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The Allure of Free: Participation Strategies for Internet-based Businesses

by

Zenobia Hurley

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Geoffrey Rockwell, Philosophy

Stan Ruecker, English and Film Studies

Sean Gouglas, History and Classics

Abstract

While many Internet services and products are free to use, in most cases, they are not completely free. Someone, either the user or a third party, is paying for them either directly or indirectly. By examining the business models of three successful Internet-based companies, this thesis demonstrates the important role that users play in the revenue-generating practices of these companies. Users in these companies are not only customers, but also producers of content for the company. They add value by reviewing products, uploading content, or simply by participating in company-sponsored communities. While many of these activities may be satisfying to users on a personal level, in effect, users are giving up control of the content they produce over to the corporation. Unlike user-sponsored communities, where the community collectively sets and enforces the rules of contribution, ownership and access to the content produced, corporate-sponsored communities are singularly managed by the corporation. Often the corporation provides the platform and tools that community members may use freely to build content, but the ultimate goal of these communities is not simply the self-expression of its members, but an increase in profits for the corporation. The attributes of collaboration and generosity that define truly user-run communities are being exploited by Web 2.0 companies to achieve commercial ends, and as such can only have a semblance of the true spirit of collaboration without all of its substance.

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Chapter 1: Introduction

> *In October 2003, a Lisbon clothing store offered free designer wear to anyone who dared to shop naked. About 70 shoppers wrapped in towels queued in the street in front of hundreds of onlookers before dropping their towels and storming inside.*
>
> *~ Anonymous*

People are drawn to free – in fact, they are willing to do almost anything, it seems, to get something that is free. Clearly it is a great incentive for companies to use to attract more customers. The idea of 'Free' is obviously not new. It has been practiced for millennia because it can be a powerful motivator for consumers. The application of free has changed, however, within the realm of the Internet. Far greater opportunities for its successful use are now available, and certainly the scale at which it can be used is exponentially greater than in the pre-Internet era.

It's not unusual to hear outrageous numbers being claimed for the valuation of Internet-based companies. Facebook $10 billion. MySpace $6.5 billion. Twitter $1.7 billion. None of these companies charges users to open an account or to use their services, so how can they be worth such large sums of money? New books with titles claiming to inform would-be entrepreneurs about the intricacies of the *new economy*, the *new rules*, the *new wealth,* indeed, the *new way* are finding their way to the already burgeoning bookshelves of real and virtual bookstores. Clearly, there is something afoot, yet economists can't seem to agree on what that is. Has the Internet brought about the kind of change that will require re-writing the books on economic theory, or is what we are experiencing only a twist on the same fundamental theories? After all, as a professor of economics for an online university recently put it, "There really isn't anything new under the sun" (Rappa, 2008).

However, new technologies have brought about vast changes to the way we live. Innovation has touched many aspects of work, leisure, communication, travel, education, politics, entertainment, and even our language, home and families. It is possible that we truly are in the midst of a sea change, and since both society and the economy are so tightly linked, what happens in one arena surely also touches the other. Perhaps, the new Internet businesses that seem to be doing so well can offer us something to learn from. What new principles are guiding their development, what business models inform their strategy, and, finally, how *can* they offer their services for free?

My argument is that while many Internet services and products are free to use, in most cases, they are not completely free. Someone, either the user or a third party, is paying for them either directly or indirectly. By examining the business models of three successful Internet-based companies, this thesis demonstrates the important role that users play in the revenue-generating practices of these companies. Users in these companies are not only customers, but also producers of content for the company. They add value by reviewing products, uploading content, or simply by participating in company-sponsored communities. While many of these activities may be satisfying to users on a personal level, in effect, users are giving up control of the content they produce over to the corporation. Unlike user-sponsored communities, where the community collectively sets and enforces the rules of contribution, ownership and access to the content produced, corporate-sponsored communities are singularly managed by the corporation. Often the corporation provides the platform and tools that community members may use freely to build content, but the ultimate goal of these communities is not simply the self-expression of its members, but an increase in profits for the corporation. The attributes of collaboration and generosity that define truly user-run communities are being exploited by Web 2.0 companies to achieve commercial ends, and as such can only have a semblance of the true spirit of collaboration without all of its substance.

This thesis explores the role of free products or services offered by Internet-based companies as a springboard to examining whether new business models are being employed to leverage the massive networking and communication opportunities afforded by the Internet. It begins with a brief look at the ways in which free offerings have been (and continue to be) used to entice customers, followed by theories regarding the social and economic conditions under which they operate. Case studies providing a more detailed examination of three companies follows, with the intention to delve deeper into each company's business model to illustrate how the practice of free offers fits into the company's revenue-generating strategies. The three companies that are presented here are: Google, Amazon.com and Linden Lab. The thesis concludes with some further thoughts on user-created content.

Each of the three companies was chosen because it offers a different variation on the theme of free, providing an opportunity to examine the concept of free within three different contexts. Furthermore, each of the companies has been in business for at least five years, and has, therefore, had the opportunity to refine or build upon the business model it began with. Finally, a five-year survival record for Internet-based companies is fairly high, meaning that the business model they are using, works.

Google, in the last few years, has become a household name, occupying a place in virtually every aspect of personal and business communications and productivity. Google's most famous product is its search engine, and the company has come to represent the act of searching for information so completely that the company name is often used as a verb to describe a search activity, as in "I just googled someone to find out more about them." Offering free web-based software solutions like email, websites, online calendars, group project websites, image storage space, and online chat, Google has recently added free mobile solutions like email and directory assistance to its list of offerings. Google seems to come up with new products and services on a regular basis, with Chrome, its new browser, being the latest. Users who want to know what Google is currently working on can check out Google Labs or subscribe to the official Google blog.

Amazon.com is an online bookstore that aspired to be the largest online bookstore on earth right from the beginning. Jeff Bezos, the founder of Amazon.com registered the company's name, not as Amazon, but as the full Amazon.com to emphasize the online accessibility of the store. The company is well-known for providing extensive information about books, including free previews, book reviews and recommendations. While the company may have started by selling just books, it now offers merchandise of almost every type, including clothing, electronics, cutlery, china, jewellery, musical instruments, and computers. Amazon.com's surprisingly vast range of products and services continues to grow.

Linden Lab is probably not as well known as the online virtual environment it owns, Second Life. Second Life has become one of the hottest virtual properties where people can actually buy 'land' and conduct business, either by opening a virtual branch of a real store 'in-world,' or by selling merchandise and services exclusively online within the virtual environment. Linden Lab claims that 17 of the top twenty American universities have a presence on Second Life as do many of the major brands, including Coke, American Apparel, and Nike. Second Life even has its own currency, which can be converted to real dollars. Second Life is not like a game in the traditional sense – it offers a unique immersive, virtual experience – kind of like a 'second' life.

Chapter 2: The Participation Economy

Historically, businesses have courted potential customers with free low cost giveaways in the hopes of coaxing them to make larger and perhaps more valuable purchases. Giving free tastings of new food products in a grocery store, or handing out small sample-sized packages of lotions and creams, or even giving a full-sized item away only because the customer would then have to purchase the complementary product to make it useful are some of the more common examples. A case in point is the free razors that King Gillette used to give away so that people could try out the new thin blades he had invented, which of course they would have to buy to try (Anderson, 2008). Another example that many of us have likely taken advantage of is companies that give mobile phones away for free, but recover their costs through the two or three year telephone service plans that customers are required to purchase to get the free phone. Another method, though not free, works in a similar fashion. Game systems and printers are often sold below cost, but the company more than recovers the difference through the sale of video games and printer ink, which must be replenished on a regular basis.

These are well-known tactics, but to offer something that is perpetually free, with no expectation of remuneration appears to operate at a completely new level of bounteousness. Studying the ways in which three particular companies manage their giveaways should provide some insight into their business practices and perhaps highlight or explain how this may be a revolutionary new way of doing business. The three companies presented in this thesis are popular and generally highly regarded examples of that. Perhaps the best known of these is Google, a company that offers free search capabilities, free email with virtually unlimited storage, free Google maps, free docs and spreadsheets, and even free directory assistance. Online video games usually require a monthly fee to play against others, but Linden Lab, allows users access to its online virtual environment free forever. Finally, the online retail store, Amazon.com, though not completely a virtual enterprise because it sells tangible items like books and

CDs, offers a lot of free information about the books it sells that is not available anywhere else.

How these three companies are able to offer their services and products for free will be discussed later in more detail; however, a brief examination of their practices may be in order now. During the study of their business practices and strategies, it became apparent that these three companies share some important qualities. First, providing the services and items for free is an integral part of their business model. They give something away because they get something valuable in return. The saying that “there is no such thing as a free lunch” certainly holds true in this case as well. Second, a key element of their operations depends on the use of massive specialized databases whose contents cannot be duplicated by competitors. And, third, they have created co-dependent relationships with their customers so that each needs the other to get something they want.

Giving things away can be a useful strategy in many situations. People are attracted to free – they feel as if they are getting away with something, especially if the value of the item they’re getting is fairly high. For a business that is just starting out, or one that wants to grow a customer base quickly, offering something for free can help it to do that, as was the case for Amazon.com. Another reason for offering something free is if a company is introducing a new product, especially if it’s unfamiliar, as was the case for Linden Lab. Offering a free trial can help potential customers overcome their reluctance to try it. And finally, if a company’s revenue depends on selling ad space as in the case of Google, it makes sense to offer customers and potential customers software that will help users to generate more content, that will then generate more ad space. Therefore, a free email service from Google makes business sense.

To manage the large volumes of data, each company has its own version of a specialized database. Google’s massive databases hold the contents of millions of email accounts, advertising related materials, its multitude of software products and releases, and of course its famous search engine indexes. Amazon.com’s databases contain

information pertaining to millions of books and other merchandise, about customers, orders, shipping, customer book reviews, and the software that manages it all. Linden Lab's servers contain all of the geographic and object development activity of its virtual environment community, including accounts, currency, advertising and so on. This data can not be duplicated by a competitor because the specific data about those specific accounts would only have meaning within this context.

While the first two items are internal to each company, the last item, is external, and the extent to which customers are a part of the production process is surprising. Customers are not simply recipients or purchasers of products or services – they actively participate in developing content for the company. Known by many different names such as crowdsourcing, user-generated data, and community participation, it means that members of a community, in this case customers of the company, perform some of the labour that would have normally been carried out by paid employees, without compensation. Customers are not coerced but choose to do it voluntarily; however, the exchange between the business and its customers is not always of equal, or perhaps, even fair, value.

Data is of prime importance in the new knowledge economy and the "democratization" of the Web has by all accounts put the tools of production in the hands of individuals. With access to all manner of digital tools, people can now contribute information, ideas, images, and opinions to communities online. Perhaps crowdsourcing for commercial purposes was a natural outcome of this empowerment, though it was likely also influenced by another kind of collaboration between individuals and businesses, commonly referred to as open source software development.

Born partially out of the idealism of the hippie counter-culture movement of the 1960's and nurtured in the academic and scientific communities of Berkeley, MIT and Helsinki, the ideal of open source software development is one of openness, collaboration, and strict peer review. An important, and perhaps typical example of open source communities is the Apache server software development led by Brian Behlendorf

in the late 1990s. An ad hoc group of programmers needing additional functionality for the server program they were using began adding patches to the original server code. When the code wasn't being integrated into the whole fast enough and programmers were having difficulty reaching the people managing the software, the loose group of individuals decided to create their own software repository where they would have a fully functioning copy of the entire program in case they needed it. They would also be able to make and track changes so that the copy would always be updated to the latest version. Over time, they ended up re-writing the entire code and adding multiple patches. This serendipitous development led to the program now known as Apache, that is one of the most widely used web server programs in use today (Friedman, 2006).

The 'hacker culture' that thrived on cooperation and collaboration, of course, existed long before the Apache project. Richard Stallman, who became a leader in the Free Software movement, describes the sense of community that software developers enjoyed when he joined the MIT Artificial Intelligence Lab in 1971 as an AI lab staff system hacker. In those days the word 'hacker' didn't have the negative connotations it has now. It simply meant "Someone who loves to program and enjoys being clever about it" (Stallman). Programs were freely shared within the community and changed if needed, but they were also shared with anyone else who might want to use them. "If you saw someone using an unfamiliar and interesting program, you could always ask to see the source code, so that you could read it, change it, or cannibalize parts of it to make a new program" (Stallman). By the early 1980s, however, the community, according to Stallman, had disintegrated due to external circumstances. At the same time, new computer hardware was purchased by the Lab; however, instead of using the freely-shared hacker developed software, the Lab chose the vendor's proprietary software system (Stallman).

Stallman was incensed by the restrictions placed upon users by the software agreements. Compared to the free and easy exchange of source code he and his colleagues had previously enjoyed, he found the new conditions intolerable: "The idea that the proprietary-software social system – the system that says you are not allowed to

share or change software – is antisocial, that it is unethical, that it is simply wrong…" (Stallman). He refused to be a party to such restrictions, and set off on his own after resigning from his position at the Lab, where he had worked for the previous thirteen years, to lead a community of programmers who believed, as he did, that users should be free to change or share software, if they so desire. He then decided to build an operating system that would embody the spirit of sharing that developers could coalesce around.

Thus was born the GNU Project. The system was designed to eventually replace Unix, which was not free, and so was named GNU, "following a hacker tradition, as a recursive acronym for "GNU's Not Unix"(Stallman). It was an ambitious project requiring many different modules to make it fully functional that would take years to complete. In 1985, the community established the Free Software Foundation (FSF) to formalize the work of developing the GNU project. The community was interested in ensuring that the free software they produced would remain so once it was released to the public; however, simply placing it in the public domain did not guarantee that someone would not modify it and release it as a proprietary product. They needed something more, a legal means by which they could prevent others from misusing free software, so new licensing terms, referred to as Copyleft, were crafted, using copyright law that prevented people from privatizing the software (Stallman).

"The central idea of Copyleft is that we give everyone permission to run the program, copy the program, modify the program, and distribute modified versions – but not permission to add restrictions of their own" (Stallman). The Copyleft licence is known as the GNU General Public Licence (GNU GPL), and most of the software released by the Foundation uses that licence. For Stallman, to have software remain free for users to change or share is an ethical issue, based on the belief that "helping other people is the basis of society" (Stallman). According to Stallman, in 1998, some members of the community stopped using the term 'free software' in favour of 'open source software,' which they felt better described their stance. 'Free software,' they said, gave the false impression that there was no charge for the software. Their intention, however, according

to Stallman, was to be free of the ideology represented by the FSF principles in order to appeal to business executives and decision makers. “Thus, the rhetoric of “open source” focuses on the potential to make high quality, powerful software, but shuns the ideas of freedom, community, and principle” (Stallman).

Of course, this is a two-sided debate, and the ‘open source’ community will surely have a slightly different version of events and rationale for the split. An interesting turn of events had the work, started by the FSF, completed within the open source community. By 1990, the GNU system was almost complete, missing only the kernel, which the community had hoped it could create on top of an existing microkernel named Mach. As they waited for the software to be released as free software, an open source community in Helsinki, headed by Linus Torvalds, took up the challenge of developing the kernel, which later became known as Linux (Stallman).

This community-driven style of development has proved to be a powerful model for many software development projects. Using the “power of many” to solve a problem that would have otherwise taken many years to develop, loosely knit groups, with a solid core of dedicated programmers, have been able to do it much faster and more efficiently than traditionally developed commercial products (Raymond, 2002). There are many reasons why such an approach works and in his paper, “The Cathedral and the Bazaar,” Eric Raymond (2002) tries to explain what they are and how they might be utilized for software development in general. To illustrate his point, he uses the example of Linus Torvalds’ development of Linux. He also compares the open source style of software development with the more common approach traditionally favoured by businesses developing proprietary software. Using his own experiences and Linus Torvalds’ development of Linux to illustrate his point, he advances the idea that the open source method of software development is superior to the other. To illustrate their differences, he assigns a cathedral metaphor to the commercial proprietary style of development, and a bazaar metaphor to the open source model, resonant with the same qualities of a bazaar – open to everyone, containing a multitude of voices, opinions and styles. “No quiet,

reverent cathedral-building here – rather, the Linux community seemed to resemble a great babbling bazaar of differing agendas and approaches (aptly symbolized by the Linux archive sites, who'd take submissions from *anyone*) out of which a coherent and stable system could seemingly emerge only by a succession of miracles" (p. 3). His paper discusses why this seeming structure out of chaos style of development is preferable over the silo style of proprietary software.

According to Raymond (2002), open source works when three things are present: an interesting problem, a powerful leader and a persistent means of communication, such as the Internet. The problem Torvalds chose was an interesting one, as evidenced by the high levels of participation, and the subsequent popularity of the system upon its release. Torvalds seemed to be a natural leader and a good communicator, and it was the massive reach of the Internet that allowed him to extend the problem of development across the world. In fact, Raymond notes that this project, as we know it, could not have existed without the Internet. Torvalds' contribution in some sense was to use his abilities as a leader to bring together a community of developers to work on a problem using the Internet as a means of communication and collaboration.

An open source project must have direction, and this must come from the leader, whose first act of leadership must be the selection of an appropriate project, according to Raymond (2002). The project must have already been started, that is, it must have a shape and goal that is clear to others, and it must work, though not necessarily well. And it must be interesting, at least to the leader because the project will likely be around for a long time, and it must have meaning and value for the manager if he or she is to stay with it for the long haul. "…the best hacks start out as personal solutions to the author's everyday problems, and spread because the problem turns out to be typical for a large class of users" (p. 20). One of the most common reasons for project failure, he says, is because the developers lost interest.

