, white papers, seminars;**
- **A link to the best global conferences in the industry;**
- **Run by a management team with strong pharmaceutical/biotech legal and business backgrounds. A combined experience of over 25 years in mergers/acquisitions business and intellectual property law - invested in assisting corporations to make the best use of the resources invested in partnering activities;**
- **A place where advertisers can get a solid return on investment and access to valuable customer information;**

- **Strategic, operational and legal consulting in regard to patent protection, mergers, acquisitions and licensing;**

- **Secure online data rooms for the exchange of confidential information packages.**

Corporations are embracing new business models in an effort to combine traditional methods with open innovation and collaboration (Tapscott, 2008). For the pharmaceutical industry this is not only a novelty but, in recent years, has become a necessity. Due to the high risk of failure in drug development, companies survive by keeping their technology pipelines well stocked to increase the probability of moving drugs beyond research and development to commercialization. In the past, pharmaceutical companies possessed the internal resources and capabilities to develop their own pipeline technology. However, in the last decade, changes in the FDA and other global regulatory institutions have made it increasingly difficult for drugs to reach late stage development. Large pharma and biotech companies are now heavily reliant on partnerships to gain access to novel technology, while small to mid size biotech and start-up organizations rely on passing technology along or on financing from a partner to continue their development. Without collaboration, the industry would not continue to foster many of the medications available on the market today. Between 2004 and 2006, the value of pharmaceutical and biotech deals tripled from US$30 billion to US$90 billion. Clearly this is an industry where alliances are becoming increasingly more important.

We have been in this industry for a combined 25+ years and feel that there is an unmet need for viable methods of locating and communicating with potential partner organizations. There are limited means by which companies can communicate with each other and those that do exist are highly priced and not readily available to start-up or small organizations. Some methods of searching for partners are: Internet databases (can be over $100,000/year), partnering conferences, consulting companies, investment banks, and personal searches. Most of these options require significant investment from companies. For example, partnering conferences, can cost a company up to $10,000 per employee (depending on location) and consist of series of brief thirty minute meetings between organizations. This is not only exhausting, but often result in few significant leads. Many small biotech and start-up companies can't afford to waste critical resources on attending these conferences when they are trying to advance their scientific research, and consequently, good technology may be passed over due to the lack of affordable communication.

Our company will provide an Internet service for organizations to promote themselves through online profiles, networking opportunities, and updated industry information. Access and registration on the site will be free for those wishing to pursue partnerships, as we will seek sustainable revenue via a traditional advertising model. The site will remain highly professional both in its visual layout and content, and advertising will be restricted and sorted by industry related goods and services (e.g. Contract Research Organizations, IP Firms, Trade Magazines, etc.).

Various services will also be offered by Pharma 2.0. These will consist of consulting for legal and business services, specializing in intellectual property law, mergers/acquisitions and licensing. These services will be made available to companies both on and off the web site and will be structured as a fee for service. Other future add-ons to the site will include secure due diligence areas (where clients can exchange protected information), financial consulting, and arbitration/mediation services. With our combined education and experience in the pharmaceutical industry, we are confident that we have a good understanding of client needs in these matters and are capable of providing the competitive edge necessary to bring this service to the market successfully.

2: INDUSTRY

Pharma 2.0 spans two business environments. The first is the pharmaceutical / biotech industry, the second is the Web 2.0 or online peer-to-peer networking environment.

2.1 Pharmaceutical / Biotechnology Industry

The pharmaceutical industry is one of the largest and most profitable industries in the World, with annual sales expected to reach between $735 and $745 billion in 2008 (Arnum, 2007). In 2006, Fortune magazine listed Pharmaceuticals as being the #5 industry ranked for most profitable businesses, but growth is slowing. The 2008 growth forecast is 5 – 6%, down from the 6 - 7% in 2007 and in some of the major markets it is expected to be even lower at 4% (Arnum, 2007). There are several reasons for this declining rate. One is that companies' revenue streams are under pressure due to patent expirations and weak pipelines; Another is that the cost and risk of developing drugs has risen; And finally, there has been increasing globalization in R&D with many developing countries establishing their own labs and manufacturing facilities (Regent Atlantic Capital. LLC, 2007). One of the ways companies are dealing with these threats is by implementing new business models that rely more heavily on outsourcing and open innovation. Traditionally pharma companies did not rely on external resources for technology or for research operations. Everything was vertically integrated. Now, however, companies are minimizing risk by seeking external sources of

intellectual property, new pipeline products, R&D and manufacturing operations. Partnerships are growing increasingly more important as a strategy and in today's competitive environment, many companies would not survive or grow without them (PharmaVentures, 2005).

In 2003, the cost of moving a drug through development to commercialization had reached an astounding estimation of $802 million USD (DiMasi, Hansen and Grabowski, 2003). For the majority of companies, this is far too much of a burden to take on in its entirety. The increase in the time it takes a company to get a drug to market is drastic. Figure 1 shows the founding dates of various organizations and the trend of increasing time to market for drugs.

Company	Founded	First product launched	Years to Launch
Genentech	1976	1982	6
Biogen Idec	1978	1986	8
Amgen	1980	1989	9
Genzyme	1981	1991	10
Gilead Sciences	1987	1996	9
Cephalon	1987	1998	11
Celgene	1986	1998	12
Sepracor	1984	1999	15
ImClone Systems	1984	2004	20
Amylin Pharma	1987	2005	18

Figure 1 - Number of Years to Product Launch

(created by M. Seltenrich, data from Sarazen and Hillenbach, 2008)

Figure 2 illustrates the lengthy process of development, and at which points various organizations may come into play (McCully, 2008).

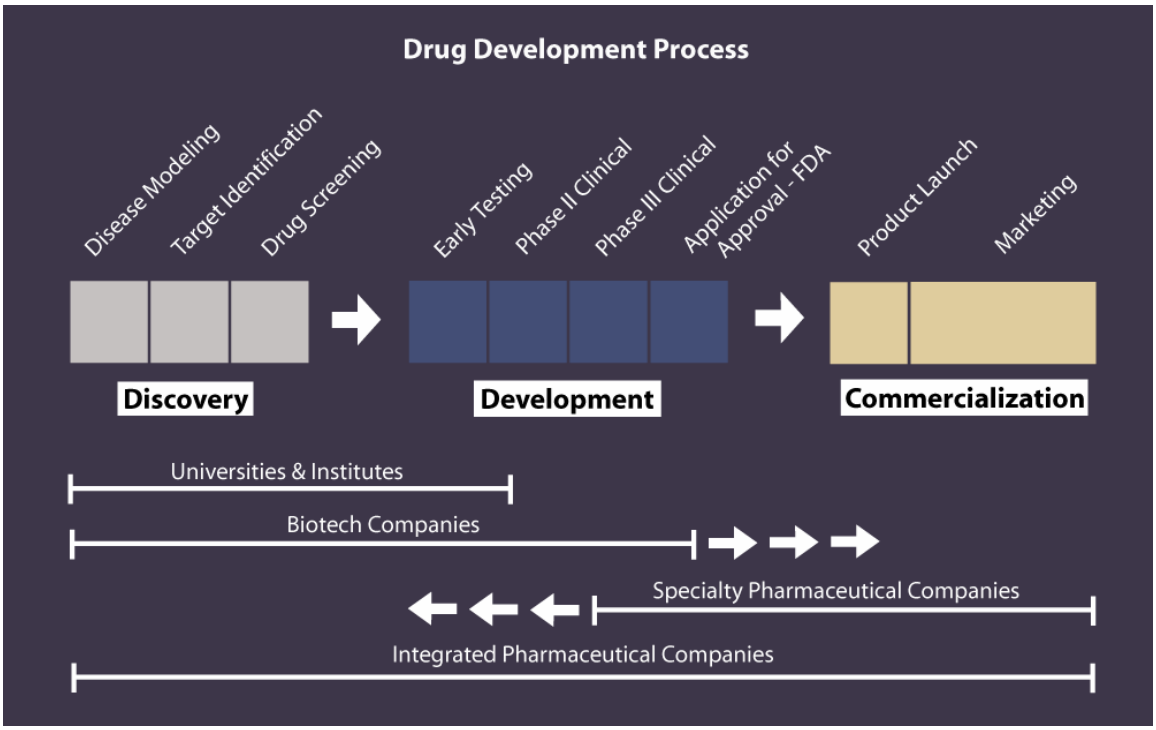


Figure 2 - Drug development process & organizations involved

(created by M. Seltenrich, with data from McCully, 2008)

Most drugs begin in a discovery phase which takes place at a university, other institute, or within some biotechs. This phase is research oriented and is about understanding, or "modelling" the disease and identifying various targets (proteins, receptors, etc.) within the human body. Once an understanding is established, drug candidates are produced and are screened in vitro[1]. Screening will determine activity and affinity for the target. Early testing refers to preclinical and toxicology studies. These are typically done in animals and are used

[1] Testing done in cell cultures and not in human or animal subjects

to determine whether the drug has efficacy in the appropriate disease state, and whether it is safe to test in humans. This can be a prolonged stage of development as many different drug candidates enter into preclinical studies, only to fail due to lack of sufficient activity or affinity, or due to adverse events in the animal models. If a compound proves to be safe, and is selected during preclinical development, then it will enter into a Phase I clinical (human) trial. During this trial, the drug will be tested in a small population (10s to maybe 100s of individuals). Often this phase is divided into sections referred to as "a" and "b". These early clinical trials test for efficacy and toxicology in humans. Following this stage, the company developing the compound must submit an Investigational New Drug (IND) application to the American Food and Drug Association (FDA) for approval to continue moving the drug through further clinical studies and into larger populations. Often, what occurs at this point is a significant diligence process by the FDA of the company's scientific rigor. The FDA must ensure that all aspects of development are carried out correctly in order to prevent harmful substances from reaching the market. They will commonly send back a request that further studies be completed if an area needs more development to rule out harmful effects. Once the IND is approved, the drug will be qualified to move into advanced clinical studies: Phase II and Phase III. Unlike Phase I, Phases II and III are lengthy and require an enormous amount of resources. They involve larger populations (up to several thousand individuals), and often occur in multiple centres (DiMasi, Hansen and Grabowski, 2003) over several years. Following successful clinical trials, the company managing the development can choose to launch the product, thus maintaining the marketing rights and responsibilities, or can choose to license it for commercialization. Many choose the latter as they are not equipped with the sales or marketing teams to go commercial.

With increasing complexity in technology and understanding of the human body (e.g. gene mapping), companies are investigating more complicated areas of drug development. With this comes a significant pressure to obtain data and prove safety. Partnerships are one of the most common routes to getting a drug commercialized as they enable companies to access the resources needed to successfully complete development. Figure 3 shows the trend in total deals (including mergers, acquisitions, and licensing) for products both into and out of the organizations between 1997 and 2004.

Figure 3 - Total deal trend 1997 to 2008

(created by M. Seltenrich, with data from McCully, 2008)

The trend of the graph shows that partnerships have been steadily increasing in the last decade. Recap[2] and other market intelligence resources continue to note and comment on this trend as organizations move toward a more open operational structure. This structure has become particularly apparent among the large pharmaceutical companies that are now steadily in-licensing a stream of technology from the smaller biotechnology (biotech) research and development (R&D) organizations. Figure 4 shows the number of biotech out-licensing deals that occurred between 2001 and 2006. While remaining fairly steady up until 2003, the increase of pharmaceutical companies drawing from biotechs becomes more apparent in the years between 2004 and 2006 (Recap, 2007).

