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Chapter 8

Facebook: Building a Business from the Social Graph

8.1 Introduction

LEARNING OBJECTIVES

1. Be familiar with Facebook's origins and rapid rise.
2. Understand how Facebook's rapid rise has impacted the firm's ability to raise venture funding and its founder's ability to maintain a controlling interest in the firm.

It's hard not to be awed by what Mark Zuckerberg has created. An effort launched from his college dorm is now a species-level phenomenon. L. Grossman, "Person of the Year: Mark Zuckerberg," *Time*, December 15, 2010. Roughly one in every eight people on the planet has a Facebook account—an amazing track record given that Facebook is technically banned in China (taking about 20 percent of the world population off the table). J. Cassidy, "Facebook: The Ultimate Dot-Com," *New Yorker*, May 16, 2012. Want to connect to customers? Facebook is increasingly the place to be. The firm has ranked as the most visited site in the United States. L. Sumagaysay, "Facebooking More Than Googling," *Good Morning Silicon Valley*, December 30, 2010. and is tops in display advertising. M. Walsh, "Facebook Drives 31% of Display Ads in Q1," *MediaPost*, May 4, 2011. Global growth is on a tear, with an excess of 80 percent of Facebook users outside the United States. D. Kerr, "Facebook to Inaugurate New Office in Dubai," *CNet*, May 23, 2012. Facebook is solidly profitable; in 2011 the firm earned about \$1 billion on some \$3.7 billion in revenues. And Facebook has accomplished all that with fewer employees than Google has job openings. J. Evans, "Can Anything Stop the Facebook Juggernaut?" *TechCrunch*, November 25, 2010.

The Rise of Facebook

Facebook founder Mark Zuckerberg looked like a social media pioneer from the start. Consider this: During the weeks he spent working on Facebook as a Harvard sophomore, he didn't have time to study for a course he was taking, "Art in the Time of Augustus," so he built a Web site containing all of the artwork in class and pinged his classmates to contribute to a communal study guide. Within hours, the wisdom of crowds produced a sort of custom CliffsNotes for the course, and after reviewing the Web-based crib sheet, he aced the test. Turns out he didn't need to take that exam, anyway. Zuck (that's what the cool kids call him) For an insider account of Silicon Valley Web 2.0 start-ups, see Sarah Lacy, *Once You're Lucky, Twice You're Good: The Rebirth of Silicon Valley and the Rise of Web 2.0*. (New York: Gotham Books, 2008). dropped out of Harvard later that year.

Zuckerberg is known as both a shy, geeky, introvert who eschews parties, and as a brash Silicon Valley bad boy. After Facebook's incorporation, Zuckerberg's job description was listed as "Founder, Master and Commander [and] Enemy of the State." T. McGinn, "Online Facebooks Duel over Tangled Web of Authorship," *Harvard Crimson*, May 28, 2004. An early business card read "I'm CEO...Bitch." C. Hoffman, "The Battle for Facebook," *Rolling Stone*, June 26, 2008, 9. And let's not forget that Facebook came out of drunken experiments in his dorm room, one of which was a system for comparing classmates to farm animals (Zuckerberg, threatened with expulsion, later apologized). For one meeting with Sequoia Capital, the venerable Menlo Park venture capital firm that backed Google and YouTube, Zuckerberg showed up in his pajamas. C. Hoffman, "The Battle for Facebook," *Rolling Stone*, June 26, 2008.

By the age of twenty-three, Mark Zuckerberg had graced the cover of *Newsweek*, been profiled on *60 Minutes*, and was discussed in the tech world with a reverence previously reserved only for Steve Jobs and the Google guys, Sergey Brin and Larry Page. But Mark Zuckerberg's star rose much faster than any of his predecessors. Just two weeks after Facebook launched, the firm had four thousand users. Ten months later it was up to one million. The growth continued, and the business world took notice. In 2006, Viacom (parent of MTV) saw that its core demographic was spending a ton of time on Facebook and offered to buy the firm for three quarters of a billion dollars. Zuckerberg passed. S. Rosenbush, "Facebook's on the Block," *BusinessWeek*, March 28, 2006. Yahoo! offered up a cool billion (twice). Zuck passed again, both times.

As growth skyrocketed, Facebook built on its stranglehold of the college market, opening up first to high schoolers, then to everyone. Web hipsters started selling shirts emblazoned with "I Facebooked your Mom!" Even Microsoft wanted some of Facebook's magic. In 2006, the firm temporarily locked up the right to broker all banner ad sales that run on the U.S. version of Facebook, guaranteeing Zuckerberg's firm \$100 million a year through 2011. In 2007, Microsoft came back, buying 1.6 percent of the firm for \$240 million. While Microsoft had cut deals to run banner ads worldwide, Facebook dropped banner ads for poor performance in early 2010; see C. McCarthy, "More Social, Please: Facebook Nixes Banner Ads," *CNET*, February 5, 2010. The investment was a shocker. A firm that at the time had only five hundred employees, \$150 million in revenues, and was helmed by a twenty-three-year-old college dropout in his first "real job" was valued at \$15 billion—making it more valuable than General Motors. It wasn't a bad bet on Microsoft's part—the investment increased in value nearly sevenfold in five years.