Second, the project leader must be able to inspire a community of programmers, who must often work in solitude, to jointly work on a project with others. "A bazaar project

coordinator or leader must have good people and communications skills. This should be obvious. In order to build a development community, you need to attract people, interest them in what you're doing, and keep them happy about the amount of work they're doing" (Raymond, 2002, p. 19). He cites two types of management – the one run by control and command, and the second by way of a "common understanding". He quotes 19th century author Pyotr Alexeyvich Kropotkin as saying, "The former works admirably in a military parade, but it is worth nothing where real life is concerned, and the aim can be achieved only through the severe effort of many converging wills" (Raymond, 2002, p. 22).

Coordinating the work of so many requires understanding some common human motivating factors. For example, one might be motivated to participate in such a project because the problem is of personal interest to the developer. Electing to work on a project because the developer's "fascination with the problem itself…is a far more effective motivator than money alone" according to Raymond (2002, p. 26). Another motivating factor might be the desire for recognition of work that one has done. Raymond (2002) calls this the "efficient market in 'egoboo,' that is, "to connect the selfishness of individual hackers as firmly as possible to difficult ends that can only be achieved by sustained cooperation" (p. 22). A project leader's ability to reward the egos of developers by valuing what they do can be instrumental in mobilizing hundreds of programmers to work on a project.

Raymond (2002) claims that none of this would be possible without a ready and easy means of communication such as the Internet. Prior to the common usage of the Internet, he agrees that there were pockets of "geographically compact communities" where some development occurred, but "Linux was the first project for which a conscious and successful effort to use the entire *world* as its talent pool was made" (p. 21). Torvalds was able to engage so many because he "was keeping his hacker/users constantly stimulated and rewarded – stimulated by the prospect of having an ego-satisfying piece of the action, rewarded by the sight of constant (even *daily*) improvement in their work" (p. 8).

Essential to open source development, Raymond (2002) reiterates, is the need for clear and perhaps even charismatic leadership. “I think the future of open-source software will increasingly belong to people who know how to play Linus’ game, people who leave behind the cathedral and embrace the bazaar. This is not to say that individual vision and brilliance no longer matter; rather, I think that the cutting edge of open-source software will belong to people who start from individual vision and brilliance, then amplify it through the effective construction of voluntary communities of interest” (p. 23).

Mainly the system works because development, rather than being confined within a narrow framework of actors, extends beyond into the messy chaos normally associated with biology or economics, according to Raymond (2002). “The Linux world behaves in many respects like a free market or an ecology, a collection of selfish agents attempting to maximize utility which in the process produces a self-correcting spontaneous order more elaborate and efficient than any amount of central planning could have achieved” (p. 22). Table 1.1 shows the project management requirements from the perspective of both open source and traditional development. What is striking, however, is how many of the issues encountered by business simply don’t need to be managed in the bazaar style because project contributors self-select to work on it. Finding ways to motivate them is simply not necessary.

Open source projects have a basis of integrity that permeates throughout the development cycle: an appreciation and respect for the work that individuals contribute to the community, and a fierce ethic that if you use what the community has created, you give credit to that, and if you improve it, you give back to the community by sharing it.

Management Task	Bazaar	Cathedral
Define goals	Goals defined by project leaders	Goals defined by committees
Monitor details	Decentralized peer review – so many eyeballs, nothing gets missed	Manager makes sure everything is done
Motivate people	Fascinated by problem so bring their own motivation	Manager needs to motivate because programmers not inspired
Organize people	Skilled – usually only top 5% accepted.	Manager must manage the people.
Marshall resources	Volunteers, self-selected for both interest and ability. Use their own equipment.	Manager must maintain resource pool and equipment. Keep them from getting reassigned.

Table 1.1 : Comparison of management required for the two styles of development.

As the comparison between the two systems in table 1.1 demonstrates, perhaps the reason open source projects work so well is that the motivation for participants is internal not external. People choose to work on these projects because they actually care about the outcome. They self-select what aspect they would like to work on and the amount of time they are able to dedicate to it. By contrast, projects motivated by money or a salary have a different dynamic altogether. The motivations are external and the time and resources are regulated. Perhaps business and open source can work together, but unless care is taken to manage the competing interests of both business and the community, there is the potential that using open source for business would simply commoditize the work of many and risk upsetting the very dynamic that makes open source work so well. It is the qualities of generosity, common cause, goodwill and mutual respect, and community spirit that produce results. How well are these likely to survive when the bottom line is the dollar?

Raymond (2002) observes: “Our creative play has been racking up technical, market-share, and mind-share successes at an astounding rate. We’re proving not only that we can do better software, but that *joy is an asset…* It may well turn out that one of

the most important effects of open source's success will be to teach us that play is the most economically efficient mode of creative work" (p. 26).

Raymond's (2002) arguments are convincing regarding the superiority of open source type of development, but the type of structure and process it calls for is so contrary to typical business operations. Is it possible to bring the kind of development style that he advocates to the corporation?

Indeed, the chance to find out arrived when IBM, regarded as one of the most staid software development firms, decided to give open source a try and joined the Apache development group, contributing some of its best programming manpower and benefitting from the collective efforts of many outside its organization (Friedman, 2006). Since people usually contribute as individuals, not corporations, there was some adjustment required on both sides. IBM also had to make some major internal adjustments to adopt this new mode of development, both in a philosophical and practical sense. As Friedman (2006) explains in his book, *The World is Flat: A Brief History of the Twenty-First Century*, "The old model is winner take all: I wrote it, I own it – the standard software license model. 'The only way to compete against that [according to Behlendorf, who led the Apache project], is to all become winners" (p.105). IBM became a major contributor to the Apache development project and eventually created the non-profit Apache Software Foundation to work out the issues regarding copyright and liability that it needed to address for its own customers.

Working with IBM changed the project, however, according to Friedman (2006). It became a 'blended model.' "Some people worked on it for free and others were paid to do so by IBM, so the company could sell its own services, upgrades, and attachments around the basic software…One should not get too romantic about all this," he warns. IBM is a business and it competes with Microsoft, so if by collaborating with open source, it can take some business away from Microsoft, well, "Hey, that's business. But it *is* business," he says (p. 108).

That it is a business means that it must make money. That is its *raison d'être*. Besides, for how long, Friedman (2006) argues, would talented programmers be able to offer their services for free. There must be some economic incentive for the work to go on, he says, quoting Bill Gates to provide the economic perspective: "'You need capitalism [to drive innovation]. To have [a movement] that says innovation does not deserve an economic reward is contrary to where the world is going'" (p. 125). That there are other types of rewards does not seem to have entered into the equation.

Not coincidentally, two-and-a-half years after "The Cathedral and the Bazaar" was first penned, Raymond (2002) added an update in which he stated that the most radical thought he could offer to conclude his paper was this: "Human beings generally take pleasure in a task when it falls in a sort of optimal-challenge zone; not so easy as to be boring, not too hard to achieve. A happy programmer is one who is neither underutilized nor weighed down with ill-formulated goals and stressful process friction. *Enjoyment predicts efficiency*" (p. 27).

Business, it appears, has appropriated the open source process that utilizes the work of many to accomplish a task, but has replaced the spirit that drives it with the economic bottom line. Friedman (2006) sees this as clear-headedness – the open source boys have finally grown up and put their rose-colored glasses away. However, the irony is that aside from utilizing the work of many, the efficiency of the process resided in the fact that the motivation to participate was internal, not external. It was not guided by promises of monetary rewards, but by personal satisfaction and enjoyment. By making money the driver, the old issues of motivation and management that companies originally faced are likely to return.

Nevertheless, the successful adoption of the open source model for software development for big business was only the first step. 'Smart' businesses began to innovate other ways in which they could harness "the power of many" to improve their economic bottom lines. In a knowledge-based economy, the rules of supply and demand indicate that what's needed is more information, more data, and more content.

Businesses had already been successful in using open source to develop software, so now they turned to open source to develop content.

Businesses had discovered that, given the right incentives, there was a ready supply of folks willing to work for free to develop something they cared about. In his article, “What is Web 2.0,” O’Reilly (2005) illustrates how some of the most successful Internet-based companies had found a way to harness that ready willingness of people to work for free. O’Reilly believes that the dot-com crash of 2001 marked a watershed moment in history, signalling the start of a new mature phase of development for the Web and Web-enabled companies. Hence, only those Internet-based companies that had kept up with the next generation of the Web, appropriately named Web 2.0, were the ones that survived. These companies shared certain patterns or characteristics, and the key to their success was often in the way they managed and generated their data. (See illustration 1.1 for a meme map visualizing the Web 2.0 principles and practices). He found that the dot-com companies that had survived shared the following characteristics:

1. They used the web as a platform
    - web applications delivered as a service
    - a competency in specialized database management
    - serve both the head and the long tail (as defined by Chris Anderson, in his book *The Long Tail*, meaning that they served both the mainstream and the small niches]
    - utilize customer self-service
    - structure the service so that the more people use it, the better it gets
2. They used enhanced their data to differentiate from other companies (It’s what O’Reilly calls the new “Intel Inside”)
    - manage the data through specialized database
    - enhance the basic data available elsewhere by adding more content

Clearly, unique data and specialized databases are key advantages. O’Reilly (2005) states that “Every significant internet application to date has been backed by a

specialized database: Google's web crawl, Yahoo!'s directory (and web crawl), Amazon's database of products, eBay's database of products and sellers, MapQuest's map databases, Napster's distributed song database" (p. 3).

But how to get the data at the scale that would be necessary to differentiate from their competitors? Someone, somewhere realized that the same relationships that some companies had forged with developers to participate in open source software development, could also be used to develop data, given the right incentives. Unlike software development, however, there is no central problem touching users personally that needs to be solved that– in fact, often customers don't know they need the product or service until it is introduced. An incentive that would overcome disinterest would be needed – what if people could be persuaded by giving them something for free?

The goal for Internet companies was to grow big fast because the nature of the Web rewards the largest. Those that have more (customers), get more. Once a company reaches critical mass, its growth is assured. Therefore, the first objective for Internet-based companies is to grow their user base. Huge spikes in customer purchases alerted Amazon.com to the discovery that its customers purchased books that were reviewed, so it needed lots of book reviews but would need an army of in-house editors and book reviewers to cover all the books it sold, so it made tools for writing reviews available for free and invited its customers to write the reviews. Google's revenue model was based on selling ad space. Therefore, the more places on the Internet where it could place ads, the higher the revenue it could generate. It cleverly gave away its email program for free, so that with every email that users sent or received, Google was able to place context-relevant ads that ideally would be viewed at the moment the user was considering the subject. In this way, the ads were more likely to be relevant to the users' needs, thereby increasing their likelihood of being clicked, and thus contributing to Google's coffers. Linden Lab was marketing a new concept in gaming – an immersive virtual environment that was nothing more than a platform with the possibility of developing into a community. Without residents, the community was a 'hard sell,' so Linden Lab made access to the

virtual environment free and invited people to try it out. Without the free access, adoption rates would likely have been lower.

A characteristic of the Web 2.0 company that O'Reilly (2005) identified was that the "successful companies all [gave]…up something expensive but considered critical to get something valuable for free that was once expensive" (p. 4). Whatever each company gave, it got back something at least as valuable – free labour.

In addition, the companies also gave up something else: control. One of the characteristics of a good open source project, according to Raymond (2002), was that the leader had to give up trying to control the developers. Given the freedom to create, they would come up with things the others might never have come up with. In the case of the three companies discussed in this paper, each gave up control in some way to appeal to their target audience. Amazon.com gave up control of who could post book reviews on its website and got over 2,000 reviews for some books; Google gave up control of writing the ads, and millions used the tools to write their own; and Linden Lab gave up control of what people could build, and they built communities that spanned virtual continents.

Essentially, these companies used their customers as a valuable resource to add value to their offerings. All three companies have been successful in generating a large user base that numbers not in the thousands, but in the millions. Each party gets something that is of value to them and the arrangement seems to be win-win for all concerned.

O'Reilly (2002) asks an important question: who owns the data? His question refers to data shared between vendors, that is, the data sources that supply the basic information many of these companies rely on. For instance, map data is supplied to MapQuest, Yahoo! Maps, and Google Maps by NavTeq, TeleAtlas. Satellite imagery is supplied by Digital Globe. "These companies made substantial investments in their databases (NavTeq alone reportedly invested $750 million to build their database of street addresses and directions. Digital Globe spent $500 million to launch their own satellite to improve on government-supplied imagery.)" (p. 3). Any company that has the

resources can license the same data and competing services to existing companies. However, that is not possible to do with data that has been enhanced by the company.

Some companies, like Amazon.com for example, took the basic data that was available to everyone else and enhanced it, thereby, making it more valuable. According to Tim O'Reilly (2005), Amazon.com , "harnessed their users to annotate the data, such that after ten years, Amazon, not Bowker [the original supplier of the raw data that is available to all bookstores], is the primary source for bibliographic data on books, a reference source for scholars and librarians as well as consumers." "Imagine," he says, "if MapQuest had done the same thing, harnessing their users to annotate maps and directions, adding layers of value. It would have been much more difficult for competitors to enter the market just by licensing the base data" (p.3).

The question, then, should also be asked regarding content that users create: who owns that data? Clearly the content that users provide adds value to the company. Who owns that content? Do book reviews posted by users become the property of Amazon.com? Here is what the Conditions of Use document on Amazon.com states:

> If you do post content or submit material, and unless we indicate otherwise, you grant Amazon a nonexclusive, royalty-free, perpetual, irrevocable, and fully sublicensable right to use, reproduce, modify, adapt, publish, translate, create derivative works from, distribute, and display such content throughout the world in any media. (Amazon.com)

Since the right granted to Amazon.com, according to the above-noted agreement, is nonexclusive, ostensibly authors and reviewers could post the same commentary elsewhere.

However, in closed systems where duplication is impossible and an exchange of funds has occurred, such as in Second Life, the question of ownership is not so easily resolved. The Second Life Terms of Service state the following:

> Users of the Service can create Content on Linden Lab's servers in various forms. Linden Lab acknowledges and agrees that,

> subject to the terms and conditions of this Agreement, you will retain any and all applicable copyright and other intellectual property rights with respect to any Content you create using the Service, to the extent you have such rights under applicable law.
>
> Notwithstanding the foregoing, you understand and agree that by submitting your Content to any area of the service, you automatically grant (and you represent and warrant that you have the right to grant) to Linden Lab: (a) a royalty-free, worldwide, fully paid-up, perpetual, irrevocable, non-exclusive right and license to (i) use, reproduce and distribute your Content within the Service as permitted by you through your interactions on the Service, and (ii) use and reproduce (and to authorize third parties to use and reproduce) any of your Content in any or all media for marketing and/or promotional purposes in connection with the Service ("Second Life").

While Linden Lab allows copyright to be held by the creator of the materials in Second Life, such ownership has no meaning outside the virtual environment of this company because the material is not transferable to another medium. Should the user choose to not continue his or her membership with Second Life, the content they have produced will be retained by Linden Lab as it adds value to the environment and by extension to the company. However, the user who created that content receives no further benefit. Since the user has paid for the privilege of creating that content, should some financial recompense be offered in lieu of loss of property?