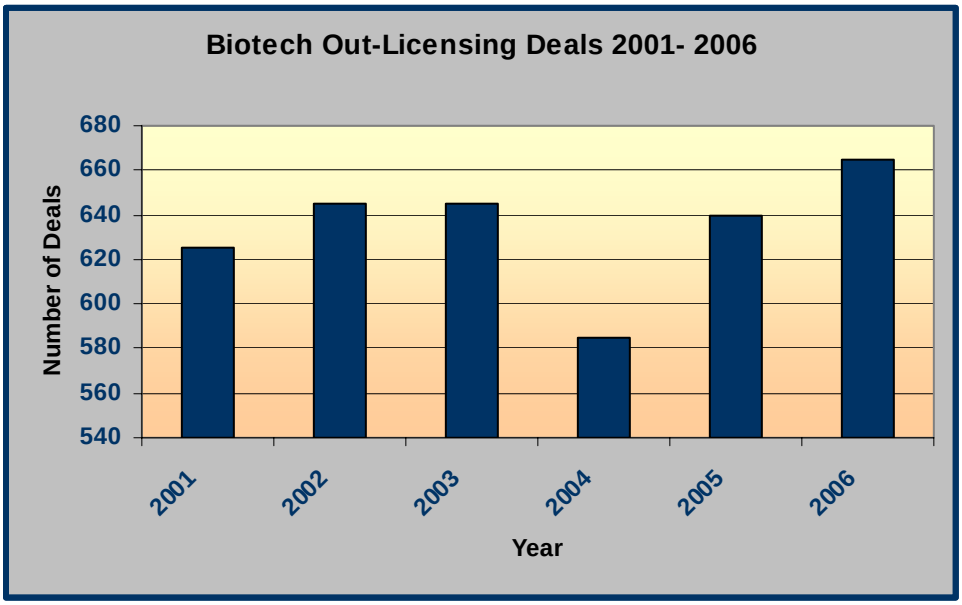


Figure 4 - Biotech out-licensing deals 2001 to 2006

(created by M. Seltenrich, with data from McCully, 2008)

[2] Recombinant Capital (Recap) is a San Francisco Bay Area-based consulting firm specializing in biotechnology alliances, earned alliance revenues, product sales, employment agreements, company information and capitalization.

Merger and acquisition (M&A) activity among organizations is also proving to be on the increase. Unlike licensing a specific technology, these types of deals can fulfil several needs of an organization. By acquiring companies, they can gain access to new technology, as well as the key individuals responsible for generating the data. For small and medium enterprises, M&A often generates news for an organization which may help to boost its stock price, or promote funding opportunities. Finally these types of deals can provide a company with various locations or facilities necessary to grow.

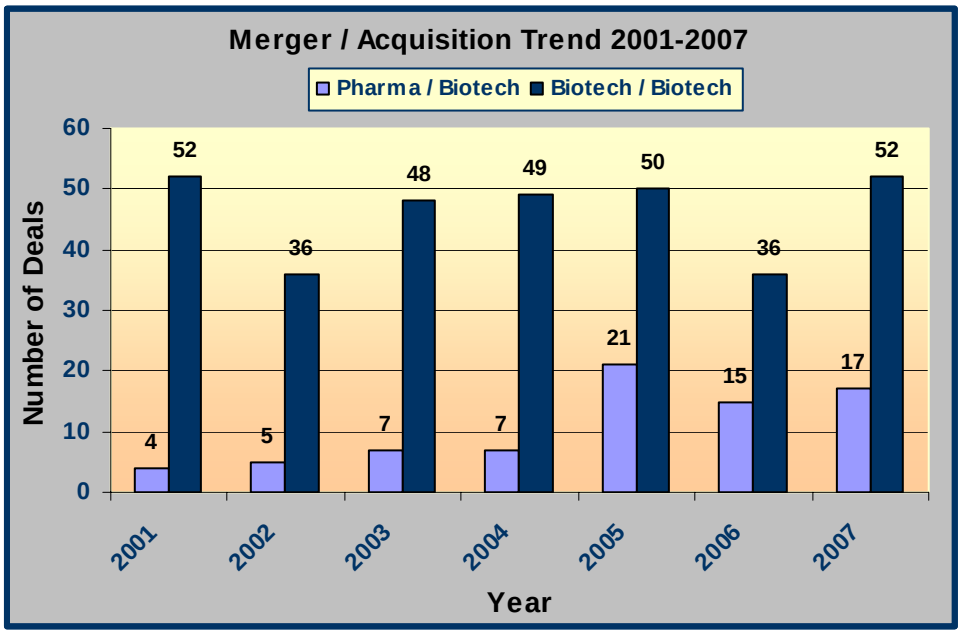


Figure 5 - Mergers and acquisitions 2001 to 2007

(created by M. Seltenrich, with data from McCully, 2008)

Figure 5 shows the number of M&A deals between pharma and biotech companies and between biotech companies. The trend of biotech to biotech seems to be mainly stable over the past seven years, while there has been an increase in the number of deals taking place between biotech companies and pharma companies. This is, again, due to large companies that previously maintained in-house R&D transitioning to the open model and bringing in technology from outside sources. The trend is currently believed to be moving toward the concept of the biotech companies acting as technology "factories" for large pharmaceutical companies (Kendall, 2008).

For a company seeking partnerships, finding the right opportunity requires a significant effort. Market intelligence resources claim that approximately 37% of all pursued deals are successful. Recap lists that there are currently 2,866 biotech and pharmaceutical companies globally. All of the companies listed in the Recap database have engaged in partnering activities at some time. While this does not represent the entire market (many of the smaller companies are not included), it does provide some indication of the number of companies that are involved in developing drugs at some stage, and would potentially be seeking collaborations. By this estimate, if approximately 600 deals were successful in 2005 (as per Figure 4), then roughly 1621 deals were attempted, and many more companies likely went through the process of searching for potential collaborations. The type of partnership sought, depends on the size and capabilities of the organization. For example, it may be a start-up company that is licensing technology from a university in order to gain access to the intellectual property and to continue development, or it may be a large pharmaceutical company that has shelved a compound (no longer developing it) and is out-licensing it to a

smaller biotech for research. More commonly, it is a small or young biotech company that does not have the financial capability, or infrastructure to complete later stage studies. These companies need to partner with a larger biotech, or pharmaceutical company to continue work and complete IND[3] enabling studies. The latest these organizations would partner is likely at the end of Phase II clinical studies, as most cannot afford to complete a Phase III.

Performing an effective partner search typically begins internally with a meeting of appropriate staff members (e.g. senior management, corporate development and scientific teams), during which a decision is made to commence a merger/acquisition or an in/out licensing search. Criteria are developed to fit the organization's needs, and several methods are then chosen for the search. Searching is typically managed by the business development team with frequent reports to senior management. The science team may be brought in to evaluate technology or answer technical questions but are not usually involved in the search or the developing relationship, unless they come by this through their own scientific network.

The most cost effective way for business development executives to search for potential partners is via the internet or through previous contacts, combined with cold calling. This is a difficult way to explore opportunities, as it can take a significant amount of time and render few plausible results. The team is much better off attending the many annual partnering conferences where they have the opportunity to present to a variety of previously chosen companies, as well as engage in social networking. Partnering conferences can cost

[3] IND = Investigational New Drug ; A standard document that must be approved by the FDA before a compound can enter into human clinical trials (Phase I, Phase II, Phase III, possibly Phase IV) and then to market.

up to $3500 per attendee in registration fees alone, and take place in a variety of locations. This creates added expenses of travel and accommodation. However, the most important way for a company to partner depends on conferences and networking, and therefore, an organization must budget to send employees. An average company would want to attend 4 or more conferences per year to generate leads. The budget for this would be approximately $5000 per delegate per conference. A small biotech company would have to budget at least $20,000 per year for an employee to attend. Most companies will send 2 or more delegates, which requires a budget of between $40,000 and $80,000 per year to network and establish communications. If these searches do not provide relevant results, a consulting company or investment bank may be brought in to assist in identify and screen appropriate partners. The activities related to seeking out potential partner companies can be completed in any order depending on the company's resources and preferences.

2.2 Web 2.0 – Online Environment

The World Wide Web has become one of the most effective ways to communicate information rapidly to a large market. In the late 1990s, changes began to take place in the technology and architecture of web sites. These changes created a unique style that allowed users to participate and interact with the web and each other like never before. Today, the sites have developed into an unparalleled influence as the next generation of online platforms.

The phenomenon was branded during a brainstorming session between O'Reilly Media and MediaLive International (O'Reilly, 2005). The two groups were discussing ways to accurately describe the changes occurring in site development and how these were contributing to internet use. They chose the name Web 2.0 to indicate the advancement of the original Web to another level, much like the use of numbered versions in software upgrades. Web 1.0 is now considered to be the original information network (Internet), made up of a platform of web sites that hyperlink to each other to create a global collection of information available to anyone with access. Web 2.0, on the other hand, can be described as the compilation of dynamic, social networking and service applications that are changing the way individuals express themselves, communicate and do business online (Shuen, 2008). Still, a true definition of the term "Web 2.0" has been difficult to establish and Tim O'Reilly has chosen to describe it through a set of competencies. The below list is taken directly from the paper "What is Web 2.0" written by O'Reilly in an effort to address the aspects of these sites and appropriately describe the concept.

Web 2.0 Competencies:

- *Services (not packaged software) with cost-effective scalability*
- *Data sources that get richer as more people use them (i.e. network effects)*
- *Trusting users as co-developers*
- *Harnessing collective intelligence*
- *Leveraging the long-tail through customer self-service*
- *Software above the level of a single device*
- *Lightweight user interfaces, development models, and business models*

Although many people remain unfamiliar with the term, most are currently contributing to its business model (Shuen, 2008). Examples of commonly used 2.0 platforms include Google, Yahoo, YouTube, Flickr, and Wikipedia. Each of these sites demonstrate a unique competency for being an online source of collective harnessed data and intelligence created by multiple users and which becomes more valuable with an increasing network. This increasing, positive value that is created as more users adopt a technology is referred to as the "network effect" (Shuen, 2008).

Network effects are the main force that drives the success of 2.0 applications and creates the barrier to entry in competition. A traditional example of a network effect is the adoption of the telephone or fax machine. With one user, the value of the technology is literally zero, since you cannot phone or fax another user. However, as more and more users adopt the technology, the value exponentially increases. This rate of adoption follows an S-curve, as shown in Figure 6.

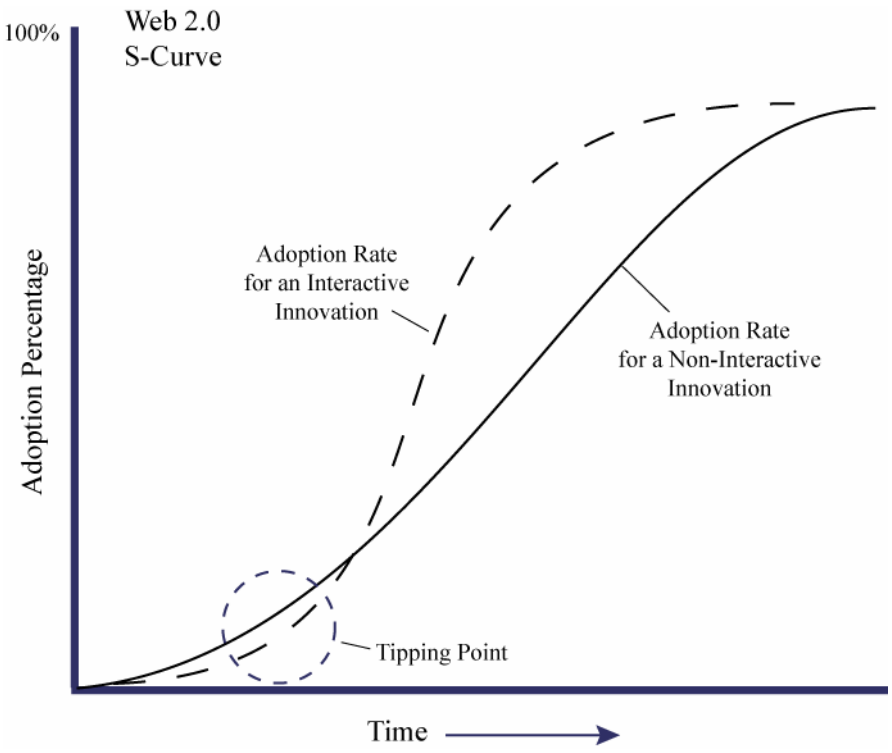


Figure 6 - Adoption curves of Interactive and Non-Interactive Innovations

(created by M. Seltenrich, adapted from Mauboussin, 2004)

The two S-curves represent the adoption rates of two types of technologies. The solid line represents technologies that are non-interactive, such as videocassette tapes or game consoles. The S-curve develops due to associated costs and complimentary products. For example, if you owned a Beta machine, you would very quickly find it difficult to rent tapes that it could play and so the adoption of the VHS tapes would increase rapidly once a certain point was reached. This point is called the “tipping point” and it is the place on the curve where the amount of users has reached the critical mass necessary to cause the rate to

increase rapidly. The dashed line represents the curve that forms from an interactive technology, such as E-bay. The S-curve is steeper and the tipping point occurs in less time than that of a non-interactive technology. This is because in an interactive technology, late and early adopters can influence each other. In other words, the benefits from each new user are passed to all existing users and all future users (Mauboussin, 2004). The point of critical mass in an interactive technology is considered to be between 5 and 20% of the market. It is at this point that technology adoption increases at an increasing rate, regardless of whether the originator continues to promote it (Mauboussin, 2004).

Once a critical mass is reached, the network effect will drive the increase in users on its own. Eventually network users become locked-in and switching costs increase, creating a competitive advantage and barrier to entry. The switching costs associated with a free site are not linked to monetary value as they are for traditional products. They are brand-specific training and search costs (Mauboussin, 2004). Once a user is familiar with a technology, there is a cost associated with having to learn a new one. This costs time and productivity and users will be hesitant to switch to something they're not comfortable with. Search costs are incurred when buyers and sellers (in this case, partners) attempt to locate and communicate with each other. The cost here is to locate and learn about alternatives (Mauboussin, 2004) that can offer the same benefit.

The immense value that can be created by a successful 2.0 web site is evident when reviewing some of the recent financial transactions that have taken place in the last two years. In the Fall of 2006, Google purchased the online video site YouTube, for $1.65 billion

(Monica, CNN Money, 2006). A year later, the powerhouse Microsoft bought a small 1.6% stake in Facebook for $240 million (Stone, NY Times, 2007). And in early 2008, Microsoft again surfaced with a $44.6 billion offer to purchase the search engine Yahoo (Whoriskey, Washington Post, 2008). Yahoo declined this offer with a statement that it was 'inadequate' (BBC News).

Web 2.0 business applications create a space where the average person can participate in the economy like never before (Tapscott & Williams, 2008). The accessibility of information allows people to share knowledge, add value and effect decision making on a much larger scale (Tapscott & Williams, 2008), and many companies are exploring this wealth of collaborative knowledge. In a survey by the Economist Intelligence Unit, key findings showed that companies are confident Web 2.0 applications will deliver business benefits in the near future, and it isn't taking long for some of the top executives to realize the potential. Web 2.0 is spreading like wildfire across industries, as savvy top executives in all areas begin to realize its immense benefits. Examples of companies that have had success with Web 2.0 are: Cisco, Procter & Gamble, IBM, Wells Fargo, Boeing, FedEx , Morgan Stanley and Pfizer, just to name a few. Many more are taking the leap to incorporate a 2.0 model into their enterprise (Tapscott, 2008).

3: PRODUCTS & SERVICES

At the centre of most successful high tech companies are products and/or services that truly meet the needs of the market (Viardot, 2004). The operational level of product development is the first step in evaluating these needs and creating a suitable match. Product development can be looked at from three levels. The first level is the essence of the product, or how well it matches consumers' needs; the second is the product's physical attributes; and the third is the shell or the additional services offered (Viardot, 2004). Each of these levels must be carefully considered and developed appropriately for the market if the product is to have success.

3.1 Pharma 2.0 Networking Portal

Pharma 2.0 provides a business to business networking web portal for the pharma / biotech industry. The purpose of the site is to provide industry professionals with a free space where they can promote their company, learn about the competitive environment, interact with colleagues, build a network and engage in the steps toward developing collaborations.

The Essence

Pharma 2.0 was conceptualized as the result of our combined experience in the business development and legal aspects of the pharma / biotech industry. Dealings in these areas led to

the realization that partnerships are absolutely critical in the industry and that even though they are growing, there is still a gap in the area of communication. Small and medium enterprises invest such a high amount of resources into development of their products, that they have very little left to devote to finding partners. At the same time, if they lack resources they'll be limited in how far they can take a drug through development, and will inevitably require a larger company to provide funding or to license the drug at some point. Thus, the product was envisioned to fill this need by providing a web portal, available at no cost, for companies wishing to promote themselves and their products. To provide this service, the site will use pay-per-click advertisements as a means of generating revenue. The product is intended to provide a networking space where users can create innovative and meaningful business relationships within the pharmaceutical industry, thereby significantly improving the strategic risk involved in drug development.

The Physical

Pharma 2.0 will be a web portal that combines a professional online environment with a standardized format in order to optimize the ease of use and the flow of information. Web 2.0 is on the periphery of mainstream business-to-business applications, particularly within the pharmaceutical industry, and it is anticipated that industry professionals may be slow adopters of a free and open system. To raise the network to a critical tipping point, a clean and standard architecture is essential as well as "Web 2.0: A strategy Guide" (Shuen, 2008) offers basic ways that a 2.0 site can build in these features.

One of the most fundamental aspects of positioning the product is naming it. Consumers can't purchase what they don't know (Moore, 1991). We have purposely chosen the name "Pharma 2.0" because it is a simple yet powerful name that combines the industry with the concept. As awareness of the term 2.0 begins to broaden, individuals are either becoming familiar with it, or they are still seeking to understand it. We plan to capitalize on the intrigue of the name to create early brand recognition and recollection. We also plan to emulate the familiarity of other popular 2.0 applications, with unique tools to meet the specific needs of the target market. It is imperative that early adopters find the site easy to access and navigate, and that it provides a wealth of highly useful information. To accomplish this, two structural features will be employed. The first is the use of page restrictions and constraints, and the second is the development of specific architectural components to promote network effects.

The first key structural feature of this site will be the development of format and constraints. Web 2.0 does not have hard boundaries (O'Reilly, 2005) in that it is open to all users as a means to add value, but page constraints ensure ease of use. In his paper, The Cornucopia of the Commons, Daniel Bricklin (Bricklin, 2001) discusses the critical aspect of getting users to incorporate data into the site and create value. In one presentation, he refers to the structure of the user interface as being one of the most important ways to do this. Page constraints encourage users to focus on uploading and creating meaningful content, as opposed to becoming preoccupied with creative license. They are used to maximize download time and maintain site clarity. These ensure that users are able to find information and create connections quickly. The structural components are not intended to impede organizations in terms of uploading information, only that it be organized in a specific area.

To illustrate how page structure and restrictions generate a user-friendly environment, a standard Facebook page is used (Figure 7). Facebook offers each user the same features; an area for picture, personal information, news, and activities. Not only does this simple architecture provide a view of all accessible information at a glance for each individual, it ensures that new users know exactly where to find the same information on another's page.

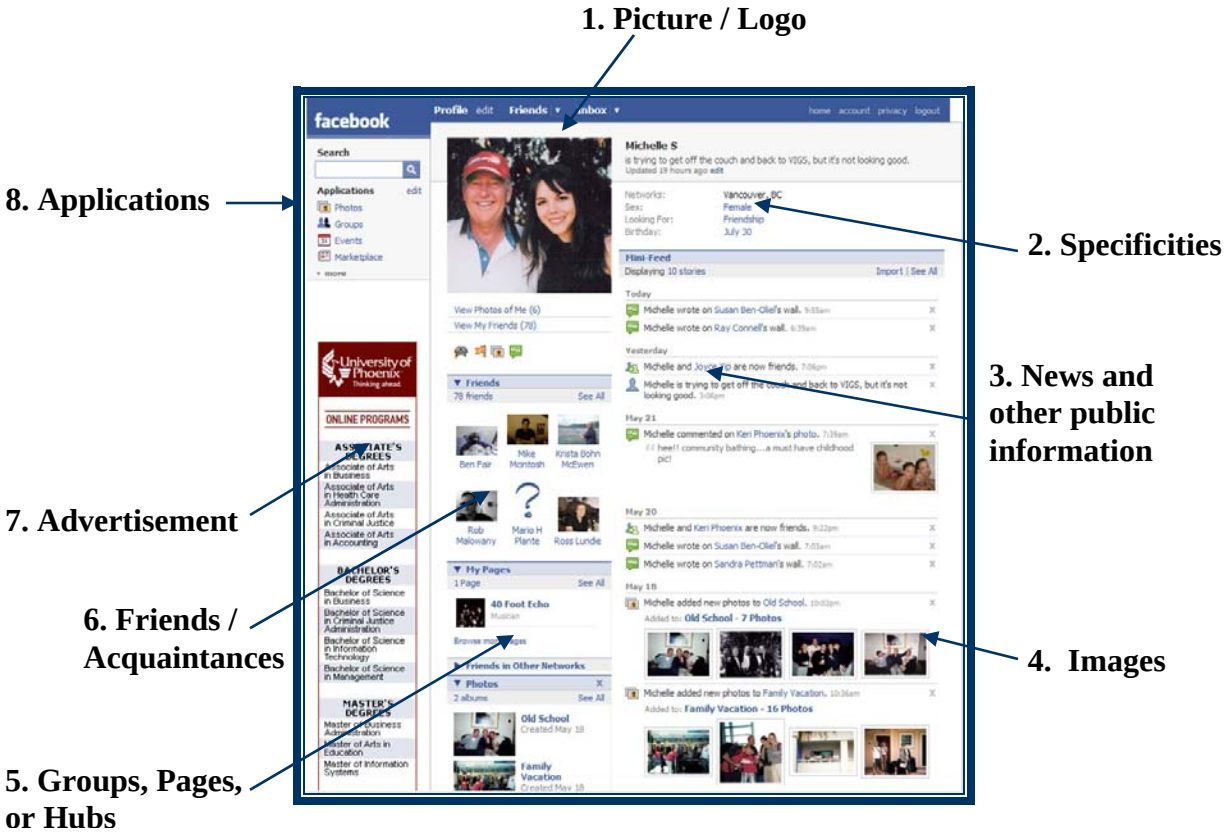


Figure 7 – A typical Facebook profile showing information constraints

To compare a similar model for Pharma 2.0 it would result in numbered areas of the following:

1. Corporate logo
2. Corporate information, such as location, size of organization, public/private company, stock information, general therapy areas
3. Public updates or news releases
4. Corporate images, such as pipeline
   Pipelines are typically found on company web sites as images
5. Hubs – therapy areas, development stage, industry event
6. Partnerships / collaborations
7. Advertising
8. Applications such as search or other features, are often added by separate entities but are functional on the site. Outside applications would require pre-approval

The above example is a simplified version of a potential layout, but provides a general idea of how constraints may be used to maximize the functionality of the site. Within these constraints, and as is common with free peer-to-peer networking sites, business professionals would be expected to develop their own company profiles[4] and post information about their products and goals for global partnering. Once a user had established a profile, the organization would become part of the database allowing the company to be searchable. Organizations looking for partners would be able to enter search criteria using Boolean methods to enable them to locate and identify companies by industry, therapy area, stage of product development, location and executives.