Web 2.0 Meme Map

Recreated from (O'Reilly, 2005)

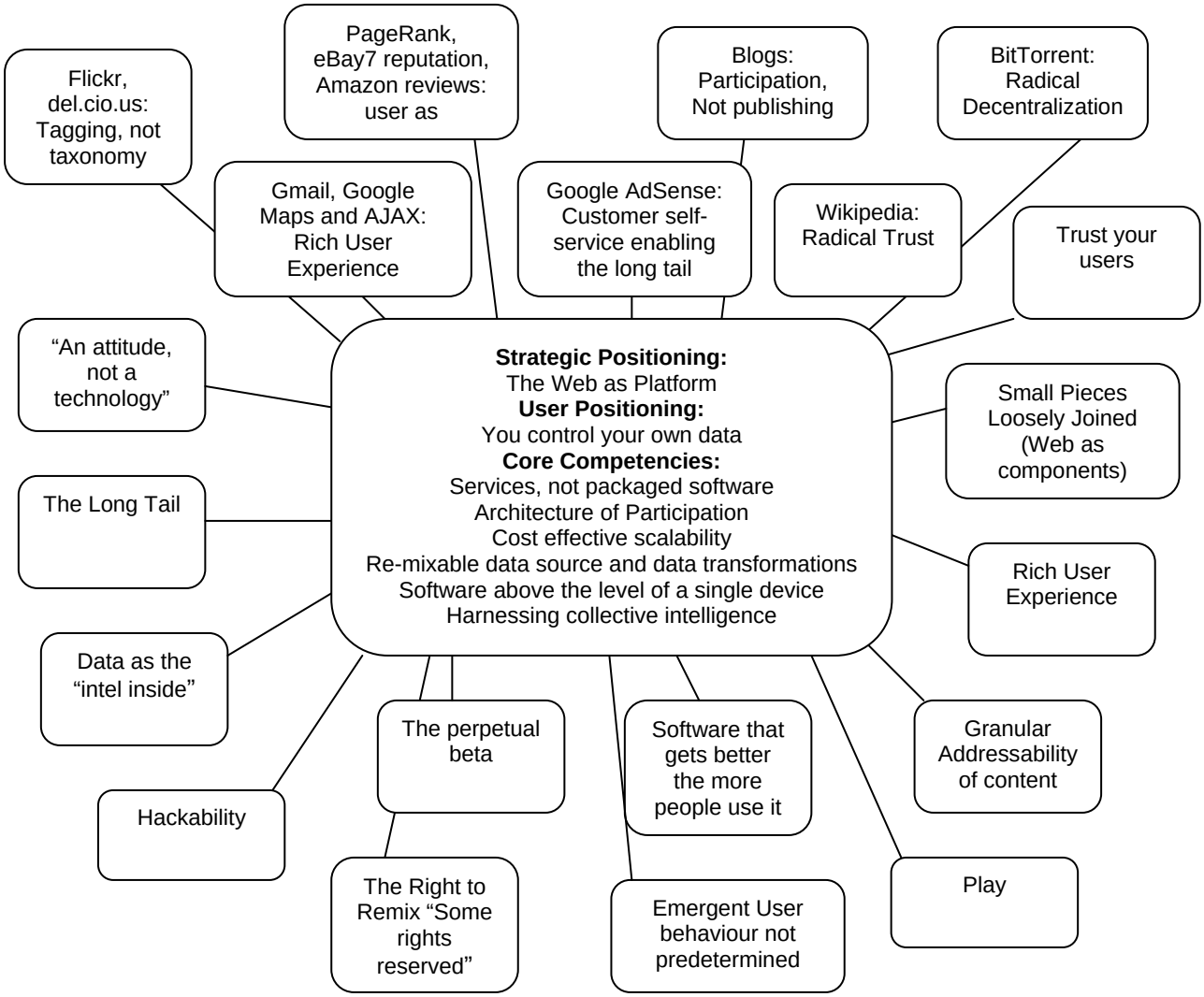

Illustration 1.1 Visualization of Web 2.0 principles and practices

Assuming that the idea for user-generated content was inspired by the open source style of software development, it would be instructive to note the similarities and differences that have evolved through the transition. The differences have been presented in table 1.2.

Tasks	Bazaar Style Software Development	For-Profit Content Development
Define goals	Goals defined by project leaders	Defined by company
Quality control	Decentralized peer review – so many eyeballs, nothing gets missed	No oversight – anything goes
Usage	Owned by all, therefore can be used by all	Owned by company. Not accessible to all.
Benefit	Everyone benefits. Free use of what the community creates. Freedom to add and change to suit	Company benefits financially; user gets satisfaction (hopefully) of creation
Community	Community includes both developers and leaders – common cause	Company and content owners have different objectives. Company is concerned with economic advantage; users concern on the level of self-expression and reputation.

Table 1.2 Comparison of Software and Content Development

Unfortunately, as evidenced in table 1.2, the original spirit of community, quality, ownership and common cause have been replaced by a lopsided relationship that favours the company and provides little in the way of power to users who contribute. The rhetoric of participation , with all the implied benefits of a supportive community, valued relationships, and enhanced reputation, has been co-opted by business for commercial purposes. As we have seen, the balance of power resides with the corporation – it provides the means by which the community can exist by providing a digital platform. The very existence of the community, therefore, depends on the largesse of the corporation. The corporation also sets the rights of members and the rules of participation in its Terms of Use documents, which all users must agree to before they are allowed membership. At

present, users have no recourse if they feel they have been treated unfairly, unless they are willing to take the corporation to court, which few would have the resources, or the inclination, to do.

Unfortunately, people are being given the false impression that they are being invited to join a community in the best sense of the word, when in fact, what is usually being created is not an authentic grassroots community from which all can benefit equally, but a pale shadow of what a genuine community could be. Nonetheless, some businesses do offer value to their users, such as access to free productivity tools in the case of Google, and valuable information, as in the case with Amazon. Linden Lab, however, not only uses the goodwill of its users to build its program content, but, in fact, also charges them to do so.

Ultimately, technology can only provide the means to act, but humans must choose the actions they take. Financial success is only one measure of the success of a project. If we are to encourage the spirit of the early open source collaborations, we must ensure that companies leveraging the "power of many" to improve their businesses are respectful of those who contribute to them and engage with them in a fair and just manner. Esther Dyson (1997), in her book, *Release 2.0: A Design for living in the Digital Age*, urges that on the Net, we have the opportunity to make choices that create a better society than we have in the real world.

> On the Net it's different. Politics and the general welfare *is* a part of life. The choices you make affect others, because this new world depends on its citizens rather than its history. On the Net, your choices and actions in living will have an impact on the texture of life for the people around you on the Net, an impact potentially far broader than in the terrestrial world (p. 278).

All too often, we take our real world selves with us wherever we go (as we must), and the Net is no more than a reflection of who we have become.

Chapter 3: An Empire that Started with Search Algorithms

> *If I can operate Google, I can find anything…Google is like God. God is wireless, God is everywhere, and God sees everything. Any questions in the world, you ask Google.*
>
> ~ Alan Cohen, vice president of Airespace
>
> (Friedman, 2006)

More people use Google than any other search engine in the world. In fact, Google enjoys 76% of the market share of all search engines, world wide (Anderson, 2009). "Today, ten years after its founding, Google is a $20 billion company, making more in profit (more than $4 billion in 2008) than all of America's airlines and car companies combined…." (p. 121). Its CEO, Eric Schmidt, has been listed on *Forbes* magazine's richest four hundred Americans (2009). How can a company that apparently gives all its products away for free have so much money? The Google secret is that it doesn't, yet its free products are so pervasive, the general public's impression is that it does. This chapter will explore the interesting balance that Google has been able to create between its free giveaways and its considerable revenue streams.

Started in 1998 by two Stanford grad students, who dropped out of their computer science doctoral program to pursue this venture, Google has cultivated the impression of being closer to a "geek-run" organization pursuing an esoteric mission to "organize the immense, seemingly infinite amount of information available on the Web" (Friedman 2006, p. 178), than a corporate entity building a vast capitalist empire. Indeed, many of the founders' choices, including the company name, hint at their academic background. For example, the name Google is a play on the word googol, which is the number represented by the numeral 1 followed by 100 zeros (2006).

The company did get its beginnings in academia, begun from a research project that the two Ph.D. grad students, Larry Page and Sergey Brin had collaborated on in

1996. In his book *Extreme Competition*, Peter Fingar (2006) explains how “they developed the idea that a search engine based on the analysis of the relationships between Web sites would produce improved results over the basic techniques then in use. Convinced that the pages with the most links to them from other highly relevant Web pages must be the most relevant pages associated with the search, Page and Brin laid the foundation for their ‘page-ranked’ search engine” (p. 90).

Recognizing that their system held a lot of promise, Andy Bechtolsheim, co-founder of Sun Microsystems, contributed $100,000 to the company, which had not yet been incorporated, and in 1999, rival investment firms, Kleiner Perkins Caufield & Byers and Sequoia Capital, invested $25 million in private funding ("Google"). For the first two years of its existence, the company concentrated on improving search results and building a following as a leader in search engines. Having established itself as a premier search engine, Google still needed to find a viable business model that would generate revenue for the company. In 2001, it brought on board Eric Schmidt, who had valuable experience from both Sun Microsystems and Novell, as chairman and CEO of Google (Hansell, 2002). Together, the three men chose to use advertising as their source of revenue.

At the time, Overture Inc. was the market leader in search based advertising. The company used a different pricing model than the industry standards of the time. Instead of locking in a price, Overture invited advertisers to bid for the highest position on a page. The advertisement with the highest bid would appear at the top of the page, the second highest bid would be next and so on; however, the advertiser only had to pay for the ad if a user clicked on it. Google based its business model on this pay-per-click advertising system, but added an important difference – contextual relevance. This means that ads were linked to keywords and would only be displayed if the keyword being searched matched the ad. Because the ad appeared only when it matched a user’s query, it was much more likely to be relevant to the user’s needs and therefore more effective. For example, if someone typed in a search for “window treatments,” ads from window

manufacturers, drapery retailers and interior designers would be more likely to show up than ads for car tires. Secondly, only the relevant ads with the highest bids would then make it onto the page, and their position on the page would be determined by the size of the bid.

A second important difference in the Google ad system was that the ads were completely text based. The norm until then had been for large, flashy banner ads that were often distractions on the page. Google's text ads were small and usually on the periphery of the page, either at the top or at the side. In fact, the ads were so unlike other ads that at times it was hard to tell them apart from the natural search results. To avoid confusion, Google began labelling the paid ads as "Sponsored Links." This seemed to satisfy the critics who had been unhappy with Google's decision to serve ads at all. Google's minimalist approach to advertising seemed to fit the company philosophy of doing no evil, and reinforced its image as a company more concerned with effective search algorithms than with greedy profits.

In 2004, the company went public with an Initial Public Offering (IPO) to raise funds and utilized the same restrained approach to its fundraising efforts. Instead of signing with an established investment bank to manage the IPO, where the bank would set the prices and the minimum bid, thereby generally limiting the purchase to bidders with deep pockets, Google decided to democratize its offering by making it available directly to the public and let the price be determined by auction. The company raised $1.67 billion at $85 a share that gave Google a market capitalization (or market cap) of more than $23 billion. According to a definition found in Wikipedia, market capitalization is:

> the public consensus on the value of a company's equity. An entirely public corporation, including all of its assets, may be freely bought and sold through purchases and sales of stock, which will determine the price of the company's shares. Its market capitalization is the share price multiplied by the number of shares in issue, providing a

total value for the company's shares and thus for the company as a whole ("Market capitalization").

Based on these measures, the funds raised through the IPO indicate that the stock purchasers collectively believed the company was valued at $23 billion. In 2005, approximately a year later, the company “was valued at $111.7 billion, making it the world’s biggest media company by stock market value, surpassing Time Warner ($80 billion market cap)” (Fingar, 2006, p. 90).

With this type of secure financial backing Google was able to lay the groundwork for developing a state-of-the-art infrastructure of data centers. It was also able to hire some of the best and brightest minds to further develop its research and development ambitions. Google’s ideal search engine, according to Google co-founder Larry Page is described in this statement on the company website: ‘The perfect search engine would understand exactly what you mean and give back exactly what you want’ ("Our Philosophy"). True to the spirit of one of the company’s stated principles, ‘Great is not good enough,’ Google has continued to release improvements to its search engine algorithms, always staying ahead of the hordes trying to figure out a way to tweak the system for improving their own standings in the search engine results.

Working the system has, in fact, become big business, and it has officially come to be known as Search Engine Optimization (SEO). The objective of SEO is to figure out how to rank higher in search engine results, and since Google is one of the most-used search engines, often SEO efforts are directed towards improving search results in Google.

Google has obliged SEO specialists and webmasters by providing comprehensive free resources and information to help them understand how to rank well. These people are not receiving special treatment, however, since the same information is available to anyone with the desire and the ability to access it. The resources Google has made available include guides, explanations and troubleshooting tips via its Frequently Asked Questions (FAQ), tools that can be used to measure and monitor effectiveness,

and forums where users can ask questions of the community. Google collectively calls this Google University, and anyone is free to attend. In fact, anything a person might want to know about ranking well in Google search results might be found in the documents and videos Google has made available – everything, in fact, except the secret algorithms themselves.

It might seem counter-intuitive for a company to guard its secret algorithms yet provide users with such a vast array of tools and resources to "score" against the algorithm. However, Google's strategy starts to make sense when you consider that Google has positioned itself and its secret algorithms, which are always changing, as the Holy Grail of search engine land. A whole profession has arisen with its stated objective of beating the system, and Google itself has "fanned the flames" by providing a "University" of information to help the professionals. Not only has Google enhanced its reputation as a democratizer by making such information available, but more importantly, it has generated the kind of interest and engagement in its company products that simply can not be bought at any price. Google's PR machine is indeed working very well.

Further in the company's favour has been the steady release of new services made available by Google to the masses completely free of charge. Even though Google's stated passion is for search engine technology, the company has been steadily releasing a variety of productivity, communication and personal web-based software programs. Google is probably best known for its ubiquitous Gmail program, offered as a service, meaning that the program resides not on the user's computer, but on Google's servers, so that it can be accessed from any computer that has a connection to the Web, unlike Microsoft's Outlook, one of the more popular email programs for business, which can only be accessed on the computer it is installed on. In addition to providing global access, Gmail also boasts the largest storage capacity of any other free email service on the market. Combined with Google's famous search functionality, Google's claim that you will never have to delete an email again, carries true value.

Blogger, another popular web-based program provided by Google free of charge allows users to publish a blog. To complete the circle, Google offers Reader, also free, which enables people to subscribe to blogs and then aggregates the results according to the user's personal preferences.

Google's Docs & Spreadsheets, a suite of free web-based programs, enables users to not only compose new content without actually owning the programs, but also allows users to open almost any document attachment in Gmail. This dual functionality is particularly useful to users accessing documents at a location that is not their main computer where the software programs they would usually need to open the documents are stored.

Google Groups allows users to create a central repository of documents, web pages and notices for people who want to work together or are interested in a particular topic, theme or event. At last count, according to the Google Group's information page, there were over 700 million postings to the several thousand Google Groups currently on the Web.

These are just some of the almost one hundred offerings of free web-based software services that Google provides. What they all have in common is that they create new content on the Web, and by doing so, they provide Google with more information to search and more opportunities to place advertisements on the Web. Technically, the only thing that could slow Google's growth would be a slowdown in the growth of the Web. So if Google gives things away for free, that helps to build more content, and the cost to provide the free items is low, and the content creates more spaces for Google to create ads, and ads pay the bills. The more places that ads appear in, the greater the exposure and value to Google.

However, that may not be the only reason for Google to provide free software. Fingar (2006) speculates that Google's giving away of all these free web-based productivity tools may also serve yet another function:

> Google isn't basing its future on its search engine, it's building the next-generation *computing platform*, wanting to supersede today's dominant Windows platform. Using a family of technologies called Ajax, Google is making a huge investment in developing Web-based computer applications that have the richness and responsiveness previously only seen in desktop applications. For example, if you are using Google Maps, when you use your cursor to scroll around a map, everything happens almost instantly, with no waiting for pages to reload (p. 42).

If, or perhaps when, Google is able to achieve desktop-like speed and functionality, it will not be a tough sell to convert users to its system, as many would gladly throw off Microsoft's tyranny of expensive upgrades for Google's web-based programs that typically are upgraded unobtrusively without additional cost or interruption.

A Revenue Model

Whatever Google may say about its commitment to free search technology, Google's real business, the one that generates revenue and pays the bills, is advertising and custom development for large organizations. Advertising, of course, is not new, and is a commonly used source of income for a variety of media companies, including radio, television, newspapers, and magazines. Often the content these publishers provide is made available to customers free of charge or at a lower cost by supplementing its production costs through advertising. This type of business model is known as a "two-sided market" since in essence there are two markets at play here: the publisher is catering to both the consumer and the advertiser. Industries other than media companies also use this business model as in the case of credit cards – the banks provide the card free to the customer, but charge the merchants for each transaction (Girard, 2009).

The two markets need each other and are inextricably linked for producing results, even though only one of them is generating revenue directly. Here's how the system works for magazine sales for example: the more subscribers a magazine has, the

more advertisers it will attract. The more advertisers, it attracts, the more it can charge for the advertisements it carries. The more advertisements it carries, the more content it can provide. The more content it provides, the more subscribers it will likely have, and so the cycle goes. Without the subscribers that receive the magazine free of charge, the magazine would have little advertising and little revenue.

Utilizing the same model to sell its advertising, Google has been wooing customers with free tools to create content that would then translate into greater ad revenues. As Michael A. Cusumano (2004), a professor of Technology Strategy and Management at MIT, noted “The more users who come to Google for their searches, the more advertisers come, the better the Sponsored Links become, the more revenues come into Google, the more it invests in having comprehensive searches through its Web-crawling computers, and then more users come, more advertisers come, ad infinitum, perhaps” (p. 15). Since Google itself creates no content, without the new content that others produce, Google’s usefulness for web searches would decrease, and its ability to place advertisements would be compromised.

Google’s corporate philosophy presented on its website states that: “There is always more information out there”. Referring to its own work in this regard, the website goes on to claim that:

> Once Google had indexed more of the HTML pages on the Internet than any other search service, our engineers turned their attention to information that was not as readily accessible. Sometimes it was just a matter of integrating new databases, such as adding a phone number and address lookup and a business directory. Other efforts required a bit more creativity, like adding the ability to search billions of images and a way to view pages that were originally created as PDF files. The popularity of PDF results led us to expand the list of file types searched to include documents produced in a dozen formats such as Microsoft Word, Excel and PowerPoint. For wireless users, Google

> developed a unique way to translate HTML formatted files into a format that could be read by mobile devices. The list is not likely to end there as Google's researchers continue looking into ways to bring all the world's information to users seeking answers ("Google Corporate Overview").

Clearly, Google doesn't wait for information to come to it. The company has a pro-active approach to seeking it out and helping others to create it, thereby ensuring its own future survival. Towards this end, Google supports mash-ups and collaborations using its software instead of disallowing them because the usage simply extends Google's reach and increases its presence.

Multiple Streams

Google's second stream of income comes from its custom search and software services for large corporations. These include customized versions of Google Earth for companies that need to organize and manipulate their company's location data, Google Maps for mapping and related functions, Google Mini to enable search functions for large scale websites and company-wide intranets, the Search Appliance, which is a hardware and software solution to connecting all of an enterprise's servers, content management systems, relational databases and business applications, and SketchUp Pro, which is a 3D modeling tool.

Prices for Google's custom search and software services are not available, but if Enterprise pricing for the Google Mini search facility is any indication, the fees are substantial. For example, a 2 year subscription for 50,000 documents is $2,990, for 100,000 documents, it's $3,990, and for 300,000 documents, it's $9,990. The price covers customer support, software updates, replacement coverage and shipping. Realistically, once the software is in place and functioning correctly, there is minimal involvement required by Google to maintain the service, so the profit margins are relatively high ("Google Corporate Overview").

In 2008, Google's revenues from both advertising and its other activities such as the sale of enterprise level premium services totalled almost $21 billion. The cost of goods sold, not including other expenses, was just over eight and a half billion dollars, leaving a gross profit of just over $13 billion dollars at a gross profit margin of 60.4% (Hoovers, 2009). Google's great advantage is its ability to leverage its software algorithms for automating some of its core activities that otherwise would have been labour intensive and costly.

Creative Solutions

Google's innovations in advertising were not limited simply to the introduction of new concepts and forms but extended into the way those transactions were handled, enabling Google to realize substantial savings and efficiency.

Advertising has been around for a long time and certain conventions have been established over the last 100 years according to Chris Anderson in his book *The Long Tail* (2006). He describes the intricate "dance" between advertiser and publisher that normally took place. Large companies, he says, would establish their advertising budget and then commission an advertising firm to come up with creative advertising for them. The companies would then use their media buyers to negotiate advertising space on their medium of choice – generally, newspapers, magazines, radio or television. The media companies, of course, wanted to woo the advertisers to their own vehicle of choice and had a sales force at the ready to contact advertisers and media buyers to sign with them. Anderson further describes it this way:

> If all goes well, millions of dollars change hands. All of it is labor-intensive and made even more costly by the expensive schmoozing that's required in businesses where a lack of trusted performance metrics makes salesmanship and personal relationships key to winning business.
>
> Most ads, whether they run in the Yellow Pages or during the Super Bowl, are actively sold phone call by phone call, visit by visit. Very

> few just appear because somebody decided to advertise…That works well enough, but because it's expensive, it imposes a subtle cost: a focus on just the largest and most lucrative of potential advertisers. In other words, the system is biased toward the head of the advertising curve.
>
> As with every other market we've looked at, that head is just a tiny fraction of the potential market. But because it's so expensive to sell advertising the traditional way, the smaller potential advertisers have been left to their own devices, mostly picking up a phone and placing a classified ad or sending some homemade display copy to the local newspaper (p. 210).

Google's automation of this "dance" effectively levelled the playing field for all businesses and saved Google untold amounts that would have normally been required to run a sales and advertising department. By utilizing a self-service model for advertisers to create their own advertising campaigns, Google managed to completely circumvent the ritual of sales and negotiation of advertising. To start a campaign using AdWords, Google's name for the ad placement service, all advertisers have to do is to open an account, select key words that best describe their businesses, write up some text copy, and choose the amount they want to spend. Once settled, advertisers can let the ads run and then monitor their effectiveness using the free tools that Google provides. If the campaign isn't operating at the level they like, they can easily change virtually any aspect of the campaign, including the wording of the ads, the bid amount for the keywords, and even the keywords themselves.

The system is easy to use for advertisers and places the controls into their own hands, while at the same time saving Google the effort and expense of managing their account. Once the system was in place, little intervention is required from Google to keep it running. No sales force is required to sell advertising, no graphics department required to create ads, and no service department to manage the accounts.

Google doesn't even have to negotiate new prices, since the customers placing bids do it by competing with each other. The more popular a term becomes, the higher its bid price; thereby greater levels of participation have the effect of not only generating more revenue for Google because of a higher number of participants, but also because the value of keywords goes up due to competition amongst the bidders.

AdWords became a great tool for small businesses that had up until then not been able to afford mass advertising. A number of attributes made it attractive to small businesses and individual entrepreneurs, not the least of which was price:

1. Low cost of getting started
2. Reach a massive audience
3. Able to create their own ads. Because no graphics are required, anyone can craft an ad.
4. Able to change the ads. If what they have created isn't working, advertisers can easily change the ads.
5. Able to set their own bid price, and change it whenever they want to.
6. Able to track how their ads are doing and adjust their campaign accordingly. Google provides sophisticated tracking tools that advertisers can use to measure the costs and results of their campaigns.

By lowering the cost of entry, Google substantially increased the size of its target market by making advertising available to a whole new demographic of businesses that would not have been in the market otherwise. Anderson (2006) calls this the Long Tail, suggesting that the large number of niche market operators that are too small to be served under the mass marketing system, can be served more effectively in the network economy, and can collectively provide ad revenue equivalent to that achieved by serving the other end of the spectrum, that is, big business:

> The effect of this model has been to extend Google's advertising business farther down the tail than any company ever has. Today, there are thousands of small Google advertisers who had never

> advertised anywhere before. Because of the self-service model, the measurable performance, the low cost of entry, and the ability to constantly tweak and improve the ads, advertisers are flocking to this new marketplace. They don't have to have their arms twisted; no human at Google need ever contact them at all. The result; fewer employees and a model that is as efficient in the tail as it is in the head (p. 212).

Google's automated model also opened up advertising to publishers on the Web through its "AdSense" network. Again, no salespeople were needed. Online businesses, bloggers and magazines could choose to host Google ads by signing up for an account, placing some code on their website, and the software would automatically place relevant ads on their websites based on the content they provide. Site owners would then receive a percentage of the revenue from the ads that were clicked on their websites. Again, this allowed Google to open up access to the Long Tail for publishers with virtually no investment since the company did not pay anything until the ad was actually clicked.

As CEO Eric Schmidt explains, opening up AdWords and AdSense to small businesses did not mean that Google ignored the large companies:

> We looked at this and we said, "We've been doing really well up until now in the middle part of this – well-run, mid-sized business, smart people solving interesting problems. But how well do we do against the problems of the very largest customers?" so last year we brought out a whole suite of tools for very large advertisers who can use our services in all of their divisions to generate lots and lots of revenues because, of course, in our model of advertising drives predictability, it drives conversions, and so forth.
>
> …
>
> So [we went] in both directions. By going to the bottom with self-service, we were able to reach advertisers who fell below the threshold of traditional advertising. And by going all the way to the top, we were

> able to capture very large and historically underserved businesses as well as a whole new area that never had access to these kinds of online services (Anderson, 2006, pp. 213-214).

To get a sense of how large that market might be, one has only to look at the scale at which the Internet operates. For example, as Anderson (2006) illustrates in the following example, low rates of participation can still produce exceedingly large numbers in returns:

> What it boils down to is that *more is different*. If only 1 percent of the hundred people in some school's sixth-grade class volunteer to help make the yearbook, it doesn't get done. But if just 1 percent of visitors to Wikipedia decide to create an entry, you get the greatest trove of information the world has ever seen. (In fact, it's closer to one in *ten thousand* Wikipedia visitors who are active contributors.) More is different in that it allows small percentages to have a big impact. And that makes more simply better.
>
> The point is that the Internet, by giving everybody free access to a market of hundreds of millions of people globally, is a liquidity machine. Because it reaches so many people, it can work at participation rates that would be a disaster in the traditional world of non-zero marginal costs. YouTube works with just one in a thousand users uploading their own videos. Spammers can make a fortune with response rates of one in a million (p. 128).

Another way that Google has saved costs is by owning its highly sophisticated data centers that are at the core of Google's infrastructure. There are over thirty-six warehouse-sized server farms in all parts of the world that provide the Internet backbone that supports the company's activities and allows Google to control its technology costs while enjoying the advantages of operating on such a massive scale. In his book, *Free*,

Anderson (2009) describes how Google's investment in this infrastructure allows it to contain its costs of service:

> These data centers are the triple play of technology – processing, bandwidth, and storage – embodied. As Google adds more of these information factories around the world, they don't get cheaper, but they do get more powerful. Each new data center's computers are faster than the ones that came before, and its hard drives hold more information. As a result those data centers need bigger pipes to the outside world. Add up all this capacity and you can see why each data factory Google builds can do twice as much for the same price as the one it built about a year and a half earlier (p. 121).

Gordon Moore ("Moore's Law," 2009), co-founder of Intel Corporation, predicted in 1965 that the processing power of computers would double every two years. Its corollary is that cost would go down. Therefore, each new data center that Google builds, increases its ability to provide massive amounts of storage at half the cost every eighteen months to two years. It explains why Google can offer unlimited storage for Gmail, Google Maps and other services. According to Anderson (2009), Google owns approximately half a million servers in thirty-six data centers world-wide, but mostly in areas that offer cheaper electricity, since that is one cost that isn't going down. Data centers typically need a lot of electricity, not only to power the servers twenty-four hours a day, but also to keep them cool and to keep the premises secure.

Just as Google has quietly been building its massive data centers that have enabled it to compete effectively and obtain a substantial market share in search technologies and online advertising, it seems likely that Google is also planning its move in other directions to extend its reach. Having the capital resources to experiment with different new innovations (some have been successful, others not), Google has ventured both into mobile and video, the two next big things that have been predicted by market watchers. In the past, Google's strategy has typically been to become recognized in an

area, such as email, and then add advertising wherever feasible, and its foray into the mobile and video platforms are likely no exception.

Google is already making inroads in mobile wireless services by offering free telephone directory services through its voice-operated GOOG 411 services at a time when traditional telephone providers are charging a dollar to a dollar-fifty per directory assistance call ("Cell services keep it easy, and free"). Google is also providing a Gmail for Mobile service that allows users who do not have Personal Digital Assistants, in other words PDAs or Blackberrys, or smart phones to check their Gmail account for new messages, search, reply and forward. Users can even open attachments, including Word, PDF, and image files. In essence this mini-software device will turn ordinary cell phones into fully functional email receivable phones. Again, all for free ("If Cellphones Could Mimic BlackBerrys"). Most recently, Google has released Google Voice, a service currently available only in the U.S., that provides free telephone services via the Web. The service also offers to consolidate all of the user's phone numbers into a single phone number so that when any of the subscribed numbers rings, the call can be received by any of the connected numbers. In this way the user has access to all incoming calls no matter where he or she is physically located.

The mobile platform offers a vast opportunity as it would be especially suited to Google's already pervasive map technology. Utilizing the geographic and local data that Google has already accumulated with its communication and search technologies could offer some powerful and lucrative opportunities for Google. It will be interesting to see how Google might combine the above-mentioned services with its advertising business model. The potential for Google in this area is virtually limitless.

Google's video aspirations may be evidenced by its recent purchase of YouTube and a report that it is quietly buying up dark fiber. Dark fiber, according to Fingar (2006), is high capacity fiber optics cables that have not yet been used. These types of cable are expensive to install, and during the dot-com era, large quantities were installed to cope with the expected global demand that never materialized. These cables now exist but are

not being used nearly to capacity. In a recessionary economy, the value of these cables is extremely low, while Google's financial reserves seem to be weathering the storm rather nicely. If it is the case, as has been reported, that Google is on the hunt for these cables, it would seem an ideal time for it to do so. Fingar (2006) suggests that:

> Google is on a worldwide buying spree of dark fiber which analyst, Dave Burstein, thinks could ultimately support "the world's largest video server network," what he calls "the largest TV 'anti-network' in the world…The key idea [he states] is that Google intends to become the most important video carrier on the planet and is developing the servers and fiber network to make that possible. As television shifts to the Net, only Yahoo and perhaps British Telecom are in position to compete. The ABC's and NBC's of the world are outclassed. Google has told their folks to plan services as though the servers and delivery cost next to nothing (pp. 40-41).

Whether Google can lower its cost to near-zero, as it has done with its server farms, will of course depend on it owning the fiber. It costs next to nothing when you own the apparatus, or the revenue far outweighs the costs when compared to the costs the company would run if it didn't own the infrastructure upon which it runs.

Corporate Philosophy

To understand the thinking that has led to key developments in this company, it may be helpful to look at the credo the company says it is guided by. As explained on Google's Corporate Philosophy page, these are the things the company says it has found out. Entitled, "10 things Google has found to be true," the document contains the following ten items (detailed explanations of each of the items have not been included here, but may be found at the company website):

1. Focus on the user and all else will follow.
2. It's best to do one thing really, really well.
3. Fast is better than slow.

4. Democracy on the web works.
5. You don't need to be at your desk to need an answer.
6. You can make money without doing evil.
7. There's always more information out there.
8. The need for information crosses all borders.
9. You can be serious without a suit.
10. Great just isn't good enough.

("Google Corporate Overview")

Google's rise to the top has been meteoric by most standards. The company founders have certainly made it seem easy, but in reality it was a likely combination of brilliant strategy, a well-executed business plan, and perhaps a bit of luck. As programmer and author Paul Graham points out in the following excerpt, the company managers certainly seem to be standing in the right place:

> The Web naturally has a certain grain, and Google is aligned with it. That's why their success seems so effortless. They're sailing with the wind, instead of sitting becalmed praying for a business model, like the print media, or trying to tack upwind by suing their customers, like Microsoft and the record labels. Google doesn't try to force things to happen their way. They try to figure out what's going to happen, and arrange to be standing there when it does (Anderson, 2006, p. 70).

Chapter 4: Launched: World's Largest Bookstore

One of the earliest adopters of Internet technology for business was Jeff Bezos, founder of Amazon.com. While Amazon.com is not a completely Internet-based company, it deserves to be studied because not only did it use Internet technology in new and innovative ways, it survived the dot.com bust of 2000 when many other Internet-based ventures had failed, and it did so in an industry that was not digital-based but more commonly associated with the bricks and mortar stores. By incorporating a strategy of powerful systems and excellent customer service, the company was able to develop a loyal and enthusiastic customer following. Part of the plan was to provide a personalized shopping experience for free. At first glance, it might appear that Amazon.com gives nothing away for free as its business model is strictly that of a retailer making its money by selling goods. A closer look reveals, however, that Bezos incorporated customer service practices that were not being offered by any other book retailer. The free services are so well integrated into the customer experience that they appear natural and unremarkable, yet without them, it is clear that Amazon.com would not have enjoyed its continuing success as a leading online retailer.

In 1994, Bezos was a senior vice-president at D.E. Shaw, a technology-based trading firm on Wall Street, when he was given the task of researching the new Internet phenomenon for potential business opportunities (Spector, 2000). Bezos discovered that Internet usage was growing at an astonishing rate and that opportunities did indeed exist for entrepreneurial activity. He compiled a list of twenty products that he felt would do well if sold on the Internet – highest on the list was books. Bezos believed that books were ideal for many reasons. The industry was already in the midst of a sea change, the traditional conventions and methods for selling books were not efficient, and there didn't appear to be any single company that dominated the industry. D.E. Shaw's founder and CEO, David Shaw, however, wasn't impressed and declined the opportunity to develop an online retail operation. Disappointed by this decision and eager to pursue the

challenge, Bezos made the decision to resign from his job and start his own Internet-based bookselling business.

In 1995, Bezos opened the virtual doors to Amazon.com (originally named Cadabra), which he started on a shoestring budget of $10,000, a fraction of what it would have cost him to start a traditional bricks and mortar bookstore (Spector, 2000). From the start, Bezos envisioned a different kind of company. In his own words, what he wanted to create was this: “We seek to offer the Earth’s Biggest Selection and to be the Earth’s Most Customer-Centric Company, where customers can find and discover anything they may want to buy online” (Applegate, 2008, p. 1). It is interesting to note that even in this early description of his company, Bezos did not refer to his company as an online bookstore; instead his claim was much more expansive to include “anything” the customer wants to buy online. And that, it appears, is what he managed to create.

It took pluck, hard work, strategy, and personal charisma to create this virtual retail environment, but none of it would have been possible without the backbone of the Internet providing the means to reach customers and advanced computer systems to manage the operations and distribution of such a high volume of books. In fact, it was the kind of business that could only operate on the Internet. In a bricks-and-mortar store, sales volume equivalent to what Bezos anticipated would have necessitated an enormous warehouse to house the inventory, larger bookstore premises to accommodate the increase in customers, and additional staff to manage the warehouse, the sales, and the accounts. By contrast, a virtual bookstore, Bezos expected, wouldn’t need additional resources once the computer systems and processes were in place regardless of the volume it generated – new warehouses wouldn’t be needed since he had signed agreements with distributors and publishers to supply books just in time; a larger storefront wouldn’t be needed because the company website would handle all of the customer traffic, and sales and bookkeeping staff wouldn’t be needed since the website ‘back-end’ would manage the sales, and the customers themselves would do the work of

data entry as they filled out their order forms. The concept was extraordinary – and Bezos was excited about putting it into action (Spector, 2000).