[4] During the launch period, Pharma 2.0 reps will enter company information to promote the value of network effect.

Constraints would also be in place for advertisers. Pharma 2.0 will create a revenue stream through a traditional advertising model and advertisers will be limited by several requirements. First, they must be professional, legitimate and not contain any false statements. Second, the graphics and layout must be simple to prevent a cluttered appearance on the page. A single banner ad and/or search feature (Figure 7) would be appropriate. Finally, advertisers must be industry relevant. Each will be screened to ensure that they are compatible with the essence of the site. Examples of companies that might be targeted for advertising include: legal firms or specific IP firms, contract research organizations, equipment suppliers, consulting firms, conference organizers, travel-related companies and hotels.

A clean, professional site builds client confidence and improves functionality. It is considered to be a critical component of development. The second architectural component of Pharma 2.0 will be to incorporate features that promote online network effects. If a site does not meet the needs of its intended network and it can't provide them with a familiarity of people or events, then consumers are likely to move to another site that does. To promote network effects we must develop and sustain a base amount of users and the site architecture can contribute to this. One such functional feature is called a hub. Hubs are areas where users can locate others with similar interests or needs. Using these 'centres' can develop a network of peers that is less random, and has more appeal (Shuen, 2008). Hubs are most effective when they mimic networking behavior that already exists in an industry. In the pharmaceutical / biotech industry, real-world hubs exist in several areas (e.g. therapy areas, development stages, location, market cap). For example, Figure 8 illustrates a hub for the

therapy area – Cancer – and how this might enable two individuals to connect. Suppose Individuals 1 and 2 do not previously know each other. If each individual joins the therapy area hub "Cancer", they will then be a part of each others' networks and will make a connection. Users can explore fellow members of the group, make worthwhile connections and build their network. Using pre-established industry groups will provide a sense of familiarity and comfort in using the new technology and encourage direct networking.

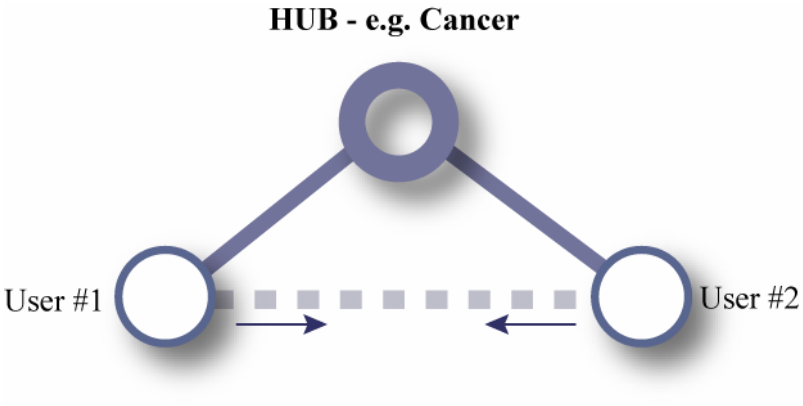


Figure 8 - Hub of a therapy area connecting individuals
(created by M. Seltenrich, adapted from Shuen, 2008)

A second architectural component that can help create a network are industry event areas where relevant information is located. Conferences are a standard event for pharma / biotech companies and offer one of the only places where executives can network with many other similar companies. Areas on the site that promote and link to industry events will allow users to find others that have attended similar functions, or are planning to attend. This feature is currently available through conference organizers and will be discussed in the

competitors section further. To improve our customer services, we will make an effort to collaborate with conference planning organizations to provide additional aspects such as online meeting planners or registrations.

The Shell

In order to attract new users and maintain clientele, it is important to extend beyond the web site and offer a variety of products and services. Pharma 2.0 will include additional services to enhance client experience and utilize the abilities of management. These services are: Information news feeds, RSS feeds and white papers, consulting for merger / acquisition management, consulting for intellectual property law, online secure data rooms for private document exchange and registration competitions.

Free information in the form of news and RSS feeds are common in the industry. Adding them to the site allows us to compete in another area and gives users a one-stop shop where they can go and complete all of their industry activities. These feeds can be delivered by email to prospective clients as a means of advertising. White papers are written on various issues within the industry. They can also act as a means of advertising, especially if we can get predominant individuals to contribute them to our site.

The consulting activities of Pharma 2.0 will be developed as future add-ons. The management team has extensive experience in the fields of M&A, licensing, due diligence, partner negotiations and intellectual property law. Since the companies using Pharma 2.0 are most likely seeking collaborations like these, our experience may be sought to assist in patent

filings, term sheets, negotiations, due diligence and deal close. We have the advantage of being able to advertise to our target audience, while our clients have services that are conveniently available. We expect that our services will eventually create an added revenue stream for the company.

Virtual, secure data rooms will be offered to companies as a means of exchanging information during diligence processes. Traditionally, physical data rooms have been used during the process of merger or acquisition. Representatives of the merging or acquiring company are able to be on site in these rooms and review relevant data and information. This can present difficulties in logistics for both the visiting and host organization. Physical areas or resources may not be available, travel might be costly or security may be an issue. Virtual rooms offer a chance to exchange information online rather than have individuals physically visit the company. The advantage is that logistical resources are not necessary and organizations can focus on evaluating the information. Online data rooms will be established with a login and password and so that the two groups can exchange information in a completely secure manner.

Competitions on the site may be introduced. These would most likely be give-aways for conference registration and would be made available early-on in the product life cycle to help build critical mass. The purpose of these competitions would be to get users to sign up for the site. Announcements would go out informing users that sign up to the site would automatically enter their names for registration draws. This may also provide the opportunity to partner with conference planning companies and exchange the registration for advertising.

4: COMPETITIVE ANALYSIS

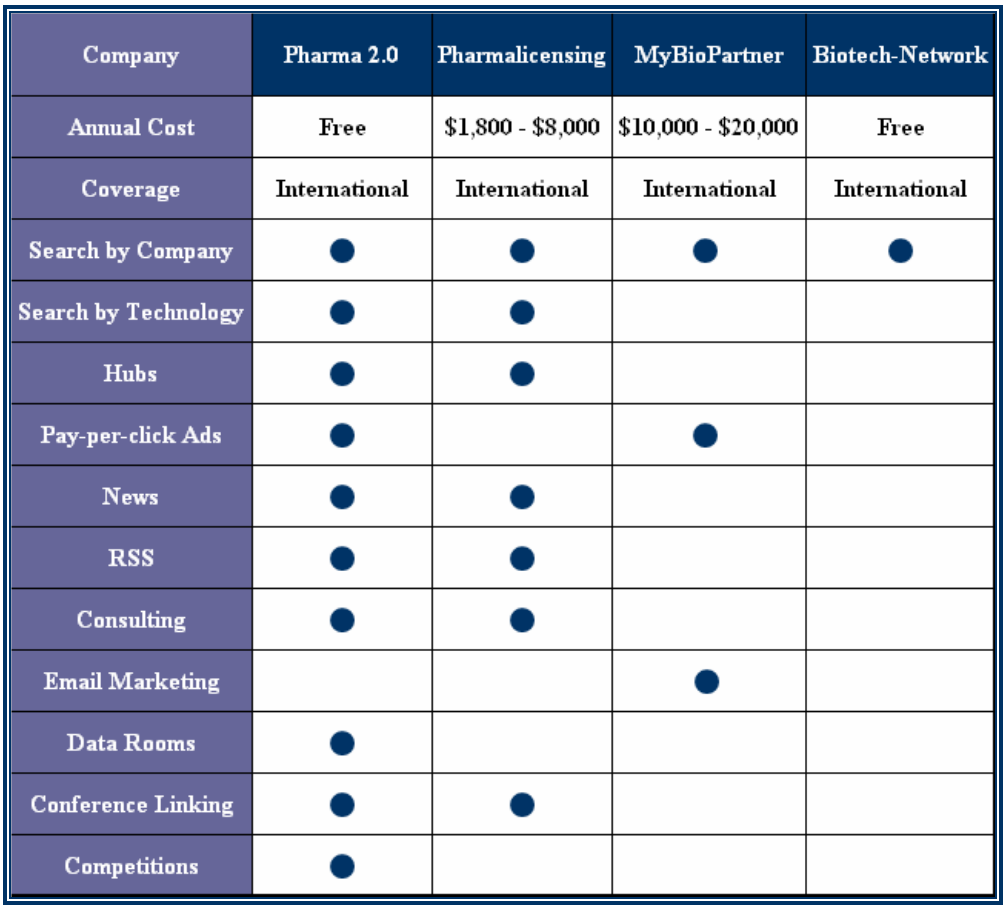
A thorough competitive analysis is fundamental to developing a strong business strategy, and ultimately creating a profitable enterprise (Grant, 1998). While, it is necessary to review the strength of the direct competition (companies that provide the same service), it is also important to review the competitive forces at the industry level (Viardot, 2004). In his book Contemporary Strategic Analysis, Robert Grant describes Industry as "a group of firms that supplies a market" (Grant, 1998). Awareness of all relevant competition within an industry ensures that key relationships are not missed or underestimated. Underestimation of a competitive landscape can certainly lead to a corporation's failure, particularly in the dynamic world of high-tech firms.

We conducted a competitive analysis for Pharma 2.0 and broke this out into four sections. First, Table 2 provides an overview of the direct competitors. Second, these competitors are further profiled to determine differentiation. Third is a review of the industry using Porter's traditional five forces model. And fourth, a more detailed look at the substitutes is provided.

4.1 Direct Competitors

Direct competitors are those firms that offer similar products and/or services (Grant, 1998). For Pharma 2.0, direct competitors are considered to be the companies that provide the following: *A business development web portal, unique to the pharmaceutical / biotechnology industry that requires a company registration and profile, provides industry relevant information in the form of news and events, and promotes communication for the sake of forming collaborations (mergers, acquisitions, licensing).*

Within this industry there are many organizations that provide access to free online information such as news feeds or RSS services, but there are few that specifically target partnering activities. Three sites have been identified that are considered to be direct competitors to Pharma 2.0. These are Pharmalicensing, MyBioPartner, and Bio-Network. Figure 9 is a competitor overview showing the features of Pharma 2.0 in comparison to these three competitors. Pharmalicensing is clearly the strong competitor based on features. Differentiation will be highly dependent on the cost to utilize the service and the network effects we can build and sustain through the marketing strategy.