The only thing he needed to focus on, Bezos believed, was to establish a secure, stable Internet-based infrastructure that could handle the volume of anticipated growth and provide customers with the information and interactivity they could not experience elsewhere. Bezos' deep understanding of computer systems helped him to make critical decisions about the hardware and software components he would need to develop that infrastructure. He was committed to three things – a vast choice of titles, low prices and personalized customer service – the system the company developed would have to handle not only the current volume of business, but also the additional growth that would come with success. Bezos' commitment to create a strong and reliable system was so great that he put as much funding as he possibly could into the development of the system. Still, funds were limited, yet the Amazon.com programmers were able to construct a stable system that could handle the growing database of customer orders, the website and user interface, and the accounting and tracking needed for sales, payments and expenses. Since none of the commercial software programs available at the time could handle the company's specific needs, the programmers used open source software like "C" and Perl to create what they wanted (Spector, 2000). Paul Barton-Davis, one of the early programmers at Amazon who worked on setting up the system recalled that:

> Open-source software provided the infrastructure for us to write programs, to develop them, and to debug them. It provided us with the tools to do what we were doing. Without them, we would have been using commercial software from, for example, Sun Microsystems or Digital Equipment, which, for the most part, didn't work as well. The [open-source software] tools we were using were sufficiently evolved (Spector, 2000, p. 51).

In addition to the attention he paid to the technical details, Bezos was almost fanatical about providing excellence in customer service. He required that every aspect of

the customer experience be tested and 'what if' scenarios be played out so the programmers could anticipate every permutation of customers' actions on the website and ensure a smooth and problem-free customer experience. In his book, *Amazon.com: Get big fast*, Robert Spector (2000), notes that:

> Unlike many other Web retailers, Amazon.com had a system where orders were recorded, registered, and processed at one time, in real time. The customer was immediately apprised of the status of the order, how long it would take to ship the book, the amount of shipping costs, and how much sales tax (only for Washington state residents) had to be paid. The company instantly sent an e-mail message that confirmed all the previously mentioned details; a follow-up e-mail alerted the customer that the order was shipped. By using his Amazon.com password, a customer could use the Amazon.com website to follow the status of his package through the various delivery services, such as UPS and Airborne. This system minimized delays and miscommunication, and helped to promote Amazon.com's reputation for attentive customer service" (pp. 78-79).

It was this attention to the customer experience that distinguished Amazon.com from other Internet booksellers. Indeed, Amazon.com was not the first Internet bookseller. That honour belongs to Computer Literacy Bookshops, Inc. based in Sunnyvale, California. In 1991, it began offering its mostly technical and computer literate customers an email ordering service. This was the pre-graphical user interface era, and the text-based Internet was not easily accessible to the general public. In addition, ecommerce was not a sanctioned activity, so the company did not publicize its offerings (Spector, 2000).

Bezos' entry four years later into online commerce was situated perfectly to take advantage of advances in user interface technology and the commercialization of the Internet. Wooed by the selection, low prices and enhanced customer experience,

customers flocked to the Amazon.com website, and sales surpassed even Bezos' own rosy expectations.

The general consensus in those days was, according to Mark Andreeson, cofounder of Netscape, that companies had to build market share quickly. Once they did that, they would be assured of having greater revenue later. In a way it made sense. The Internet offered brand new virtual real estate, and whoever staked a claim first would have a head start over others. Further, it was considered important to not just stake a claim, but to stake as big a claim as possible, because once competition heated up, and the Internet became well known, then, those that had the biggest claim would be the winners. The movement came to be known as 'Get Big Fast,' and Bezos adopted it gleefully. Every bit of money he could scrounge up went into the company, especially to bolster the technology infrastructure. The rationale was that if the process worked, the customers would be happy, and if the customers were happy, they would be loyal and keep coming back (Spector, 2000).

Bezos' strategy of wooing the customer paid off, and in 1995, even while the company was still operating out of his family garage, company sales reached $20,000 per week (Applegate, 2008). The company continued to attract new customers and enjoyed a positive valuation, so that when it issued an Initial Public Offering (IPO) in 1997, it was able to raise close to $50 million dollars. As sales improved, Bezos invested even more capital into building and improving the infrastructure. According to Applegate (2008), who prepared a Harvard Business School case study on Amazon.com, "During 1998 and 1999, Amazon.com spent over $429 million to build a state-of-the-art digital business infrastructure and operations that linked nine distribution centers and six customer service centers located across the U.S. and in Europe and Asia. Built with rapid growth in mind, in late 1999 this distribution infrastructure provided roughly 70% to 80% overcapacity" (p. 1). This meant that the savings the company had expected to enjoy when it was running at full capacity had not kicked in yet.

Nevertheless, Amazon.com's intense drive to "grow big fast" had worked. Applegate's (2008) research shows that even during the dot.com bust, when so many companies were going under, Amazon.com's customer base continued to grow rapidly. "More importantly," she notes, "these customers were not just shopping, they were also buying, and revenues increased from roughly $610 million in 1998 to $1.6 billion in 1999 then to $2.8 billion in 2000" (p. 1). The company was clearly a hit with customers, and Bezos was hailed as "Man of the Year" by Time Magazine (2008).

Bezos achieved such remarkable results by utilizing some of the key drivers of the knowledge economy: communication, convenience, customization and community. First, Amazon.com could boast it was the largest bookstore on Earth without actually having to carry the inventory that would have normally been required to prove it. It simply had to be able to *access* the largest quantity of books compared to any other bookstore, and do it in real time, meaning there should not be a time lag between the inquiry for a book and the resulting information. Deciding to make the entire contents of the *Books in Print* catalogue containing over 1.5 million book titles available to his customers free of charge was a smart move. Even though this required an expenditure of both time and resources, it delivered exciting results. Spector (2000) describes it this way:

> Initially, Amazon.com's database came from Books in Print, the book industry's definitive reference source, which is published by R.R. Bowker of New Jersey. Bowker, which is the official registry agency in the United States for International Standard Book Numbers (ISBN), distributed a CD-ROM (periodically updated) to bookstores, libraries, and other book repositories; its 1994-95 version listed 1.5 million titles. Transferring that entire list of titles from the Bowker CD-ROM to the Amazon.com database was a tedious and time-consuming process because only 600 titles could be retrieved at a time. Kaphan [Amazon.com's first programmer] compared the process to emptying a swimming pool using a drinking straw. The transfer of Bowker's weekly

update of changes, deletions, and corrections took almost an entire day (p. 52).

Another information source for books in print was the Library of Congress, which records every book printed in the United States. This would have been useful for its subject classifications; however, the system didn't work well in the way that Amazon.com needed, so little more was done with it.

The strategy of making the book catalogues available to customers paid off in a number of ways. First, customers experienced the idea of plenitude – any book they wanted out of the 1.5 million that had been listed was available to them. However, by also making the catalogue searchable -- by author, title, subject, publication date, and keyword -- Bezos provided a second free service that became a drawing card for customers. Placing the resources and freedom to browse into the hands of customers made his bookstore the ultimate place to go to for not only purchasing books, but also to find information about books. Indeed, the information available on Amazon.com sometimes far exceeded what was available at some local libraries, so many people began to use the Amazon.com online catalogue as a reference source, much as one would use a free public library service.

In addition to providing information about a million and a half books, Amazon.com's powerful computer systems were able to accurately inform people about the availability of those books. Bezos had created partnerships with distributors and publishers allowing him to order books only as needed so he wouldn't have to carry an inventory. Depending on where the book was coming from, his website could accurately inform the customer how soon he or she could expect the book to be sent out. If the book was one of the few that Amazon.com kept in stock at its own warehouse, the site indicated it would be shipped within twenty-four hours, if it was in stock at one of the distributors, it would be shipped within two to three days, and if it had to be brought in from the publisher, the site advised customers that it might take four to six weeks, or that it might not arrive at all. If the book fell into the latter category, customers were offered

alternative books within the same category (Spector, 2000). Once the order was placed, the system was able to apprise the customer of its order status in real time. In both cases, the customer was provided with instant information.

By contrast, a customer searching for a hard to locate book at a local brick-and-mortar store would have had a completely different experience. If a customer asked for a book that wasn't on the shelf, he or she would be sent to the special orders desk. There the customer service clerk would pull out the enormous bound catalogues to see whether the book was still in print and where it might be ordered from. The print versions, of course, did not provide accurate information about the actual availability of the book since up-to-date data about the sales and returns of the item could not be found in the print catalogues. So the customer would have to order the book, pay the required amount and then wait four to six weeks to find out whether in fact they had acquired the book. Provided that the book was available, when it came in, the bookstore would then have to call the customer to return to the store to pick up the book. This was hardly a convenient method when compared with Amazon.com's up-to-date information service and home delivery.

Two additional free services that Amazon.com introduced were called Editors and Eyes (Spector, 2000). These were automated services that provided recommendations or alerts based on a customer's preferences. Editors utilized Amazon.com's in-house editors' recommended selections to provide customers with book recommendations based on their previous purchases. Eyes alerted customers by email when a new book by one of their favourite authors became available. Again, Bezos' insistence on developing powerful computer systems and custom software aided in the task of matching customer preferences. Barton-Davis explained how it worked:

> What hangs it all together is that the search language defined inside the whole system lets you move queries inside the system in some standard form…So, when you have just completed a search for something, the system knows what the query was. When a customer

> tells you, ‘I’d like to be told about books like this in the future,’ the system takes that query and stuffs it away somewhere. Then that evening and all subsequent evenings, it takes that query and runs it against the database… as if you had just typed it in yourself (Spector, 2000, p. 71).

Providing customers with valuable information (that is, information they needed and wanted) about books was providing Amazon.com with the edge it needed to compete in the industry. However, the Books in Print catalogue didn’t really provide a lot of information beyond the basic publication date of title, author, publisher, date, and ISBN number for each title. So, Amazon.com started a new feature on the website entitled Spotlight, where a book would be featured, and additional information provided by publishers or third party reviewers would be added to accompany it. This generated such a high volume of sales that it became apparent that more reviews and comments about the books would be an excellent marketing strategy. When information about the book was not available from publishers or reviewers, company workers were enlisted to review books themselves. Since in the beginning of the company’s history, everyone was expected to pitch in, it was expected that employees would review 10 books each week. The continued popularity of reviews generated more ideas about how additional information and even graphics of the book covers could be added to the website.

Bezos had been keen to develop a feeling of community right from the start, so developing a community of reviewers seemed like a natural step to take. Providing customers with information not readily available elsewhere was an important company strategy, and employing readers eager to share their views to provide it was a master stroke. Not only would Amazon.com provide its readers with a valuable service for free, but the company would also be able to acquire the content for free. One of the company’s important selling features became the ‘recommend a book’ community where unpaid customers reviewed books for the benefit of other customers. People loved to read these reviews by “real people,” who were not publishers or experts, but people like themselves.

Once people submitted a review, they had something invested in the viability of the store. Not only that, people then encouraged colleagues, friends and family to check out their posting. Amazon thereby not only received the reviewing services for free, it also got free word of mouth marketing, that can't be bought at any price.

Unlike having employees write the reviews, however, getting community members to review books could lead to some sensitive situations such a reader bias, inaccurate information, or socially and or politically controversial comments. Amazon.com was unwilling to censor readers' posts, as that would have defeated the purpose of a true community. It was important to maintain the authenticity of the posts, so what better way to do it than by encouraging a dialogue? If readers could comment on and rate posts, the company would benefit from customer engagement and have readers themselves monitor the posts for bias or inaccuracies. Rating the reviewers offered an added benefit – reviewers that received high ratings were motivated to add further reviews, prompting more feedback and so on.

There is no subject more controversial than money in some circles, and the following two reviews found on Amazon.com on a self-help financial book illustrate how the website's facility to accommodate multiple reviews helps to provide a venue for a wide range of opinions to give readers a fuller account of the book. Robert Kiyosaki's book, *Rich Dad, Poor Dad: What the Rich Teach Their Kids About Money – That the Poor and Middle Class Do Not!* (1998) has been a bestseller since it was published in 1998. As of August 2009, the book had been reviewed 2,271 times on Amazon.com. Clearly, people have some strong opinions about the book and felt they had to share them with readers. Sifting through that volume of reviews would be virtually impossible, except that Amazon.com's software keeps track of ratings each review gets and calculates which is the most helpful review in both the pro and con camps, and serves these two up at the top of the page.

The following review for the book was labelled by Amazon.com at "The most helpful favourable review":

968 of 1,010 people found the following review helpful:

 Financial Literacy 101, June 19, 2002

By **barry kaufman**

Where do you learn about money? School? No! Too busy memerizing war dates. Parents? Possibly, but not likely.If you dislike this book you have probably bought into the Great American Lie of go to school, get a job and after 40 years you get a gold watch. And you are in rat race my friend.I have a gold watch already. It says to Barry Kaufman the greatest guy in the world from Barry Kaufman the greatest guy in the world. I didn't have to wait 40 years for mine or sell my soul to corporate America for a little cup of soup (called wages)I also suggest reading Who Stole the American Dream, Wave 4 and Turner, Turner, Turner: The King of Network Marketing.

("Amazon.Com: Customer Reviews")

The spelling and formatting for the above review have been copied exactly as they appeared on the Amazon.com website. The second review, labelled by on the website as “The most helpful critical review,” provides a balancing counterpoint to the gushing enthusiasm of the first. It’s interesting to note that while 162 out of 170 people found this review helpful, the reviewer received only one star out of a possible 5:

162 of 170 people found the following review helpful:

 Inspiring **to some, misleading and dangerous to most**, April 26, 2005

By **Student**

For the most part, it seems that people either love or hate the book and now having read it, I think I understand why. Most likely it seems that it depends on your personal situation and knowledge prior to reading the book.

I think that if you were someone who was just making ends meet, using all of your salary to support your lifestyle (in Kiyosakian parlance, buying "liabilities") and doing little to save and invest (buying "assets"), I can see that this book might serve as a wake up call and can inspire and motivate people to look for ways to possibly change their situation. Furthermore, the book's various claims, (however misleading or unrealistic as I point out below) plays right into such people's desires to learn the "secret of success" of the rich that if only they knew, they could quit (or abandon their plans) to go to school, quit their jobs and just invest and live off of investments the rest of their lives without working.

OTOH, if like many of us, you were making a good salary WORKING but spending responsibly (i.e. limiting "liabilities) and meanwhile trying to invest aggressively as much as we know how to do based on our unique circumstances and preferences (buying "assets"), the book really provides no substance and stretches credibility. For us, you don't need inspiration and what specific info the book provides is either dated, incorrect, or misleading. Also for many of us, we didn't read it realizing ahead of time that it was entirely a

> motivational book rather than a "methods" book since the title alludes to "methods" that that rich possess that we of humbler backgrounds lack.
>
> This book makes fantastic claims. There is a quick and easy "secret of success" that "the rich" (always treated as a monolithic group) know and the rest of us don't; this "secret information" is far more important than hard work, getting a good education, investing wisely, or any traditional method to become rich and successful; and if you only learn "the secret" (translation: buy Kiyosaki's book) you, too, will be rich…

("Amazon.Com: Customer Reviews")

To further utilize customers' expertise and promote engagement, Bezos introduced "Listmania", a free service that allowed customers to assemble a list of their favorite books and provide annotations, reviews, and commentary that other readers might find useful. Being invited to provide a list of books the reader felt were important and given the opportunity to comment on them, created an opportunity for customers to express their views and build their reputations as experts in whatever field they chose.

While an accurate account is not available, the lists number in the thousands and range from collections organized around themes, hobbies, causes and just about every topic under the sun. The Amazon.com website helpfully offers a search function. A search for robots, for example, turned up 1,101 results. Some were simple lists of recommended books and films, while others like the one following, from the Yahoo Sci Fi Book Group, entitled "The Greatest Robots in Sci Fi" provided more detail:

The Greatest Robots in Sci Fi

A Listmania! list by **Yahoo_Sci_Fi_Book_Group**

The list author says: "The Yahoo Science Fiction Books Group is comprised of 392 people who love to read and talk about science fiction. We asked our members to name the most memorable robots or androids they have come across in their reading. For the purposes of the list, we defined a robot to be a mechanical device with a high degree of programmed intelligence and the ability to move and interact physically with its environment. Here are 17 of our favorites.

If you, too, love to read science fiction, come talk to us at http://groups.yahoo.com/group/Science_Fiction_Books."

("The Greatest Robots in Sci Fi," 2009)

The seventeen recommendations in this list include both classics and lesser known texts (including one film) and provide helpful commentary:

1. R.U.R. (Rossum's Universal Robots) (Penguin Classics) by Karel Capek

The list author says:

"(1921) We start with R.U.R., a science fiction play that first introduced and popularized the word “robot”. Surprisingly, it addressed many themes that would be at the core of later robot novels: the rights of robots as thinking beings, robot emotions, and rebellion against humans. In 1938, it became the first sci fi story ever produced for TV, by the BBC. Recommended by Jan van den Berg."

2. The Hitchhiker's Guide to the Galaxy by Douglas Adams

The list author says:

"(1979) Nikunj Vaidya recommends Marvin, the paranoid android. “He has personality, attitude and style. There is no paranoia in his temperament. This ultimately funny piece of hardware is a complete can of sarcastic humor; usually depressed if not totally bored. He is known to have pushed an automated battle ship to suicide with his conversation.”

3. I, Robot by Isaac Asimov

The list author says:

"(1950) Russell Clothier says: “I, Robot is a collection of nine stories that explore different aspects of Asimov’s famous “Laws of Robotics.” The first and oldest (1940) story is about Robbie the Robot, who works as a nanny for a small girl. It is one of the first sympathetic portrayals of a robot as something that a human could care for or even love.”

17. Star Wars Episode IV - A New Hope (1977 & 2004 Versions, 2-Disc Widescreen Edition) DVD ~ Mark Hamill

The list author says:

"(1977) Although this is a reading list, we must pay homage to the great robots from TV and film, such as the robotrix from "Metropolis", Robbie from "Forbidden Planet", and the robot from "Lost in Space." But arguably the most famous robots in SF history are R2D2 and C3PO from Star Wars. As John Prices says, “they’re more human than most folks I know!”

("The Greatest Robots in Sci Fi," 2009)

In addition to the annotations provided by the list authors, links are provided to reviews by other customers, and of course, each of the recommendations also has the trademark Amazon.com “Add to Cart” button. Again no money has changed hands, but the reviewers are handsomely rewarded in ‘egoboo’, which even with its techie/hacker connotations refers to the reputation or kudos reviewers receive. The result is a community of customers who are not only buying books, but sharing knowledge with other customers, effectively building a community of readers utilizing tools provided by Amazon to host their thoughts and opinions, thereby creating strong loyalty to Amazon.

It would take an extraordinarily strong local bookstore community to generate an equivalent exchange of ideas. A cork bulletin board in a bricks-and-mortar store just would not cut it. Many independent bookstores simply don’t have the resources or the staff to also facilitate and manage the interactions and group discussions of their customers. By providing this free service, Amazon.com is creating an attachment, perhaps even loyalty, from customers who cannot find a forum for their engagement and self-expression elsewhere.

An advantage that Amazon.com has enjoyed is the resourcefulness of the company founder. Not willing to settle for what the company has already achieved, Bezos continues to look for new ways to add value to the customer experience. Some of his initiatives are designed to encourage a sense of community, while others improve the user’s online browsing experience, while still others improve accessibility to the website and to additional book-related information.

In 2001, Amazon.com introduced the ultimate technology that had the capacity to minimize the one advantage the brick-and-mortar stores had over online stores: the facility to allow customers to actually handle the books, to open them and examine the contents. No amount of description, images or reviews that an online store could provide could match that first-hand experience of interacting with the book itself. With the new “Look Inside” feature, Amazon.com came close to providing that experience for its customers. It attempted to simulate the experience of actually picking up a book to get a

feel for it, to look at the table of contents, and to even read a piece to determine whether that was the book the reader wanted.

Creating the functionality was technically complex and expensive to build. It required getting the consent of authors and negotiations with publishers to achieve. On October 10, 2001, Amazon.com distributed a news release explaining that it had made arrangements with book publishers to allow the company to post contents of books online. With the new agreement, customers could look inside a book for title page information, the table of contents, the index, and even a sample chapter. In the news release, the company explained how the technology would benefit both customers and publishers. This was again, value-added functionality, provided to the customer at great expense for free:

> This initiative allows customers to flip through the inside pages of thousands of books, while also offering publishers an entirely new way to showcase their books to Amazon.com customers.
>
> Amazon.com's bookstore (www.amazon.com/books) will now feature a vast selection of interior pages from over 25,000 titles, with thousands more titles to come. Whether browsing recipes found in cookbooks, illustrations from children's books, full indices of medical textbooks, first chapters from mystery novels or the millions of other pages available, Amazon.com customers can now explore these pages to help them find the right book ("Amazon.com Works with Publishers to Make Millions of Book Pages Available for Customers to Flip Through, with Millions More to Follow," 2001).

Amazon.com continues to create innovative ways to provide added value content for its customers. In 2006, it introduced “Amazon Connect” where authors could post blog entries directly on Amazon.com, and these could be accessed by readers who had either purchased the author’s books or had signed up to receive these posts. An Amazon.com news release posted on its website explains it like this:

Author posts can be anything from current musings or information about upcoming projects to reading recommendations. Promotional posts are not allowed. Recent posts include insights into the frustrations and joys of the writing process, tips for aspiring writers, opinions on popular culture, and even favorite travel destinations and recipes. In addition to the Amazon.com home page, posts will appear on book detail pages, a blog page and on a special author profile page that features the author's three most recent posts and entire bibliography. In addition, customers can sign up to receive posts from authors whose books they have not previously purchased on Amazon ("Amazon.com Launches "Amazon Connect" Enabling Customers to Receive Messages Directly from Authors," 2006).

The news release included a statement that over a thousand authors had already signed up. Sample blog posts were also included in the news release, and give a sense of the form these posts might take. This one from author Robert Crais appears very informal and conversational, which might easily give readers a sense of special access to the author or of getting to know the author on a personal level.

Hello!

1:41:33 PM PST, January 26, 2006

This is seriously cool, gang -- a place on Amazon where you and I can get to know each other. I have a new book coming soon, and a website, and all manner of neat stuff to share, so let's get this dance started. ..

Most of you probably know me from the Elvis Cole novels. My new book, THE TWO MINUTE RULE, is not part of the series, but it began as an Elvis Cole novel. I was thinking about the nature of Elvis's clients -- the people who come to him for help. When you are

the victim of a crime, you go to the police, right? But what if you couldn't go to the police? I realized only one type of person could be so totally alienated from society; completely outside the system and friendless -- a criminal. That's when I met Max Holman, the main character in my new book, and realized this wasn't an Elvis Cole novel. The real power of the story is Holman's isolation. He's a criminal, he's broke, and he is the ultimate outsider. So how does a man like Holman catch his son's killer when he believes the killer is a cop?

You can find out more about THE TWO MINUTE RULE here on Amazon, and you can also visit my website, www.robertcrais.com, where you'll find my tour schedule. Maybe I'll be coming to a city near you.

By the way, are there any other VERONICA MARS fans in the house? I LOVE that show.

RC

("Amazon.com Launches ''Amazon Connect'' Enabling Customers to Receive Messages Directly from Authors," 2006)

Probably the most recognizable example of Free from Amazon.com is its offer of “Free Shipping” for orders over $39 here in Canada and orders over $25 in the U.S. The motivation, of course, is clear: by spending a small amount on shipping (at the scale at which Amazon.com is operating, it can negotiate highly favourable rates with the delivery carriers), the company is guaranteed large consumer purchases. It began offering its U.S. customers free shipping on orders over $99 as an experiment in January 2002. The response was so overwhelmingly positive, that in June of the same year, the company reduced the minimum purchase amount by half to $49 ("Amazon.com Announces Long-term Test of Free Super Saver Shipping On Orders Over $49 -- Hurdle Lowered From $99 to $49," 2002). It dropped the price again two months later to $25 ("Amazon.com Again Lowers Threshold On Free Super Saver Shipping to $25 in New Long-Term Test;

Cites Positive Results From Test of Free Super Saver Shipping On Orders Over $49," 2002).

Innovative services and practices continue to be announced by Amazon.com on a regular basis. The following announcements were made within a mere four month period:

- March 2008 – the company launched an application on Facebook enabling members to purchase gifts for each other based on wish lists registered on Amazon.com (Gonsalves, 2008)
- April 2008 – Amazon.com introduced purchasing via Text Message with 'TextBuyIt' mobile phone tool (Andriani, 2008)
- May 2008 – "Amazon.com has teamed up with Sony BMG and EMI Music to offer customers out-of-print CD albums on demand on the e-tailer's Web site." (Claburn, 2008)
- July 2008 – TiVo, a company that invented the Digital Video Recorder that allowed consumers to record TV show in digital format, recently announced that it had partnered with Amazon.com to enable subscribers to purchase products they see on TV using their remote controls to locate the item on the Amazon.com website and either purchase it immediately or to place it in their shopping cart for later. Users would log in using their Amazon.com ID and password. What this means is that viewers no longer have to be on a television shopping channel to make a purchase. "'Now, a record label can merchandise and sell a new artist's CD on a show where the music is featured, or a publisher can merchandise an author's book during a talk show when the author appears as a guest – the marketing possibilities are endless,' [noted] Scott Merlino, senior manager of business development at Amazon.com, said" (Stone, 2008).

Amazon.com's stellar growth over the last decade and a half illustrates Bezos' ingenuity or inventiveness for finding new streams of income for Amazon.com's longevity when many other technology-based companies that were started at the same time no longer exist. In the May-June issue of the Harvard Business Review, Kevin Werbach (2000) singled out Jeff Bezos and Amazon.com for the company's syndication strategy that helped it to stay in business and ahead of its competitors. "If Bezos had simply tried to maintain Amazon's role as a distributor, he would have doomed his company to endless price wars and vanishing margins, no matter how many different products it distributed" (p. 91).

Bezos' vision to create a "customer-centric" company has indeed produced results. According to a news brief issued by Publishers Weekly, Amazon far outperformed traditional bookstores in 2007. "The growth of Amazon has easily outpaced gains made by its bricks-and-mortar competitors … [it reported] North American media sales, which grew 29% in 2007, to $4.63 billion. In contrast, bookstore sales, as measured by the Census Bureau, increased 1.0% in 2007 to $16.76 billion…Over the last five years, sales through bookstores rose a meager 3.6%, while sales through Amazon jumped a remarkable 104%" (Milliot, 2008, p. 4). Clearly, Amazon.com is achieving some remarkable results.

Chapter 5: Life and Work in a Virtual World

Linden Lab, the company that created Second Life, one of the best-known virtual online environments, was started in 1999 by Philip Rosedale. His original intention had been to create immersive virtual experiences for users in real life; however, problems associated with producing the equipment required to do so forced him to reconsider. He settled on taking his virtual reality ideas online as an alternate plan. Using existing server technology, Rosedale planned to develop an online environment he called Linden World that would have both a gaming and a social component to it. His investors, however, preferred the social aspects alone, and so development plans were changed again, and in 2003, the Second Life virtual reality platform was born.

In basic terms, the Second Life virtual world was set up with a land mass, a currency, the Linden dollar, and some scripting and graphical tools to create a society and economy with. To participate in this 'brave new world,' users would have to create an account, download the software, and then log on. Linden Lab chose to make downloading the software, opening an account and spending time in the virtual environment totally free. Unlike other online environments, there was no trial period by the end of which the user would be required to purchase a paid membership. Users were free to roam, interact with 'residents' in-world, and personalize the look of their avatar completely free of charge.

Not quite a game, the new online environment promised to give users an entirely new experience, one in which they could participate creatively in designing a new virtual community that was populated by a range of life forms that were not all necessarily human. Users interacted with the world through avatars, graphical representations of themselves that they could create when they first logged in to the game. These could be changed later if users wished to try a different look. Communication in-world is done through text or more recently using voice. Avatar movement mainly involves walking, flying or teleportation. Once users create an avatar, they can mingle with the population,

meeting people from all over the world. The system even has a translation function that enables people to communicate with each other without being able to speak the same language. The cost to participate – completely free! Forever.

If free membership allowed users to do pretty much anything they wanted, what was the incentive for signing up for a paid membership? Paid accounts allow users to purchase land, build objects, and engage in commerce. In-world currency is the Linden dollar, designated by the L$ symbol, which can be used for buying and selling. What makes it unusual, however, is that it can be traded for real U.S. dollars on the Linden currency exchange. The going rate is typically between L$250 – L$270 for one U.S. dollar. The exchange rate fluctuates as it does with real world currency. According to Linden Lab CEO, Mark Kingdon (2008), known in-world as Mark Linden, "Second Life" residents have built a lively virtual world:

> What our residents build in Second Life demonstrates amazing imagination and creativity. Second Life is user generated content and collaboration on a scale that is unimaginable on the 2D internet. You can build a room, a house, a conference facility, an office park, a nightclub, a stadium, a game, a consulate, a hospital – and the list goes on. There are public lands for all to enjoy and private meeting spaces limited only to member of your group or company. All this creativity, combined with Second Life's vibrant economy enables tens of thousands of our residents are able to make real money *plus* pay more than half of our fees with credits from selling Linden dollars that they earned by creating valuable content.

Not wishing to miss out on the 'next big thing,' many real world companies have also purchased land and set up shop on Second Life. These include Coke, Nike, Cisco, IBM, Toyota, H & R Block, Sears, American Apparel, and Pontiac among others. Video and animation firms have also landed in-world to meet the development needs of these large companies and have done extremely well.

Since Second Life is not a game in the traditional sense – for example, it doesn't have an end-goal or rules of play – development can best be described as 'organic' as individuals and businesses, both in-world and real, literally stake a claim on this virtual real estate. Many residents, in a bid to cross over between the virtual and the real, hope to make their online activities pay in real dollars. Reportedly, some have been able to realize large incomes while others have not ("Second Life"). Nevertheless, according to Rosedale (Reiss, 2005), about 1.4 million transactions typically take place in Second Life *each month!*

The Business Model

Linden Lab amalgamated aspects of different business models into a hybrid that has worked well for the company up until now. The company has uniquely combined crowdsourcing (essentially tapping the free labour of its customer base to create the environment), retail (the sale of land), subscription (monthly land fees), and micropayments (currency exchange fees, custom search and classifieds fee, and other sundry fees).

Linden Lab's initial decision to provide a platform instead of a fully-realized game was a key element of the business plan. It enabled the company to deploy the virtual environment without having to invest in the creative and technical aspects of developing characters, story lines, game tasks and goals, alternative pathways, and detailed guides. It is difficult to say with precision what additional costs these may have added to the project; however, based on game development costs reported by other firms, $65 million might not have been an unreasonable number (Jackson, 2007). While the company does not publish its financial information, some have estimated company start-up costs were $25 million (Au, 2008).

While 'open source' is usually referenced in regards to software development, Linden Lab's environment development borrowed the concept successfully at a different level. As the authors of *The Virtual Cathedral and the Virtual Bazaar* explain:

> It is important to distinguish two layers in the makeup of virtual worlds. At the lower level program code controls the operation of the world, defining the building blocks and basic rules of the game. At a higher level of abstraction, the system simulates a virtual social habitat for players who can assume different identities in order to pursue various quests and goals. At this level, the world consists of space, characters and possibly creatures, objects, tools, and other items that can be taken and used to do any number of things. Users are able to create, change, and destroy elements in their environment. Hence, openness at this higher level refers to the degree to which the users shape the gestalt of the virtual world…In a community-based peer production setting, it is the users who volunteer and contribute development work without demanding remuneration that can lower development cost considerably (Araki & Lang, 2007).

It is this community-mindedness that Linden Lab was able to tap into. In fact, the enthusiasm of its user population for building the community became an asset for the company not only in dollars saved, but also as an attraction and incentive for others to join the community.

A second segment of the Linden Lab business plan was the sale of 'land.' When users purchase land, essentially, they are buying a location on the 'grid' with the right to consume a certain amount of the server's resources. By adding additional servers to the network as its user base grew, the company was able to invest in hardware gradually. Additionally, virtual real estate was virtually limitless. As areas became filled and more users joined the community, Linden Lab simply added new servers that would manufacture new land mass to keep up with demand. The land is sold by an automated auction system. Table 3.1 shows items listed for bidding in a land auction in U.S. dollars, real currency, to own a piece of Second Life real estate. The large variance in prices demanded is due to plot size and location.

Description	Price	Bids	Ends (PDT)
Hubbard (208,192) Mature 8256m2	$47.00	-	9/4/2009 12:00 PM
Seonggye (32,124) Mature 11360m2	$65.00	1	9/4/2009 12:00 PM
Minchau (34,72) Mature 4624m2	$27.00	-	9/4/2009 12:00 PM
Khanuy Gol (176,48) Mature 7680m2	$44.00	-	9/4/2009 12:00 PM
Centaur (184,160) Mature 18944m	$217.00	-	9/5/2009 12:00 PM
Black Art (34,158) Mature 13328m	$153.00	-	9/5/2009 12:00 PM
Fritts (128,208) Mature 5792m	$66.00	-	9/5/2009 12:00 PM
Haowang (160,64) Mature 17920m2	$102.00	-	9/5/2009 12:00 PM
Sooseunhwa (224,166) Mature 6704m2	$39.00	-	9/5/2009 12:00 PM

Table 3.1. Second Life land auction (One time fee). ("Second Life, Land Auctions").

The third element of the business plan, monthly subscription fees based on the size of property owned by the 'resident,' ensured a continual flow of revenue into the company (Table 3.2). With monthly fees ranging from a few dollars to hundreds of dollars (more for the larger and private 'land' formations that some companies require), subscriptions proved to be a lucrative source of revenue. Users recoup some of these fees in Linden dollars as they receive a weekly stipend of L$300, equal to about a $1.10 in U.S. currency.

Monthly Fees	Amount of Land
USD 5.00	1/128 Mainland Region
USD 8.00	1/64 Mainland Region
USD 15.00	1/32 Mainland Region
USD 25.00	1/16 Mainland Region
USD 40.00	1/8 Mainland Region
USD 75.00	1/4 Mainland Region
USD 75.00	OpenSpace
USD 125.00	1/2 Mainland Region
USD 125.00	Homestead
USD 195.00	1 Mainland Region

+USD 95.00	Additional1/2 Mainland Region (when already at US$195 level)
USD 195.00	Private Island on pre-2007 server technology (second hand purchase only)
USD 295.00	Private Island on current server technology

Table 3.2. Second Life land use fee (Monthly charges). ("Second Life").

The fourth and final element of the business plan generated revenue by charging fees for a number of small transactional items such as currency exchange, classified advertisements, concierge service for events and special naming for islands and avatars (Table 3.3). These usually smaller dollar amounts, sometimes referred to as micropayments, when applied on a large scale, can prove to be a healthy revenue stream.