Company	Pharma 2.0	Pharmalicensing	MyBioPartner	Biotech-Network
Annual Cost	Free	$1,800 - $8,000	$10,000 - $20,000	Free
Coverage	International	International	International	International
Search by Company	●	●	●	●
Search by Technology	●	●		
Hubs	●	●		
Pay-per-click Ads	●		●	
News	●	●		
RSS	●	●		
Consulting	●	●		
Email Marketing			●	
Data Rooms	●			
Conference Linking	●	●		
Competitions	●			

Figure 9 - Comparison of direct competitors

4.1.1 Pharmalicensing (UTEK)

Pharmalicensing (www.pharmalicensing.com) is the current leader for online pharma / biotech business development and partnering. The company was acquired by UTEK Corporation in January 2008. UTEK is an innovation services company that offers assistance to organizations who wish to add value to their intellectual property. UTEK is publicly traded

on the NASDAQ and has a market cap of approximately $363 million. It is headquartered in Tampa, Florida with offices in Chicago, IL, Phoenixville, Pennsylvania and York in the U.K. The company's current strategy is to acquire organizations that have an open model for innovation. In the three years up to December 2006, UTEK made six acquisitions of companies in the open innovation field (UTEK Annual Report, 2007). Financial statements as of December 31, 2007, showed the company had achieved $20.3 million in revenue, a net income of $3.8 million, and a cash position of $5.3 million. It is noted that the cash position will not likely affect future acquisitions, as the company completes most of the acquisitions through equity shares (UTEK Annual Report, 2007).

The Pharmalicensing web site is designed to assist in intellectual property development for university, research laboratory and corporate technology in the life sciences industry (Pharmalicensing, 2008). The site is a resource for partnering, licensing and business development professionals and claims to have approximately 100,000 visitors per month. Although the site has a free service that allows visitors to search for companies, any further participation requires a paid subscription. The subscriptions range from approximately $1,800 USD for an individual user up to $8,000 USD for 10 users within one organization. Figure 10 shows the page layout and functions of Pharmalicensing.

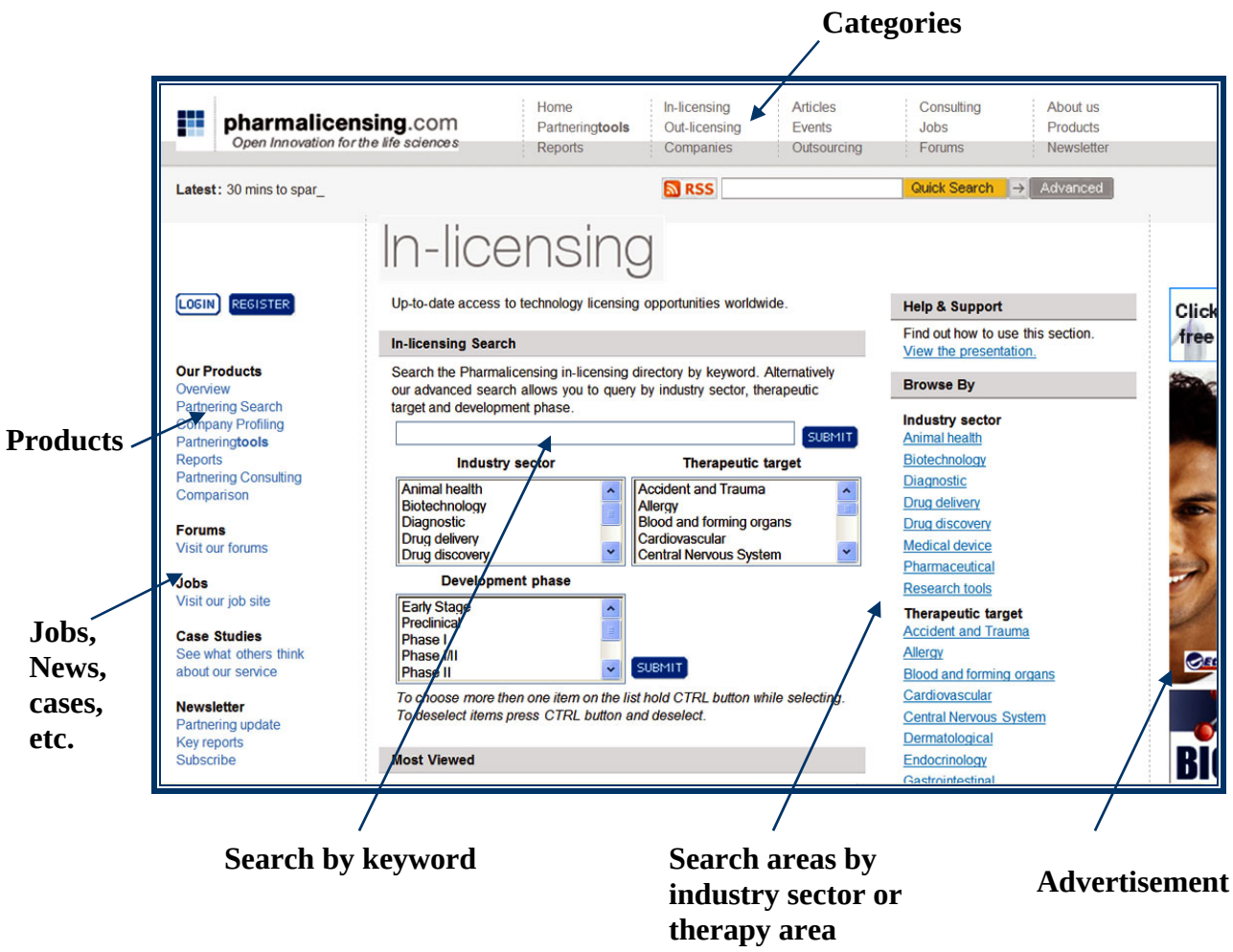


Figure 10 - Standard Pharmalicensing page for licensing activities

Pharmalicensing provides most of the same functions that Pharma 2.0 will provide, and is well established and well financed. Boolean operators[5] provide cross functional searching by categories such as industry, therapeutic target and phase. We appreciate that this is a strong competitor to our company. One of the key differentiators we have is cost, as there is a substantial fee to pay for the services. However, we also acknowledge that the

[5] Boolean operators are search functions that are used to combine keywords with words like AND, OR and NOT. Combining words narrows search results (Leger, 2007).

organization could lower or change its cost structure and advertising model relatively easily. Therefore we will capitalize on being based in North America and promoting services specific to the region. For example, one area noted for servicing the UK, is the job search on Pharmalicensing. While there are many European jobs featured, there are only 2 North American jobs. This may be one feature we could add that would be more specific to Canada and the USA.

4.1.2 MyBioPartner

MyBioPartner (www.mybiopartner.com) is advertised as a free web site that offers a comprehensive list of biotechnology companies seeking partnerships and collaborations. It also promotes assistance with financing for start ups through VCs, Angel investors and investment banks. It is difficult to determine where the site originates from, as all employees are listed by email address only.

MyBioPartner alleges to have 3500 registered companies worldwide but a standard search of the site revealed that the company has taken the liberty to add organizations themselves, without attention to accurate information. The errors in information were determined by reviewing several of the organizations and comparing these to current news releases and web sites. While MyBioPartner is a fit according to the criteria for direct competitors, registration does not allow access to any data, and you must pay approximately $15,000 - $20,000 USD to access anything further. Therefore, due to what we consider false advertising, the organization is not seen as a significant threat to Pharma 2.0.

4.1.3 BIOTECH Network

Biotech Network (www.biotech-network.com) is an international partnering web portal run by the German-American Chamber of Commerce in California. This not-for-profit site offers a place where organizations can create a profile and look for partners. The site also provides links to the top conferences so members can see who is planning to attend.

Biotech-Network has very few features and many of the links on the site did not work. This poor structure and lack of proper maintenance makes it difficult for companies to use effectively for partnering activities. The site is also missing the majority of our proposed elements meaning that industry users would have to create multiple registrations in other areas if they want to get news feeds, RSS, conference info or consulting services. As such, we do not see this site as being a strong competitor.

4.2 Porter's Five Forces

The competitive landscape for Pharma 2.0 was reviewed using Porter's Five Forces model. The model analyses a company's industry environment by five factors and rates them as either high or low. These factors are: the threat of substitute products, the threat of entry, the bargaining power of customers, the bargaining power of suppliers, and the intensity of rivalry among competitors. Figure 11 is a graphical representation of the five forces as applied to Pharma 2.0 illustrating which of these are considered to be the high and which are low.

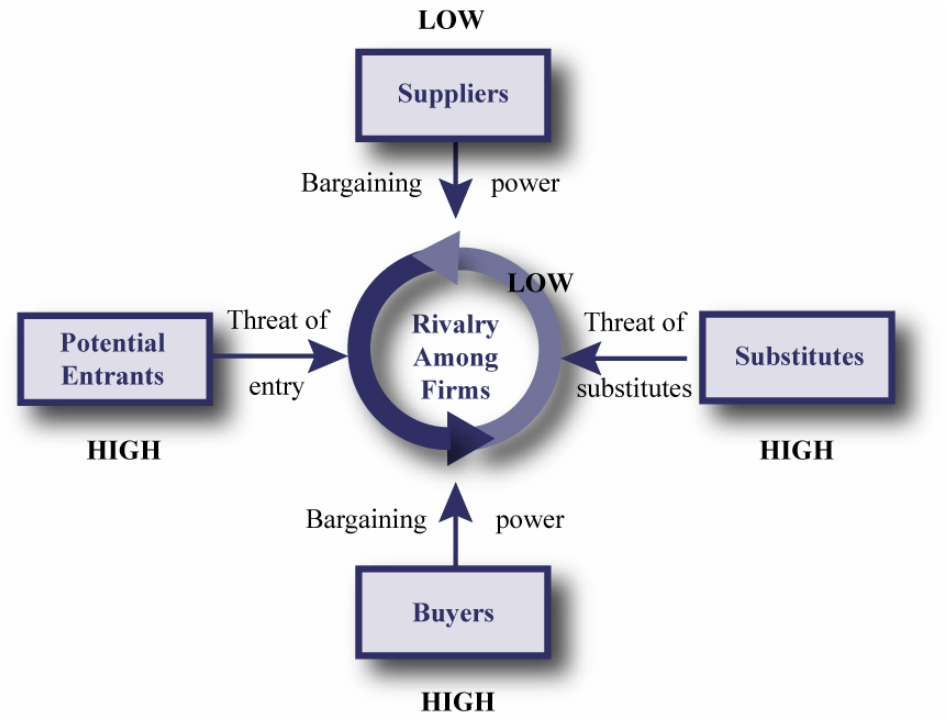


Figure 11 - Graphical representation of 5 forces for Pharma 2.0

(created by M. Seltenrich, adapted from M. Porter)

4.2.1 The Threat of Substitute Products

The threat of substitute products refers to buyers' willingness to pay for one product when another offers a similar benefit. If the cost of one should increase, the inclination of the customer to switch to the alternative increases and the demand for product is considered "elastic". If there are few substitutes, then consumers are not affected by price (e.g. cigarettes) and the item is referred to as "inelastic" (Grant, 1998).

The threat of substitute products in this industry is high. Since our customers do not pay for our site, switching behavior will more likely be influenced by the level of effort required to maintain the corporate profile on the site, and whether they have success finding partnerships. The presence of substitutes in the industry is so significant that this section is followed by a more detailed description of them. A strong, ongoing marketing strategy will be critical in building and maintaining the user base, and differentiating Pharma 2.0 from substitutes. A comparative evaluation of the substitute products has shown the following ways in which we can promote differentiation:

- Current substitutes are considerably more expensive
- Level of differentiation from Pharma 2.0 is regarded as high, since the reason preventing most companies from using other sites are the costs involved
- Conferences require numerous resources (time, money, employees)
- Individual networking (e.g. cold calling, previous contacts) is limited by an individual's connections and these may not fit with the organizational strategy.
- Consultants are also extremely costly and will be limited by their networks

4.2.2 The Threat of New Entrants

It is inevitable that profitable markets with high returns will bring new entrants. Unless the entry of new firms can be blocked, the profit rate will fall (Grant, 1998). Most of the time, new organizations will find it difficult to enter a market on the same level as those already established in the industry. The difficulties encountered are referred to as "barriers to entry".