Fees	Benefit
Free	Sign Up, Avatar Creation, Login ID, Access, Participation
USD 1.00	App. 250 Linden Dollars (exchange rate varies); transaction may be with Linden Lab or a resident seller
USD 0.30	Per transaction fee for buying Linden Dollars on currency exchange
3.5% of transaction value	Per transaction fee for buying Linden Dollars on currency exchange
USD 9.99/month	Premium membership (300 Linden Dollars per week)
USD 50.00	Island rename
USD 150.00	Island relocation
USD 500.00 + 20 premium memberships	Unique avatar surname for an organization

Table 3.3. Second Life Miscellaneous Fees. ("Second Life").

Revenue

While the numbers provided in Table 3.3, combined with usage figures obtained from the website and through other sources, can give a rough idea of the revenue Linden Lab is generating through its rather unique business model, exact figures are hard to come by. Linden Research Inc., also known as Linden Lab, is a privately held company. As such, it is not required to report its earnings; therefore, finding accurate published

financial data is difficult. Most of the information provided here was obtained from a variety of sources, including academic and business-oriented databases; however, the most detailed information was found primarily in Wikipedia entries and from bloggers specializing in Second Life reporting. Little is available directly from the company, however, some information has been gleaned from published and broadcast interviews given by the company founder, Philip Rosedale, and other members of the company executive, including the CEO, Mark Kingdon and VP, Joe Miller.

Estimates regarding the company's valuation, including revenue and expenses, varied widely among reporters and depended mostly on which usage numbers were used as a base and the value of expenses that were factored in. Especially since there is a lot of debate on the actual financial valuation of the company, a variety of perspectives are presented here in the interest of providing a balanced view of the company's resources and ability to provide its service for free.

Wagner James Au has been blogging about Second Life and Linden Lab since the inauguration of the virtual environment in 2003, and has recently published a book about Second Life entitled *The Making of Second Life: Notes from the New World*. In a blog post last year, he posed the question: How Much is Linden Lab Making from Second Life, Anyway? His surprising answer was $40 - $50 million U.S. calculated from estimates of the company's activities based on the published fee structure and typical charges. Here is how he arrived at that figure:

> There's currently 14,597 islands, and they make an average of $1200 for the sale of each; they charge $295 per island per month for land use fees. (I say average, as island pricing has fluctuated recently.) So about $17,500,000 for the island sales, but that's a one-time fee.
>
> Recurring income is around $4 million / month in island land use fees. The Lindens also charge land fees on the cheaper, Linden-controlled mainland continents, and that's maybe 30-40% of the total land mass, so say $2 million/month more. Add the island sales and

> commission revenue from L$/US$ transactions, plus the 92,000 Premium account holders paying $10 per month for another $2 million total a month. All that tabulated, $8 million a month gross seems like a safe (if very sloppy) guess.
>
> Add that up and you get around $96 million total gross income this year. But how much of that goes into expenses?
>
> Linden Expenses
>
> There's currently about 250 employees, so at an average of $100,000 a year each, that's $25 million. There's five offices (San Francisco, mountain View, Settle, Boston, and Brighton Dover, UK), so let's assume rent and related building/infrastructure expenses come out to $5 million…$10-20 million [for servers, and another $5 million for sundries].
>
> Add all the expenses together, and you're looking at $50 million per year.
>
> Subtract that from gross income, and you wind up with $46 million, hence my $40-50 million estimate window (Au, 2008).

Au put out a call to his readers to add corrections and details to his calculations if they had more information, and many responded. Even with the corrections and updated information, the guess that annual profit was in the $40 million range stood. A 2008 *InformationWeek* article, featuring Linden Lab's future plans reported that Au had estimated the profit to likely be at $20 to $30 million (Wagner, 2008).

In his blog post on July 24, 2008, new Linden Lab CEO, Mark Kingdon states that, "Second Life has an enviable business model." He points out that:

> Most social media/social computing properties are struggling to build a business model (usually advertising driven) that can support their voracious appetite for hardware and bandwidth. Second Life is very different. Second Life is the only social media/social computing property

> where, at its core, user-generated content and the economy is the experience. As a result, our estimates place our monetization levels at 3-30x that of major media and social computing properties.
>
> With a healthy and growing inworld economy of more than $330 million annually, our users are able to make real money and pay more than half of our fees with credits from selling Linden dollars earned by creating valuable content.
>
> How so? All the content in Second Life (some 2.2 billion items, or 250 terabytes worth of data) is user-generated. Users buy and sell the digital goods they make using our virtual currency (where merchants build stores, land owners rent houses, educators teach and companies meet) and collecting monthly maintenance fees (somewhat analogous to hosting services), charging for currency exchange services (Linden Dollars to US Dollars and vice-versa) and for search and classified ad placement. We also make money as the economy expands and we issue Linden dollars to stabilize the exchange rate…Land ownership is a critical component of the Second Life economy and the news is very good on this front. Second life's virtual world expanded by 45% in Q2. Resident-owned land now accounts for over 1.5 billion square meters of space in Second Life.

Amidst all the good news, Kingdon (2008) also indicated some upcoming changes in company strategy and future direction. Even though the company is still profitable, there have been indications that growth is stagnating and a boost is in order (Au, 2009). Wagner (2008) at *InformationWeek* reported that:

> The active user base of Second Life plateaued quite some time ago. The number of people who spend more than an hour per month in-world has hovered between 500,000 and 600,000 since Linden Lab started releasing that statistic in May, 2007, through to when the

company stopped releasing the statistic in May, 2008. Some 14.9 million Second Life accounts have been created since the service launched in 2003. That means huge numbers of people created accounts and never bothered to check the world out, or tried it out and left. I first joined Second Life in January 2007, near the peak of the hype cycle. Second Life was supposedly the next technology megatrend. It would transform the face of the Internet and make present-day technology obsolete.

Then the hype cycle burst. Second Life didn't change the Internet much. Journalists quit the service en masse to follow the next big trend.

To entice users to stick around longer and convert them from free users to paid users, the company made some changes to its land pricing strategy which did result in more sales activity (Reuters, 2008). However, pricing was only part of the problem. A very real second problem had to do with the scalability of the infrastructure. Users have reported a number of technical issues that persistently cause problems in the system. One of them is the system's tendency to crash when stressed. This is partially due to the system design which separates the location where object data is stored from the world and avatar that use those objects. Communication between the two server clusters can cause traffic jams, causing slow downs or even crashes, if the activity levels are high ("Second Life").

A second problem that has been reported is the loss of user inventory due to system instability. However, what makes the situation worse is that there appears to be no intervention from Linden Lab to restore the loss that had been precipitated due to problems with its infrastructure. Since Linden Lab makes the rules, without oversight from an independent body, no one can force it to provide restitution ("Second Life").

Finally, the system is designed to stream data to the user live over the Internet without the ability to cache significant amounts of data. This affects the load capacity since most activity is live. "Due to the proprietary communications protocols, it is not

possible to use a network proxy/caching service to reduce the network load when many people are all using the same location, such as when used for group activities in a school or business" ("Second Life").

While the problem of price as a barrier to participation was easily solved by adjusting the fee charged, the infrastructure problem needs a different, far-reaching solution. In light of other challenges, including the real world economy and industry competition, Linden Lab realized that some major changes were necessary and took action. In 2008, it hired a new CEO, Mark Kingdon, who has considerable industry background in online marketing. Philip Rosedale stayed on as chairman of the board, but the company let go the programmer/developer who had initially architected the original software coding, citing differences in vision. Clearly, the company was preparing to make some major changes.

A New business model

The company is planning a series of new initiatives which suggests a new business model is in the making. While keeping its current revenue streams, the company is broadening its vision to become a major player in the industry. On the Official Second Life Blog, CEO Mark Kingdon alludes to two major initiatives that could become game changers. The first is a new focus on developing what he refers to as "killer apps – namely virtual meetings and education" (Kingdon, 2008). Combined with the platform's new voice capabilities, this could offer the company new opportunities for marketing to distributed organizations and conference organizers a less expensive but immersive alternative to real life gatherings. The key, according to Kingdon (2008) is their new 3D Voice technology, noting that since its introduction, 7.2 billion voice minutes have been logged in-world, making Linden Lab, by extension, a major provider of VOIP services.

Kingdon (2008) further extols the virtues of such a service, appearing much like the beginnings of an early PR campaign:

> I am blown away by how effective Second Life is for meetings. I am fully convinced this will be a killer app. There is a lot of research on

> how communicating through an avatar enhances self-perception and risk taking. Many people who haven't experienced a Second Life meeting will say, "There is no substitute for meeting in person." Try Second Life for a meeting.
>
> For years, I have been advocating and using videoconferences to connect with customers and employees. They cut down on travel costs, reduce a company's carbon footprint and eliminate time wasted in airports. Unfortunately, videoconferences can be deadly boring. A Second Life meeting is the antidote to the tiresome videoconference. You have all of the tools you'd use in a real world meeting – plus you can use your computer to review data, do quick reference searches, look at spreadsheets, etc. and you have the ability to add text questions, responses, opinions and subtle interjections. In fact, just last week we learned about a new resident created collaborative browser for use inworld.
>
> Using the virtual meeting environment for education is an even more exciting killer app...Voice is the key enabler. With a headset, residents can talk with other residents just as they would in the real world. With the 3D spatial voice in Second Life, residents can walk from one conversation to another as if they were actually hanging out before or after class. Serendipitous conversations just aren't possible with other forms of online learning, teleconferences or videoconferences.

If Second Life can convince its major clients that it is a viable choice as an alternative conference center and a desirable platform for the delivery of online classes, the company will have developed a valuable new revenue stream.

A second major initiative is the company's move towards open source and shared standards within the industry. Its stated objective is to develop interoperability between different immersive environments. At first this might seem counter-intuitive as

the unique Second Life platform and what it offers has been the company's drawing card to attract more users. As well, the company's main source of revenue has been selling 'land' on the platform grid. Opening up its source code would enable others to copy the source code and host it on their own servers, thereby depriving Linden Lab from receiving any of the revenue. However, a study by Forrester Research Inc. suggests that this may be a smart move for the company.

The authors of the market study conducted by Forrester Research Inc., suggest that the market is still waiting for a winner to emerge. "Unlike other emerging Social Computing technologies where clear global brands have already emerged – YouTube for user-generated content (UGC) video, MySpace and LinkedIn for social networking – no clear winner has yet emerged in virtual worlds. Sure, Blizzard has cornered the MMORPG market for now and Linden Lab has a headstart with PR-friendly Second Life, but growth from today's 19 million to ~90 million consumers could just as easily come from …[any] company's investments in virtual worlds" (Jackson, 2007). It appears as if Linden Lab is jockeying into position to be that company.

Up until very recently, Linden Lab had kept the two levels of Second Life development – platform coding and in-world development – in separate modes of control. While the cultural aspect of developing the Second Life experience was left open to the community's 'residents' to create, the platform coding had been managed privately and exclusively by the company. Even its scripting language was proprietary so that programmers outside the company had no access to it. As a first step, in 2007, the company moved its Second Life viewer software into the open source domain. Araki and Lang (2007) explain:

> The SL viewer that runs on the client computers is already available under the GNU General Public License (GPL) that allows users to examine and alter how they access and interact with the virtual world. Linden Lab is also moving towards opening the platform that hosts SL. The company has released the SL protocol and its server

> code under the GPL. This decision cedes control over operating some of the game environment to user sub-communities, which can now set up SL world extensions independent of Linden Lab. The company reserves the right to monitor user behavior and intervene when they observe actions that violate accepted standards.

Linden Lab is also partnering with IBM on a project, OpenSim, to develop shared industry standards that would enable interoperability between completely different immersive environments. IBM owns a private region comprised of at least 50 islands on Second Life that is hosted on IBM's computers and is running the open source version of Second Life and experimenting with running the open source Second Life platform behind a company's firewall (Wagner, 2008). The two companies are working on standardizing the myriad protocols and codes that would enable avatars from one virtual environment to travel to another. Eric Reuters (2008) reported, after speaking with Linden Lab VP, Joe Miller, that:

> Linden aggressively pushed to develop a set of working protocols to allow interoperability across divergent virtual worlds…by working with partner IBM, Linden wanted to take a leadership role in getting OpenSim regions and Linden Lab's Second Life talking to each other.
>
> Challenged by competitors on all sides, including the recent entry of Internet giant Google into the virtual worlds space, Linden is banking on OpenSim to bolster its strong position in the virtual worlds industry.

In July 2008, the Linden Lab/IBM project successfully transported an avatar from one virtual environment to the other. Hamilton Linden (2008), a Linden Lab representative explains the importance of the event:

> This is a historic day for Second Life, and for virtual worlds in general. IBM and Linden Lab have announced that research teams from

> the two companies successfully teleported avatars from the Second Life Preview Grid into a virtual world running on an OpenSim server, marking the first time an avatar has moved from one virtual world to another. It's an important first step toward enabling avatars to pass freely between virtual worlds, something we've been working toward publicly since the formation of the Architecture Working Group in September 2007. These are still early days, however, so amid all the excitement, we thought it would be helpful to clarify exactly what we've done — and what still lies ahead.
>
> It marks the first time an avatar has moved from one virtual world to another, an event with implications for the entire virtual world industry. As the name suggests, the Open Grid Protocol used in the project enables interoperability between virtual worlds. With this experiment, we've taken a first step toward not just interconnecting Second Life with other virtual worlds, but other virtual worlds with one another. An open standard for interoperability based on the Open Grid Protocol would allow users to cross freely from one world to another, just as they can go from one Web site to another on the Internet today.

Linden Lab's strategy is to be at the forefront of developing a new standard of interoperability so as to position its framework as the new standard. Currently the industry has a number of small players, each with its own niche, platform, and currency. Just as other media industries fought it out amongst themselves before a clear winner became apparent, Linden Lab hopes that by taking the lead to set standards, the company is positioning itself to be the winner in the online virtual worlds industry. Statements made by Linden VP, Joe Miller in an interview with Eric Reuters (2008), strongly suggests that the company's new business plan may well be just that:

> Linden's plan, Miller said, is to identify "value-added services" it can offer to a potentially chaotic mix of thousands of disparate OpenSim

grids. He declined to comment on the company's exact strategy, beyond insisting that Linden has "some very specific plans."

But in extended questioning Miller offered some insight on how Linden's hopes to prosper in an OpenSim-dominated world.

"I could see Linden offering economic services, trading services, search services," Miller said. Some OpenSim worlds may respect Second Life's intellectual property protections and commerce functions. The Linden Dollar, with a years-long reputation of solid financial backing, may be positioned to become the gold standard of virtual currencies.

Miller also referenced the role VeriSign plays in the administration of the Internet by managing top-level ".com" and ".net" network addresses. Linden may one day play an active role in not only teleports between OpenSim worlds and the Second Life Grid, but between two otherwise unconnected OpenSim worlds.

Clearly, the company has broad ambitions. It has managed to thrive for the last six years in an industry where companies are often short-lived by successfully following a creative business plan that has helped them generate healthy revenues. As the company is poised to move into new directions, it will be interesting to see whether its new business model will be as effective as the last.

Chapter 6: Conclusion

The promise of online communities, freed from geographic limitations and cultural prejudices has attracted many to join collaborative groups online. Sharing common interests and purposes such communities continue to thrive. However, as we have seen, a new brand of community, sponsored by corporations with deep pockets is being introduced with all the fanfare that their marketing departments can muster.

These corporate-sponsored communities are offered *gratis*, as if some wealthy, distant relative has bestowed a kindness upon us. But make no mistake, at their center, these communities are no more than a marketing device – a strategy for putting the 'work of many' at the disposal of the corporation, for free.

For whatever services they provide, these corporations are receiving something even more valuable in return. In exchange for using the free services, users may be providing the corporations with information, content, advertising opportunities, or free labour. Does this mean we must mistrust all corporate sponsored communities? Are they all bad, or is there a way to mix business and online communities for the greater good? Perhaps it is worth looking at some ways in which such communities might be developed.

The Internet is a vast space with untold opportunities for those who understand the new rules of operating there. It is tempting to imagine that anyone can amass a fortune by utilizing the rules of networks – exponential growth, access to the long tail, utilizing the "power of many" – like so many of the companies mentioned in this thesis already have. However, is it realistic to imagine that anyone can do it?

Chris Anderson (2009), who wrote the book on *Free*, says that's not likely: "Everyone can use a Free business model, but all too typically only the number one company can get really rich with it" (p. 132). This is because the Net acts much like a living system, an ecosystem, that continues to evolve and adapt. It follows the logic of networks, which is a different kind of logic. According to Barabasi (2002), who has studied networks and network effects, there is a "complete absence of democracy,

fairness, and egalitarian values on the Web" (p. 56). This is not a moral judgement, but a description of the nature of networks. Sometimes referred to as "network effects," this means that activity on the Net is lopsided – it favours the popular at the expense of the others. If we view networks as a series of links between nodes, we would see that some nodes have a great many links while others do not. Transposing that to the Internet means that the really big nodes are Google, Amazon.com, eBay, and others. These are the nodes with the largest numbers of links and the largest amount of Internet traffic. Barabasi (2002) notes that, "80 percent of links on the Web point to only 15% of Web pages" (p. 66).

What does this mean for small businesses wanting to use the connectivity of the Web to market their services and products? The nature of the network suggests that not everyone will enjoy the same level of success. Google's CEO, Eric Schmidt, worries, according to Anderson (2009) that:

> In such markets, where it's easy for participants to communicate with one another, we tend to follow the lead of others, resulting in herd behaviour. Since small differences in market share can get amplified into big ones, the gap between the number one company in any sector and the number two and beyond tends to be great.
>
> In traditional markets, if there are three competitors, the number one company will get 60 percent share, number two will get 30 percent, and number three will get 5 percent. But in markets dominated by network effects, it can be closer to 95 percent, 5 percent, and 0 percent. Network effects tend to concentrate power – the "rich get richer" effect (p. 132).

So there isn't a lot of room at the top, but according to Chris Anderson (2006), there is plenty of room at the bottom. The long tail contains a vast number of small niches that haven't been served by the mainstream, and these are now accessible due to the connectivity of the Internet. In fact, he suggests that there is almost as much value

collectively in the small niches as there is in the hits, or the head, as he calls the bulk of mainstream business. The trick is to find a niche that is currently being underserved and then offer services that are a match for it.

One such niche, a very large one at that, is small business. Traditionally, professional business services were plentiful for large, established businesses that could afford them. This included advertising, legal advice, accounting and booking support, telephone systems and so on. Numerous Internet-based companies have now stepped in to offer these services to small businesses. The scale of networks and the low cost of delivery has finally made it profitable for companies to serve the interests of small businesses that typically don't have a lot of extra cash to spend. Google is an excellent example of an Internet-based company offering automated customized advertising services to this sector.

Other companies have also stepped in to offer a variety of services that encompass communications, accounting, telephony, project management, client management, and sales software to this niche. These are the new Web 2.0 companies that use the Web as a platform and offer web-based software that doesn't need a lot of technical expertise, it doesn't need to be installed, and it doesn't require maintenance because that is automatically managed by the vendor. Small businesses usually pay a small monthly charge based on contracted usage which is comparatively far less than what they would have paid for a stand alone desktop application. Known as Software as a Service (SaaS), this is a good alternative for small businesses because it gives them a chance to get started without investing large sums of money for administrative and management services.

Since software as a service is a new concept, many new providers offer free trials or other free enticements to encourage small business owners, who typically are strapped for time, to try out their offerings. Usually, SaaS providers offer a base model that is perpetually free. Often this has limited functionality (some of the functions are disabled), storage space (which is important because the data is housed on the

provider's server), limited bandwidth (the number of 'transactions' is limited), or limited access (limit on the number of users). The incentive to upgrade is clear if users feel the program will meet their needs.

Another variation that some SaaS companies offer is a free one month trial. Instead of offering a base free model, users are given a choice of three or four different program levels with varying levels of functionality and access. The first month of subscription to any of these is free, with the full amount being charged on a monthly basis thereafter. This is useful because users get to try a fully functioning model and are able to make an informed decision regarding its usefulness to them.

A third variation is the completely free beta version. Companies will offer the beta version to users completely free of charge with the expectation that users will help to identify functionality that needs to be developed or improved. Users in a sense co-create the product in exchange for free service.

While the advantages of SaaS for the small business are many, one of the key advantages is its low monthly subscription costs (for the paid versions). Small businesses do not have to invest large sums of money to purchase stand-alone software, nor do they need an IT department to maintain the software and the requisite upgrades. In addition, users are not locked into using one vendor. As new and improved services are offered by competing companies, users have the ability to migrate their data to the new service. Having access to software tools makes it possible for small businesses to compete at a par with larger ones, at least in some respects. The playing field isn't completely level, of course, because there are many more factors that impact the success of any enterprise than just the software. Still, having the right tools is a start.

The key driver in many web-based enterprises, of course, is user-generated data, and SaaS adds a small twist to it – the usefulness of the application is exclusively due to the data that users generate. Without the data, the application would be useless, regardless of how it was served. The difference between this model and the usual

crowdsourcing model is that the data remains private, accessible only to the user with an encrypted password.

As the Web continues to evolve, more variations are emerging. The combination of crowdsourcing and Free seems to have been applied with the greatest frequency in many different situations. For instance, a company in Australia creates design contests to harness the “power of many” for its paying customers ("Need a designer?," 2009). Designers submit their designs, without compensation, and if their design is selected by the contest holder (another word for paying customer), then only that designer gets paid the agreed upon contest prize, usually a sum of money, though it can be other things as well. One contest I observed had one hundred and two entries. Only one of these designers received payment for his or her work.

Amazon.com offers a service called the Mechanical Turk ("Mechanical Turk," 2009), which it is promoting as “artificial, artificial intelligence.” Companies submit a project for free, often comprising ‘grunt work’ that requires human intelligence that computers can’t perform. Usually this involves creating catalogue descriptions, image tagging, data gathering, website review, and other types of reviews. Utilizing a global workforce, Amazon.com claims that the service is available 24/7. Companies can submit a list of tasks and pay only when they are satisfied with the work that is done. Workers typically get paid anywhere between one and five cents per task. Tasks usually take less than a minute to complete, though some require more time. No one is going to get particularly rich on this system.

Another company, Threadless ("Threadless: Nude No More," 2009), uses its online community of artists and graphic designers to get ideas for printing designs on t-shirts. Anyone can submit a design, which then gets voted on by community members. The best designs make it on to t-shirts that the company prints and sells on its website. When the company first started, designers received only the gratification of seeing their design in print, but as the company grew – it’s sales in 2008 were nearly $5 million – the company started awarding cash prizes and a share in reprint fees. The people who buy

the t-shirts are also often the community members who vote on the designs, so the distinction between customer and producer has truly been blurred in this case.

There are numerous other instances of companies built around communities where members contribute either ideas or labour. It is likely that the idea was originally borrowed from the success of open source software development and then expanded to include all types of collaboration. Free software, produced through the efforts of open source software development groups all over the world is readily available to anyone wishing to use it. Open collaborations of programmers like the ones Raymond described have become a staple of the Internet environment, resulting in thousands of free software programs. In fact, the number of free and open source software programs on the list that Wikipedia maintains continues to grow, which at last count included free programs in such diverse fields as:

- Finance
- Integrated Library Systems
- Mathematics
- Computer Simulations
- Science (GIS, plotting, microscope image processing, molecule viewer)
- Statistics
- Assistive Technology like speech synthesis and speech recognition
- Data Storage and Management
- Networking and Internet
- Educational
- File Managers
- Games
- Groupware
- Healthcare Software
- Media
- Operating Systems

- Publishing
- Security

The only drawback to using these free programs is that the level of complexity or ease of use is mostly dependent upon the inclination and expertise of the group that developed them. There is no guarantee and no customer support. If users do run into a problem, they can post a question on the group forum and hope that someone will help them out. Otherwise they're on their own.

If the software is business critical, users would likely want more support. One option is to hire one of the programmers involved in the project to install and customize the program for them. Or a third alternative is to obtain the program from a third party, like Source Forge, that vets the free software, makes sure the bugs are worked out, and prepares it for easy download and installation. In this way, Source Forge has been able to take the work of open source developers and turn it into a viable support business.

Innovative uses of existing data and materials abound. With the abundance of information available on the Net, the problem is no longer one of obtaining information, but one of sifting through the reams of information that one has access to. A search for a simple term such as "business tools," for example, turns up 253 million hits on Google. The same term turned up 57 million blog entries, and according to Google, there are 86 million newsletters that were written on the subject of business. One might compare it to trying to drink water out of a fire hose!

Any business that can help users make the data more manageable is bound to do well. In fact, small businesses wanting to participate in the wealth of networks can come up with their own variation of any number of business ideas, including those that have been discussed here. The low cost of entry makes it easy for businesses with small budgets to try out ideas without risking a lot of capital. And the access to the long tail afforded by the Internet makes small niche providers equally as likely to find a market as the more mainstream offerings of their competitors.

The world of business has indeed changed and it seems the most successful are those that understand the differences and embrace the *new rules*. As such, it is worth repeating the Web 2.0 patterns identified by O'Reilly (2005), in his paper "What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software." Of course, new businesses do not have to limit themselves to developing software. The patterns of Web 2.0 can be incorporated into any kind of business, material or digital, as has been demonstrated by Threadless and Amazon.com.

1. **The Long Tail**

   Small sites make up the bulk of the Internet's content; narrow niches make up the bulk of internet's the possible applications.

   Therefore: Leverage customer-self service and algorithmic data management to reach out to the entire web, to the edges and not just the center, to the long tail and not just the head.

2. **Data is the Next Intel Inside**

   Applications are increasingly data-driven.

   Therefore: For competitive advantage, seek to own a unique, hard-to-recreate source of data.

3. **Users Add Value**

   The key to competitive advantage in internet applications is the extent to which users add their own data to that which you provide.

   Therefore: Don't restrict your "architecture of participation" to software development. Involve your users both implicitly and explicitly in adding value to your application.

4. **Network Effects by Default**

   Only a small percentage of users will go to the trouble of adding value to your application.

Therefore: Set inclusive defaults for aggregating user data as a side-effect of their use of the application.

5. **Some Rights Reserved.**

   Intellectual property protection limits re-use and prevents experimentation.

   Therefore: When benefits come from collective adoption, not private restriction, make sure that barriers to adoption are low. Follow existing standards, and use licenses with as few restrictions as possible. Design for “hackability” and “remixability.”

6. **The Perpetual Beta**

   When devices and programs are connected to the internet, applications are no longer software artifacts, they are ongoing services.

   Therefore: Don’t package up new features into monolithic releases, but instead add them on a regular basis as part of the normal user experience. Engage your users as real-time testers, and instrument the service so that you know how people use the new features.

7. **Cooperate, Don’t Control**

   Web 2.0 applications are built of a network of cooperating data services.

   Therefore: Offer web services interfaces and content syndication, and re-use the data services of others. Support lightweight programming models that allow for loosely-coupled systems.

8. Software Above the Level of a Single Device

> The PC is no longer the only access device for internet applications, and applications that are limited to a single device are less valuable than those that are connected. *Therefore*: Design your application from the get-go to integrate services across handheld devices, PCs, and internet servers (O'Reilly, 2005, p. 5).

Above all, companies need to be responsible for what they create on the Web. They need to give people a reason to join their community, and they need to value the contribution their users make. If they can create a way for users to automatically share what they use or produce, the community will grow even more. If businesses benefit from users' efforts, then they should give some of it back to the community.

These are simple rules, and they will work for any community – both online and offline.

Reference List

Amazon.com Again Lowers Threshold On Free Super Saver Shipping to $25 in New Long-Term Test; Cites Positive Results From Test of Free Super Saver Shipping On Orders Over $49. (2002). *News Release* Retrieved Web Page, 2009, from http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=503037&highlight=

Amazon.com Announces Long-term Test of Free Super Saver Shipping On Orders Over $49 -- Hurdle Lowered From $99 to $49. (2002). *News Release*, 2009, from http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=503030&highlight=

Amazon.com Launches "Amazon Connect" Enabling Customers to Receive Messages Directly from Authors. (2006). *News Release*, 2009, from http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=811280&highlight=

Amazon.com Works with Publishers to Make Millions of Book Pages Available for Customers to Flip Through, with Millions More to Follow. (2001). *News Release*, 2009, from http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=502807&highlight=

Anderson, C. (2006). *The Long Tail : Why the Future of Business Is Selling Less of More*. New York: Hyperion.

Anderson, C. (2008). Free! Why $0.00 Is the Future of Business. *Wired Magazine, 16*(03). Retrieved from http://www.wired.com/techbiz/it/magazine/16-03/ff_free

Anderson, C. (2009). *Free: The Future of a Radical Price*. New York: Hyperion.

Andriani, L. (2008). Amazon Lets Readers Shop via Text Message. *Publishers Weekly*(Journal Article).

Applegate, L. M. (2008). *Amazon.com: The Brink of Bankruptcy*: Harvard Business School.

Araki, R. Y., & Lang, K. R. (2007). The Virtual Cathedral and the Virtual Bazaar. *Database for Advances in Information Systems*(4).

Au, W. J. (2008). How Much Is Linden Lab Making From Second Life, Anyway? (Updated). http://nwn.blogs.com/nwn/2008/05/how-much-is-lin.html

Au, W. J. (2009). Stat Shock: Just 133K Second Life Users Responsible For Nearly 90% Total Monthly SL User Hours! http://nwn.blogs.com/nwn/2009/08/sl-has-133k-hardcore-users.html

Barabási, A.-L. (2002). *Linked : the new science of networks*. Cambridge, Mass: Perseus

Cell services keep it easy, and free. (June 05, 2008). *New York Times*.

Claburn, T. (2008). Amazon's CreateSpace Puts Out-Of-Print Music Back On The Market. *InformationWeek,* *http://www.informationweek.com/news/personal_tech/music/showArticle.jhtml?articleID=207501576*(Journal Article).

Cusumano, M. A. (2004). Reflections on Free and Open Software. *Communications of the ACM, 47*(10), 25-27.

Fingar, P. (2006). *Extreme competition: innovation and the great 21st century business reformation*. Tampa, Fla.: Meghan-Kiffer Press.

Friedman, T. L. (2006). *The world is flat : a brief history of the twenty-first century* (Vol. 1st updated and expanded ed.). New York: Farrar, Straus and Giroux.

Girard, B. (2009). *The Google Way: The Revolutionary Management Strategies Behind Google's Success*. San Fransisco: No Starch Press.

Gonsalves, A. (2008). Amazon.com Launches Shopping Apps On Facebook. *InformationWeek,* *http://www.informationweek.com/news/internet/ebusiness/showArticle.jhtml?articleID=206903538*(Journal Article).

Google. Retrieved October 1, 2009, from http://en.wikipedia.org/wiki/Google

Google Corporate Overview. Retrieved October 1, 2009, from http://www.google.com/corporate/index.html

The Greatest Robots in Sci Fi. Retrieved August 28, 2009, from http://www.amazon.com/Read-more/

Hansell, S. (2002). Google's Toughest Search Is for a Business Model. *The New York Times*.

Hoovers, D. B. (2009). Google, Inc. Retrieved August 28, 2009, from http://cobrands.hoovers.com/global/cobrands/proquest/factsheet.xhtml

If Cellphones Could Mimic BlackBerrys. (May 24, 2007). *New York Times*.

Jackson, P. (2007). *The Real Business of Virtual Worlds*. Cambridge, MA: Forrester Research.

Kingdon, M. (2008). Features: My First Two Months at Linden Lab. https://blogs.secondlife.com/community/features/blog/2008/07/25/my-first-two-months-at-linden-lab.

Kiyosaki, R. T., & Lechter, S. L. (1998). *Rich dad, poor dad: what the rich teach their kids about money-- that the poor and middle class do not!* New York: Warner Books, 2000.

Linden, H. (2008). IBM and Linden Lab Interoperability Announcement. https://blogs.secondlife.com/community/features/blog/2008/07/08/ibm-and-linden-lab-interoperability-announcement.

Market capitalization. 2009, from http://en.wikipedia.org/wiki/Market_capitalization

Mechanical Turk. (2009). Retrieved October 1, 2009, from https://www.mturk.com/mturk/welcome

Milliot, J. (2008). As Amazon Soars, Bookstores Creep. *Publishers Weekly, 255*(15), 4.

Moore's Law. (2009). Retrieved October 2, 2009, from http://www.intel.com/technology/mooreslaw/

Need a designer? (2009). Retrieved October 2, 2009, from http://99designs.com/

O'Reilly, T. (September 30, 2005). What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software. Retrieved January 29, 2008, from http://oreilly.com/web2/archive/what-is-web-20.html

Our Philosophy. Retrieved October 1, 2009, from http://www.google.com/corporate/tenthings.html

Rappa, M. (2008). Business Models on the Web. Retrieved May 21, 2008, 2008, from http://digitalenterprise.org/models/models.html

Raymond, E. S. (2002). The Cathedral and the Bazaar. Retrieved February 15, 2008, from http://gnuwin.epfl.ch/articles/en/cathedralbazaar/cathedral-bazaar.pdf

Reiss, S. (2005). Virtual Economics. *Technology Review, http://www.technologyreview.com/business/16023/*(December 2005).

Reuters, E. (2008). Interview: Linden prepares for an OpenSim future. http://feedproxy.google.com/~r/2lifeblogsecondLifeBlog/~3/iNk8y8w6Ioo/

Second Life. 2009, from http://en.wikipedia.org/wiki/Second_life

Spector, R. (2000). *Amazon.com: Get Big Fast*. New York: HarperBusiness.

Stallman, R. (January 21, 2008). The GNU Project. Retrieved October 1, 2009, from http://www.gnu.org/gnu/thegnuproject.html

Stone, B. (2008). TiVo and Amazon Team Up. *New York Times,* p. C.1. Retrieved from http://login.ezproxy.library.ualberta.ca/login?url=http://proquest.umi.com/pqdweb?did=1514533631&Fmt=7&clientId=12301&RQT=309&VName=PQD

Threadless: Nude No More. (2009). Retrieved October 2, 2009, from http://www.threadless.com/

Wagner, M. (2008). Second Life Tries For A Second Act. *InformationWeek, http://www.informationweek.com/news/personal_tech/virtualworlds/showArticle.jhtml?articleID=210602194*.

Werbach, K. (2000). Syndication: The Emerging Model for Business in the Internet Era. (cover story). *Harvard business review, 78*(3), 84-93.