These barriers include such things as: capital requirements, economies of scale, cost advantages, product differentiation, and legal barriers (Grant, 1998).

In this market, the threat of entrants is considered to be high. The web based format of the business makes it relatively easy for others to copy it or for companies already in the business to create a similar application. For example, a company like Facebook or Google that already has an advantage in terms of technology platform, infrastructure and brand recognition could pose a significant threat for creating a business to business type application in the pharma industry. Patentability is also low compared with other industries, or products. The ways that we will attempt to block competitors and maintain our position in the industry, is as follows:

- First mover
- No cost for registration and partnering activities
- Managements' education and experience
- Numerous site add-ons and features

Even considering these features we offer, there will still be a threat of entry. These points may minimize it somewhat but ultimately, what will matter is how well we are able to attract and maintain participants. If we can accomplish this by continuing to meet our customer needs, then we can build a network value that will act as a strong barrier to entry.

4.2.3 The Bargaining Power of Customers

The bargaining power of customers refers to their ability to put pressure on the firm and their sensitivity to price changes. Customers are, in essence, where the value of this business lies because it is the network that adds value. The more users the site has, the more valuable it will become. Companies that utilize Pharma 2.0 will be able to put pressure on the organization with the threat of switching to other free sites if any should arise; which is possible due to the low barriers to entry (see section 4.2.2). Another significant force that could fall within this category is the bargaining power of advertisers. Advertising is the means by which we will create a revenue stream. If advertisers are not willing to pay the price we've established to run ads, then the site will not continue as a free resource and revenue will have to be achieved by some other means. In order to reduce these threats, the number of users, and therefore the value of the site must be maintained. With a high value, user options will be reduced and the power will shift to the organization. Some of the ways we plan to maintain our power are:

- Continuously reaching out to the product's target market (s)
- Offering add-on features such as conference links, news feeds, competitions
- Maintaining a highly professional level of service

4.2.4 The Bargaining Power of Suppliers

Suppliers of raw materials, components, and services (such as expertise) to the firm can have

a level of power (Grant, 1998). Suppliers may refuse to work with the firm, or charge excessively high prices for unique resources, the net income of the organization will suffer. One of the critical inputs to our business are the IT services. Server size and functionality must be appropriate for the amount of traffic the site generates, and this must be maintained well at all times. Gaps in service or slow server times could deter customers from the site, complicate site media reviews, and seriously affect revenue. Selection of IT services will be well researched if outsourced, but this function may be brought in-house as a third partner. Bringing in a partner to manage the IT portion of the business will ensure that there is an equal investment at stake and will provide reassurance that service will be maintained appropriately. Even without this, IT components are critical to the success of many companies, and the supply is not highly limited or highly specific. Therefore, this force is considered to be low in comparison to the other four.

4.2.5 The Intensity of Competitive Rivalry

For most industries, the rivalry between companies determines the basis of competition. In some cases, rivals compete aggressively on price or cost, and in others, it is a non-price element such as innovation or marketing (Grant, 1998).

For industry relevant companies that research information for distribution or create forums for networking, there are two ways that they rival one another. One facet of competition is price, another is the quality of the information or the event. Because the

market intelligence subscriptions are heavily utilized to create both corporate and business strategies, the level of quality becomes extremely important. Our price is not a factor, so we will compete on the aspect of quality. As such, we'll need to ensure that the information available on the site is valuable and is delivered in a professional and user-friendly manner. We see the competitive rivalry and our advantages as follows:

- Not enough direct competitors to create strong rivalries
- Companies that are present require paid subscriptions
- Professionalism will be maintained through appropriate screening techniques (e.g. relevance of organizations and advertisers)
- Information distribution will be controlled through interface constraints

4.3 Substitutes

Indirect competition is the greatest threat to Pharma 2.0. Industry executives are accustomed to utilizing systems already in place for business to business communication and networking. This section has been included to provide a more in-depth look at some of the most threatening substitutes, including: event planning organizations, consulting companies and investment banks.

4.3.1 Partnering Event Planners / Organizations

Conferences are the most significant means of business development in this industry. There are several companies that plan these events. Prior to each conference, the organizing group creates a database for registered participants to upload information about themselves as a means of advertising for partnerships. The information typically includes a corporate profile, the names and titles of attendees, an email service, objectives for the meeting, and any products that are available for in or out-licensing. Three of the leading event planning organizations have been profiled. These are: BIO, Technology Vision Group, and BIOTECanada.

BIO is the world's largest biotechnology organization, providing advocacy, business development and communications services for more than 1,150 (company) members worldwide (www.bio.com, 2008). BIO members are involved in research and development of innovative healthcare, agricultural, industrial and environmental biotechnology technologies. Corporate members range from entrepreneurial companies developing a first product to multinationals (www.bio.com, 2008). Member services include a dozen or more investor and partnering meetings throughout the year, a web site and communications services that disseminate information and discounts for a variety of goods and services. There are approximately 14 annual events for Bio that attract a massive number of attendees. The International convention that is held, is the largest biotechnology industry conference. This massive event attracts more than 20,000 attendees from around the world including more

than 500 members of the international press. Guest speakers have included Bill Clinton and Samuel L. Jackson.

Technology Vision Group (TVG) is one of the leading international life science business development organizations. Founded in 1992, the company has succeeded in bringing companies together with partnering conferences, research tools and time management software. TVG also offers business development consulting services and marketing support. TVG has been developing innovative methods to help life science and associated technology companies attract partners and investors, acquire new products and technologies, and achieve a variety of other strategic business development goals. A successful 15-year track record of success makes TVG one of the most senior life science business development firms in the world.

TVG sponsors Biopartnering.com, the online partnering tool that enables participants to schedule and prepare for private meetings before attending a conference. Once registered, company delegates can access the password protected area of the site to research partnering opportunities through keyword searches and detailed profiles on all companies. The site enables contact of other delegates to arrange private meetings and reserve meeting space at an event. TVG holds approximately 5-6 annual events with as many as 1000 companies in attendance to some. Biopartnering.com is a very similar web portal to the envisioned Pharma 2.0 and possibilities for collaboration with the company will be explored.

BIOTECanada was incorporated in 1987 as the Industrial Biotechnology Association of Canada. It is a national, industry-funded association representing the broad spectrum of biotech constituents including emerging, established and related service companies in the health, agricultural, and industrial sectors. BIOTECanada is dedicated to the sustainable commercial development of biotechnology in Canada. The goal of BIOTECanada is to inspire the international community to recognize the value of biotechnology in Canada and provide solutions to challenges. BIOTECanada offers updates on the most relevant partnering meetings, as well as special offers for registration (BIOTECanada.com, 2008).

4.3.2 Consulting Companies / Investment Banks

Consulting companies and investment banks can assist organizations in locating partners for mergers and/or acquisitions. While strictly using consulting companies can be costly, investment banks will often work with an organization to help locate funding that will follow the merger. This can be a highly effective way to target potential opportunities, and increase chances of financing. There can be the added advantage of fees being subject to a deal close. One of the downsides to using consultants and investment banks, is that they can be limited by the number and/or type of contacts they have and will occasionally miss opportunities.

The above substitutes represent a significant threat to this business. An online, open business model does not have the same protection against competitors that a traditional (product oriented) business has. To gain a competitive advantage, Pharma 2.0 can do one of two things; it can supply products or services that are different from the direct competition and the substitutes, or it can pursue a cost advantage (Grant, 1998).

With our free web site, we have chosen to pursue a cost advantage, but we also plan to remain at a high standard of product quality. According to Robert Grant, author of *Contemporary Strategy Analysis,* firms that compete on low cost are distinguishable from firms that compete in areas of market position, resource, capabilities and characteristics (Grant, 1998). Pharma 2.0 will be differentiated from competitors by its free access and its ability to act as an "industry centre" where executives can go to complete numerous functions in one place. In terms of market position, resources, and capabilities, we may not be able to compete and this could have a significant impact on competitive advantage. Our most admirable competitors are high cost and high quality, and in such a traditional industry, it is possible that executives will not view a free application as valuable and hesitate to register due to concerns of quality or security. These issues will be addressed through our marketing strategy.

5: MARKETING STRATEGY

Pharma 2.0 is a high-tech product, dependent on network effects. As such, marketing is an imperative component for generating awareness and establishing a position in the industry. Though many of the objectives of marketing remain the same across products and services, high-tech products require clear communication and assistance in learning the product, and an ability for management to maintain a position in a rapidly changing environment (Viardot, 2004). The goal of our marketing strategy is to introduce the product to our target market in an effective and clear way, that can generate a strong interest and help us move up the adoption curve.

5.1 SWOT Analysis

Pharma 2.0 has potential to be a breakthrough opportunity. Business development executives are currently using other technologies at a much higher cost to achieve the same results we can offer. It is important to note that this is not a traditional product-based company and that a 2.0 business can only gain a competitive edge and form barriers to entry by creating and maintaining a strong network (Shuen, 2008). To better understand our strengths and weaknesses and how these relate to our environment. A SWOT analysis has been conducted to evaluate the internal and external environment for Pharma 2.0 (Table 1).

Strengths	Opportunities
- 1st site of its kind to offer all functions for industry professionals in one place - The site is completely free for those users that are seeking pharmaceutical / biotech collaborations - A management team with diverse skills, strong industry connections and good reputations in business development and intellectual property law. - The number of mergers, acquisitions and licensing in this field continues to trend up	- Massive industry ($600+ US billion) - 2.0 applications have proven highly successful in other areas of networking (e.g. Facebook) - There is a communication gap between start ups and small companies and large potential partners - 2.0 applications are becoming a hot area and many senior executives are eager to take advantage of them - Many up and coming executives are from younger generations that are accustomed to using these kinds of applications in their daily lives (e.g. MySpace, Facebook, Flickr)
Weaknesses	Threats
- Currently there is no IT component to the company. This will either have to be outsourced or a third partner will be brought in - 2.0 is not well utilized in the pharma / biotech industry and many companies prefer a traditional way of doing things - It is difficult to get patent protection on a site like Pharma 2.0	- There are few if any barriers to entry for an open site - Other strong organizations that already have a platform and a brand recognition could easily transfer into the industry - The user community is completely dependent on network effects and without these, it will be difficult to establish users for any other reason - A shift in technology could eliminate the use of 2.0 sites in the future

Table 1 - SWOT Analysis for Pharma 2.0

SWOT Analysis for Pharma 2.0

Evaluation with the five forces and the SWOT analysis, confirms that external threats to the company are strong. Users can switch to our direct competition, or to various substitutes and competitors can surface easily due to low barriers to entry. However, something that is particularly favorable for us is that rivalry in the current environment is low. If we can enter the market strongly and stay aggressive in maintaining a position, we'll have an opportunity to develop a brand and user base that can move up the adoption curve to a critical tipping point (the point at which the network effects drive the business). Strong product communication will be necessary, as will support and client follow-up. Consistent professionalism in the quality of the site and in our services will help reassure consumers who are hesitant to join a free networking site. However, it will be difficult to attract advertisers before we have established a critical mass of users. Therefore, the plan does not include targeting this group.

Research on successful 2.0 organizations shows that one of the methods for creating strong networks is to start by attracting communities (Shuen 2008). Once a community establishes an online environment, it will likely attract another community and so on. An example of this is Facebook. In February 2004, Facebook was launched as a social site for Harvard University students. Members of the initial community connected with students from other universities who wanted to become participants and eventually several Ivy league schools picked up the application. The site then moved to high schools, and eventually opened up to the Worldwide Web in the Fall of 2006 (Shuen, 2008).

Our marketing approach will be to use a similar method of segmentation into communities within the pharma / biotech industry. Segmentation is already present in the industry and is determined mostly by size, pipeline / products, and revenue. We've utilized the common segments.

- University tech transfer offices
- Start-up / spin-off organizations
- Small biotechnology / biopharmaceutical companies
- Medium biotechnology / pharmaceutical organizations
- Large biotechnology / pharmaceutical companies

University tech transfer offices manage relationships between their academic researchers and industry partners by creating agreements for the intellectual property that has been created in the labs. Many start-ups are spun out of universities because researches that have created intellectual property want to benefit from the value themselves, rather than seek an industry partner.

Most start-up organizations have limited funding to dedicate to their research, let alone to dedicate to finding partners. We will combine the group of universities, start-ups and small biotech companies to create a beachhead market segment. A beachhead is a niche market that you allocate all resources to in order to obtain a leadership role (Moore, 1991). It

simplifies and centres the marketing strategy. All marketing will initially be focused on the target market only as it is expected that initial resources will be limited. However, as the critical mass builds, these same methods will be used to target industry relevant advertisers for the site. This will come as a secondary market since it is assumed that there will be little to no interest from advertisers before the site has established.

5.2 Targeting the Beachhead

The target market consists of universities and small organizations that do not have resources to commit to partnering activities. Marketing to a segment is about creating word-of-mouth leverage and becoming a market leader. Both critical components of high-tech marketing in the early stages (Moore, 1991). This target market is considered to need a very specialized product or an unsought product. This means that to manage their tasks, they require a specialized product for which price sensitivity is low, or they are not aware of the product at all. Since these companies do not have extensive resources and do not currently have a free option for partnering, we will classify our product as unsought (Wong, 2005). An unsought product should be introduced to the target market in places where similar products or needs are located (Wong, 2005). This segment has relatively less resources and so likely uses the Internet to post their technology and to search for partner organizations. They may also attend some conferences to present data and locate partners.

The launch of the site will be at an industry conference, possibly Biopartnering North America in Vancouver, and will consist of a reception event / cocktail party at which we will introduce both ourselves and the product. For a limited time, we'll offer our services to input information into the database with follow-on services such as technology updates, partner leads and consulting services. These will be offered to preliminary organizations (e.g. first 500 companies) only as a means of building a critical mass. Following our launch party, we'll begin our other forms of marketing. We plan to implement a strategy that will allow us to reach the most customers at a low cost. To do this, we'll use a combination of advertising methods and networking opportunities. These are: Seminars and workshops, E-marketing, Conferences, Trade publications, Memberships, and Government Consulates.

5.2.1 University Seminars & Workshops

A variety of seminars and workshops will be offered to university tech transfer offices and local biotech companies. The seminars will take place at campuses in Vancouver and the lower mainland, Alberta and eventually into Washington. These will also be open to local organizations. The seminars will provide an overview of the market, the product and instructions on how to use it.

5.2.2 E-marketing

E-marketing is often used for high-tech products with low cost and can be efficient in replacing a sales force (Viardot, 2004). Our approach to this type of marketing will be through various forms of information feeds, such as: news feeds, RSS feeds, webinars, white papers and conference information. Webinars are free, online services in which consumers can sign up for a seminar that takes place online and is viewed on the consumer's monitor. These are highly attractive to executives because they provide free information and the viewer never has to leave their office. Providing ongoing services like these can draw in a community who become familiar with the company by using the information sources entering their email. Eventually if they wish to pursue the services we offer, they will be well aware of our organization.

5.2.3 Conferences

Pharmaceutical conferences are held globally throughout the year. They are the most utilized form of networking in the industry and are held at a variety of select locations. The conference circuit provides executives with a forum for presenting their companies, their products and services, and their most recent research. There are seminars, workshops and open floor / trade areas where booths can be set up. There are also one-on-one private company meetings, sponsored dining, and evening receptions. We are experienced with all

of these areas within the pharmaceutical conference circuit and will use each of them to promote our company.

However, as noted earlier, conferences can become extremely expensive - particularly when there is travel involved and they will have to be limited to a few per year. Having spent many years in a business development and legal environment, we are aware of which conferences attract the most participants and are the ones that can provide us the best arena for our presentations. Attending these meetings will be the most valuable way for us to introduce our product to new clients, to interact with our current clients and to receive feedback.

5.2.4 Trade Publications

Some of the more common trade publications used in the industry are: MedAd News, BioPharm International, Nature Biotechnology and BC Biotech. Ads in trade publications may be purchased, however, this is can be a very costly form of advertising and will only be used occasionally. For example, advertising in MedAd News can range from $1,300 USD for a small black and white ad in one issue, up to over $16,000 USD for a full page color spread (MedAd News, 2008).

5.2.5 Association Memberships

We are members of several organizations that we can leverage to create opportunities in North America. Some of these are: The Licensing Executives Society (LES) of USA and Canada, BC Biotech, Vancouver Enterprise Foundation, and BIO. These organizations arrange meetings and events throughout the year in order to provide a networking opportunity for members. They often hold small speaker series and panels as introductions to new companies and entrepreneurs. These memberships will provide access to communication, networking and support for our business.

5.2.6 Canadian Trade Commissioner Service

The Government of Canada provides services that help Canadian companies do business in other countries. Trade commissioners are located in 150 cities around the world to assist companies in finding contacts and making connections with organizations (Canadian Trade Commissioner Services, www.infoexport.gc.ca, 2008). Having been in positions of business development and law, we have made connections with many of these representatives in the past and will use those to assist in getting foreign introductions and contacts for our site.

6: MANAGEMENT & EXECUTIVE TEAM

The management team of Pharma 2.0 is one of the key strengths of the company. The two founding members, Ms. Susan Ben-Oliel and Ms. Michelle Seltenrich have considerable experience in the pharmaceutical and biotechnology industry, especially in the areas of managing partnering activities and intellectual property. The founding team will be responsible for locating funding and setting up the organization within the first six months to a year.

In Q4 2009, a sales team will be established to assist in promotional materials, events, and to maintain advertising on the site. This team will consist of two employees working on base salary plus commission and will expand as necessary. We'll offer industry comparable salary packages, benefits and possibly stock options. Another position that may be considered following the first year is an executive IT professional. This position will be vital if managing the relationship with the organization responsible for IT has become too demanding for management, or if the company is in a position to vertically integrate and bring the IT component in-house. The latter will only be considered if the organization is in a financial position that is much stronger than anticipated.

6.1 CEO

Susan Ben-Oliel, BSc LLB

Ms. Ben-Oliel is an Intellectual Property Lawyer and Registered Patent and Trade-mark Agent and has held the position of Senior Director, Intellectual Property at Forbes Medi-Tech Inc. since November 2005. Prior to joining Forbes, she operated her own law practice from 1997 to 2005. Ms. Ben-Oliel specializes in preparing, filing and prosecuting patent applications, performing technology audits and due diligence, providing technology protection and exploitation strategies, licensing, transferring and enforcing patent rights in the biotechnology sector, along with preparing commercial contracts including license agreements, service agreements, supply and distribution agreements, research agreements and confidentiality agreements. She was employed by and subsequently worked on contract for the law firm of McCarthy Tetrault in Toronto and Vancouver from 1988 to 1997.

Ms. Ben-Oliel holds an undergraduate degree in Life Sciences from Queen's University, a Bachelor of Laws from the University of British Columbia, is a Registered Patent Agent in both Canada and the United States and is a Registered Trade-Mark Agent in Canada.

6.2 COO

Michelle Seltenrich, BSc, MBA, CFA

Ms. Seltenrich comes from a career in pharmaceutical and biotechnology corporate development. She has management experience in internal strategic planning and forecasting, research and analysis of mergers, acquisitions, licensing, and external business development. Ms. Seltenrich specializes in the analysis and recommendation of merger / acquisition opportunities and the management of due diligence activities.

Ms. Seltenrich received her Bachelor of Science degree from the University of British Columbia. She completed her Graduate Diploma in Business and her Management of Technology MBA at Simon Fraser University. Ms. Seltenrich has most recently entered into the CFA Institute and will complete Level 1 in June 2009.

7: FINANCIAL PLAN

The Pharma 2.0 financial plan has been developed conservatively in order to take into consideration the risk involved in this type of venture. The start-up cost is $500,000. Something we feel is achievable through grant funding and personal contribution (i.e. ourselves and friends/family network). Web 2.0 companies are not overhead intensive and initial funding is for building and maintaining the web site and supporting promotional activities. This strategy will allow us to remove the risk of having venture capital or angel investment in the first year.

7.1 Start-up financing and revenue

Start-up costs have been calculated at roughly $500,000. This consists of $50,000 for a site design, $200,000 to outsource the development and maintenance of the site and the remainder put towards growth. Reduced salaries ($50,000 per employee) will be taken in the first year, but resources are required for market intelligence subscriptions, conference attendance and travel expenses. If enough grant funding cannot be obtained to start the business, the next step will be to seek VC or angel investment. Ideally, we will not seek this type of funding until we have established a user-base, which is forecast for 2010.

The Government of Canada and British Columbia have created incentives to assist in the development of the biotechnology industry (Life Sciences BC, 2008). There are also various organizations dedicated to science and technology, and in particular, women in technology. The following are organizations we will submit grant applications to.

- NSERC – Natural Sciences & Engineering Research Council
- CIHR – Canadian Institutes of Health Research
- SCWIST – Society for Canadian Women in Science and Technology
- Science Council of BC

Some revenue may be seen in Q4 of Year 1, but more significantly in Year 2. The site will generate revenue through an advertising model similar to the traditional media advertising found in magazines or on television. This type of model works best on sites where there is a high volume of traffic, or where there is a highly specialized audience (Rappa, 2008). As we have a very highly specialized audience and industry-specific ads running, we are confident that our revenue will sustain the business. Advertising will only be open to industry-related companies such as legal firms, CROs, equipment manufacturers and suppliers, or travel ads (due to the extensive need to travel in the industry).

Ad pricing will be a standard media format. Unlike most Web 2.0 applications, this will not be a pay-per-click or pay-per-view model. In a highly specialized online environment, the user base is not large enough to uphold the pay-per-click model. Instead, a

contextual and traditional advertising model will be used. By contextual, we mean that ads are specifically targeted to users, and therefore have a higher chance of generating leads, and by traditional we mean similar to magazine or television models. Advertisers will be required to pay a fee based on the type and size of the ad displayed on the page. Two banner sizes have been established, a large banner ad will run for 1 month and cost $5000 (views will be as per 1000), a small banner will run for 1 month and cost $2500 (views will be as per 500). Views will be calculated and refunds will be provided for those not reaching 1000 or 500 respectively. Cost of ads has been established by estimating the number of viewers and comparing this to other traditional media sources. While it is difficult to determine exactly how many views the ads will receive, we can look some of the competition to establish an estimate. First, our direct competitor, Pharmalicensing has nearly 10,000 companies registered, and claims to have over 100,000 visitors each month (Pharmalicensing, 2008). If we estimate meeting half the amount of views, it would provide us with 50,000 unique page views per month. We now relate this number to traditional advertising using the industry specific magazine Med Ad News. Med Ad News reaches approximately 10,000 readers per month (Canon Communications, 2008). Depending on the size and color combination of the ad, prices for a one-month advertisement range from approximately $1,100 USD up to over $16,000 USD. Given that we anticipate the potential for a five-fold audience, we feel our prices are well within an acceptable cost range.

Advertising in the form of full webinars or white papers will be established in year 2. Companies wishing to run a webinar video on the site will pay $25,000 to run the video with full promotional package. Promotions leading up to the webinar will be disseminated for one

month prior in a daily news feed and will receive constant promotion on the site via a posted link for information.

7.2 ProForma Financials

Pharma 2.0 financials were produced by reviewing similar organizations and creating averages, as well as by estimating our specific business services and needs. Appendix 1 shows the assumptions that have been made for the forecast model. Sales growth rate was established by reviewing two public Web 2.0 organizations, one highly successful, and one start-up. The exceedingly high growth rate that appears after the first year is common for these kinds of web sites, and is a result of building the critical mass (5-20% of final users) and tipping the market so that the network effects generate the growth. Following this rapid growth will be a levelling period.

All other assumptions were created on a percent of sales basis. Materials are expected to be low in a web based organization that does not have manufacturing. General and administrative amounts are based on head office activities, which are also expected to be low for the organization with few employees. Commission sales will start in 2010 when two employees will be brought in to sell the advertising space. They will have a base salary of $40,000 to start and commission of 10% on their individual sales. Marketing in the first year is expected to be significant as introduction of the site and our services is essential to getting our user base established.

7.2.1 Notes to Financials

Notes 1 through 8 have been added to assist in understanding the proforma financials for Pharma 2.0.

1. Revenues have been calculated by reviewing two Web 2.0 public companies (as mentioned earlier), one hypothetical forecasted model for an internet start-up (PaloAlto Software, 2002), and several online magazines with similar advertising models. In the first year, it is expected that we will spend all of H1 building our user base and will not seek advertisers. The overall total user mass for the site is difficult to estimate as it will be open to all employees in the life sciences industry. It is estimated that it could reach up to several hundred thousand users. However, for our estimate, we will use a total of 50,000 users to estimate our 5-20% critical mass. Therefore the minimum of 2,500 companies will have to be entered into the database to begin moving users up the S-curve. As an introductory promotion, we'll enter the first 1000 users free of charge. Following this, individuals wishing to join will have to create their own profiles. In H2 of the first year, we will begin to seek advertisers to generate revenue.

2. Worst case, most-likely and best case scenarios have been established to determine the amount of revenue that could be generated for the 6 months. The most likely case[6] has been used and consists of establishing 2 large banners per month for 6 months at a cost of $5,000

[6] Estimates for revenue are subject to change if, upon expert review and opinion, the first model for advertising is not valid and a second model must be implemented.

each and 8 small banners per month for 6 months at a cost of $2,500 each. No webinars or white papers have been included in the estimate.

3. Marketing expenses are anticipated to be high in the first year, and have been set at $110,000. The expenses in the second and third years of business are based on a percentage of sales set at 15%. Expenses include conference registrations, tradeshow booths, travel, marketing brochures and other promotional materials.

4. Market intelligence refers to the subscriptions and reports that will be purchased to maintain the news and information feeds on the site. It is critical to establish a level of trust among users and the information that is on the site and that goes out in emails must be correct.

5. Other operating expenses refers to rent of office space in downtown Vancouver, and other operational expenses such as utilities.

6. Loans are not anticipated therefore interest will not be calculated for years 1 – 3.

7. Taxation under British Columbia small business act will be 15% for revenue under $400,000 annually and is expected to rise to 35% with increasing revenue in the years following.

8. Intangible value of employee knowledge and web site that has generated an ongoing network of users.

8: EXIT STRATEGY

The exit strategy is by acquisition in either Year 3 or Year 5. This strategy is considered characteristic for Web 2.0 start-ups. Unlike earlier dot.com companies that grew incredibly fast and proceeded to IPO quickly, Web 2.0 companies are not able to follow the same pattern. While these companies have the same ability to grow exponentially, they do not share the ability to generate high revenue streams early on. Without a strong, sufficient revenue stream, the risk of IPO is too high. Companies instead rely on early acquisition by 1.0 giants that are well established and already public to achieve a high return on investment (Caufield, 2007). In our case it is possible that a large tech transfer organization (e.g. UTEK) will acquire us, or one of the large event planners.

Year 3 valuation has been calculated at $5.3 million using an industry EBIT multiple of 6. While the multiple seems high relative to some industries, Web 2.0 companies can achieve a high value in a short time (Canaccord, 2008) and the estimate is considered to be conservative as revenues were kept below industry forecasts (as per benchmark organizations). Exit at Year 3 provides investors with an IRR of 26.5% (detailed financials provided in Appendices), but it is possibly that we would maintain the business into Year 5 in order to achieve a higher return on investment.

9: CONCLUSION

We are confident that Pharma 2.0 will be the first of its kind to meet the information and communication needs of professionals in the pharmaceutical and biotechnology industry. As a free resource, it will be open to all clients as a tool to learn about the competitive environment and manage communication with future partners. The planned architecture of the site is intended to encourage network effects and make navigation straightforward and simple.

We will seek online advertising as a means to create a sustainable, positive revenue stream. To attract advertisers, we'll need to have a user base of between 500 and 1000 users for this specialized product. Therefore, our sales and marketing strategy are of utmost importance in the first two years and will be where we focus our efforts.

To move forward in development of the web site, we anticipate a start-up cost of approximately $500,000. We would like to cover this initial cost through grant funding and/or friends and family investment. Within the following two years, we will require an influx of $1 million from either venture capital or angel investment, for which we will offer up to 30% of the firm. Our proforma financials indicate that we can be profitable by year 3 and will provide our investors with a return on investment of nearly 27%.

10: APPENDICES

Appendix 1 - Assumptions for Financial Model

Assumptions		Year 1	Year 2	Year 3
Sales Growth		N/A	250%	125%
Material Costs as a % of sales		2%	2%	2%
General and Admin as a % of sales		10%	10%	10%
Commission as a % of sales		N/A	10%	10%
Marketing Exp as a % of sales		35%	15%	15%
Web Expense as a % of sales		14%	15%	15%
Admin Exp as a % of sales		7%	7%	7%
Interest Rates				
Loan		N/A	N/A	N/A
Debt Financing		N/A	N/A	N/A
Tax Rate		15%	35%	35%
Capital Assets/ Depreciaiton				
Opening Capital Assets	$500,000			
Capital Expenditure	$300,000			
Depreciation		20%		

Advertising* (note 2)		
Worst Case	Most Likely	Best Case
$0	$60,000	$150,000
$75,000	$120,000	$225,000
$75,000	$180,000	$375,000

Appendix 2 - Value of the Firm and Return on Investment

Value of Firm and IRR

Discount Rate	**25.00%**	

VALUE OF FIRM	**Cash**	**Present Value**
2010		
2011		
Terminal	$5,334,000	$4,267,200
Value if Kept		$4,267,200

Terminal Value Calculation		
EBIT in year 2011		$889,000
EBIT Multiple		**6**
Terminal Value		$5,334,000
Equity Funding Required		$1,000,000
Inferred Percentage of Firm		23.4%
Percentage of Firm Offered		**30.0%**

IRR for Investors

	Purchase/ Sale	**Dividend**	**Total Cash**	**Present Value**
2010	($1,000,000)	$0	($1,000,000)	($1,000,000)
	$0	$0	$0	$0
Terminal	$1,600,200	$0	$1,600,200	$1,600,200
Investment Value			26.5%	$600,200

Appendix 3 - ProForma Balance Sheet

	Starting Balance	2009	2010	2011
Assets				
Current Assets				
Cash and Equivalents	$500,000	$23,800	$996,963	$577,850
Accounts Receivable	$0	$9,000	$64,800	$162,000
Inventories	$0	$0	$0	$0
Other	$0	$0	$0	$0
Total Current Assets	$500,000	$32,800	$1,061,763	$739,850
Long-Term Assets	$0	$0	$0	$0
IT Hardware & Office Equipment		$50,000	$150,000	$200,000
Intangible Assets (note 8)			$50,000	$100,000
Total Long-Term Assets	$0	$50,000	$200,000	$300,000
Total Assets	$500,000	$82,800	$1,261,763	$1,039,850
Liabilities				
Current Liabilities				
Accounts Payable	$0	$7,200	$81,000	$202,500
Taxes Payable	$0	$0	$0	$0
Other	$0	$0	$0	$0
Total Current Liabilities	$0	$7,200	$81,000	$202,500
Long-Term Liabilities				
Miscellaneous Loans	$0	$0	$0	$0
Equity				
Existing Shareholders' Equity	$0	$75,600	$180,763	$837,350
New Preferred Equity	$0	$0	$0	$0
New Common Equity	$0	$0	$1,000,000	$0
Total Common Equity	$0	$75,600	$1,180,763	$837,350
Retained Earnings	$0	$0	$0	$0
Required Financing / Funding	**$500,000**	**$0**	**$0**	**$0**
Total Liabilities & Equity	$500,000	$82,800	$1,261,763	$1,039,850
Check	0	0	0	0

Appendix 4 - ProForma Income Statement

Income Statement	2009	2010	2011
Revenue* (notes 1&2)	$180,000	$810,000	$2,025,000
Other Revenue		$50,000	$150,000
		$860,000	$2,175,000
Cost of Sales:			
Materials	$3,600	$16,200	$40,500
Direct Labor	$100,000	$280,000	$480,000
Commission	$0	$50,000	$80,000
Total Direct Costs	$103,600	$346,200	$600,500
Gross Profit	$76,400	$513,800	$1,574,500
Indirect Costs:			
Marketing Expense (note 3)	$110,000	$121,500	$303,750
Market Intelligence (note 4)	$100,000	$100,000	$150,000
Web Maintenance	$50,000	$50,000	$50,000
Administration	$12,600	$56,700	$141,750
Other Operating (note 5)	$10,000	$15,000	$15,000
Total Indirect Costs	$282,600	$328,200	$645,500
EBITDA	($206,200)	$185,600	$929,000
Depreciation of Fixed Assets	$10,000	$30,000	$40,000
Amortization of Deferred Costs	$0	$0	$0
EBIT	($216,200)	$155,600	$889,000
Interest (note 6)			
Term Loan	$0	$0	$0
Other Loans	$0	$0	$0
Total Interest	$0	$0	$0
Operating Profit	($216,200)	$155,600	$889,000
Other			
Other Income	$0	$0	$0
	$0	$0	$0
Earnings Before Tax	($216,200)	$155,600	$889,000
Tax (note 7)	$0	$54,460	$311,150
Net Income	($216,200)	$101,140	$577,850
Less Preferred Dividends		$0	$0

Appendix 5 - ProForma Statement of Cash Flows

Cash Flows	Starting Balance	2009	2010	2011
Cash Provided by(used in):				
Operations:				
Net Income for the year		($216,200)	$101,140	$577,850
Items not involving cash:				
Depreciation and Amortization		($10,000)	($30,000)	($40,000)
Stock-based compensation		$0	$0	$0
Changes in non cash balances:				
Accounts Receivable		$0	$10,114	$57,785
Accounts Payable		$0	($8,091)	($46,228)
Prepaid Expenses		$0	$0	$0
Investments:				
Purchase of Property and Equipment	($50,000)	$0	($100,000)	($200,000)
Investment in Web Site	($200,000)	$0	$0	$0
Proceeds from sale of investments		$0	$0	$0
Financing:				
Paid-In capital from grant funding	$500,000	$0	$0	$0
Issuance of Common stock		$0	$1,000,000	$0
Increase (Decrease) in cash and cash equivalents	($250,000)	($226,200)	$973,163	$349,407
Cash and Equivalents, beginning of year	$500,000	$250,000	$23,800	$996,963
Cash and Equivalents, end of year	$250,000	$23,800	$996,963	$1,346,370

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