Rupert Murdoch, whose News Corporation owned rival MySpace, once referred to Facebook as "the flavor of the month." B. Morrissey, "Murdoch: Facebook Is 'Flavor of the Month,'" *Media Week*, June 20, 2008. But Murdoch, the media titan who stood

atop an empire that includes the *Wall Street Journal* and Fox, was utterly schooled by “the kid.” Six years after acquiring MySpace for \$580 million, Newscorp sold the firm for \$35 million, less than one sixteenth of the purchase price. C. Hoffman, “The Battle for Facebook,” *Rolling Stone*, June 26, 2008. Zuckerberg went on to be named *Time*’s “Person of the Year,” while a (mostly fictionalized) account of Facebook’s founding. L. Grossman, “Person of the Year: Mark Zuckerberg,” *Time*, December 15, 2010. was a box-office smash, nominated for a Best Picture Academy Award. The firm’s controversial 2012 public offering valued the firm at over \$100 billion, and the \$16 billion raised in the offering made it the biggest tech IPO in history and the third biggest IPO ever. J. Pepitone, “Facebook Trading Sets Record IPO Volume,” *Fortune*, May 18, 2012.

Zuckerberg Rules!

Many entrepreneurs accept start-up capital from venture capitalists (VCs), investor groups that provide funding in exchange for a stake in the firm and often (especially in early-stage investments), a degree of managerial control (this may be in the form of a voting seat or seats on the firm's board of directors). Typically, the earlier a firm accepts VC money, the more control these investors can exert (earlier investments are riskier, so VCs can demand more favorable terms). VCs usually have deep entrepreneurial experience and a wealth of contacts, and can often offer important guidance and advice, but strong investor groups can oust a firm's founder and other executives if they're dissatisfied with the firm's performance.

At Facebook, however, the firm's extraordinary growth left potential investors salivating to back a firm perceived as being less risky but carrying the potential of a huge upside. Early backers ceded control—at a time when Facebook's board had only five directors, Zuckerberg appointed three of them. When Facebook filed to go public, Zuckerberg's ownership stake stood at twenty-eight percent, but Facebook created two classes of shares, ensuring that Zuckerberg maintains a majority of voting rights in the public company and virtually guaranteeing that his control of the firm continues, regardless of what investors say. Maintaining this kind of control is unusual (although not unprecedented—Google's founders have a similar ownership and voting structure). S. Denning, "Is Google's Share-Split Evil?" *Forbes*, April 13, 2012. Zuckerberg's influence is a testament to the speed with which Facebook expanded. When investors' demand to get in on 'the next big thing' remains high, a firm's owner can extract extraordinary terms for the privilege of coming along for the ride. As *Slate* puts it, Facebook is "conducting an experiment in corporate dictatorship nearly without precedent for such a large and high-profile company." All hail Emperor Zuckerberg! M. Yglesias, "All Hail, Emperor Zuckerberg," *Slate*, Feb. 3, 2012.

1. Short selling is an attempt to profit from a falling stock price. Short sellers sell shares they don't own with an obligation of later repayment. They do so in the hope that the price of sold shares will fall. They then repay share debt with shares purchased at a lower price and pocket the difference (spread) between initial share price and repayment price.

Why Study Facebook?

Looking at the "flavor of the month" and trying to distinguish the reality from the hype is a critical managerial skill. In Facebook's case, there are a lot of folks with a vested interest in figuring out where the firm is headed. If you want to work there, are you signing on to a firm where your *stock options* and *401k* contributions are going to be worth something or worthless? If you're an investor, should you **short**¹ the firm or increase your holdings? Would you invest in or avoid firms that rely on

Facebook's business? Should your firm rush to partner with the firm? Would you extend the firm credit? Offer it better terms to secure its growing business, or worse terms because you think it's a risky bet? Is this firm the next Google (underestimated at first, and now wildly profitable and influential), the next GeoCities (Yahoo! paid \$3 billion for it—no one goes to the site today), or the next Skype (deeply impactful with over half a billion accounts worldwide, but so far, not much of a profit generator)? The jury is still out on all this, but let's look at the fundamentals with an eye to applying what we've learned. No one has a crystal ball, but we do have some key concepts that can guide our analysis. There are a lot of broadly applicable managerial lessons that can be gleaned by examining Facebook's successes and missteps. Studying the firm provides a context for examining network effects, platforms, partnerships, issues in the rollout of new technologies, privacy, ad models, the business value of social media, and more.

Facebook's Copilot

Don't let Zuck get all the credit. While Facebook's founder is considered the firm's visionary, chief operating officer Sheryl Sandberg is often depicted as the person who runs the place: the coach, the seasoned mentor, the drill sergeant, and the lead "adult" in a workforce that skews remarkably young despite its vast, global influence.

Regularly named to *Fortune* magazine's "Most Powerful Women in Business" list, Sandberg came to Facebook from Google (before that she was chief of staff to U.S. Treasury secretary Larry Summers). In just three years, she's helped steer Facebook to almost unimaginable heights. Users increased tenfold, she's helped devise an advertising platform that has attracted the world's largest brands, she's developed a sales organization that can serve a customer base ranging from the *Fortune* 100 to mom-and-pop stores, and she's helped the firm through several crises, all while turning a profit and pushing revenue higher.

Sandberg, a Harvard grad, left the school with a geeky legacy akin to Zuckerberg's. When she was a student conducting economics research she ran so much data on Harvard's network that she choked the system. Zuckerberg would have much the same impact more than a decade later. B. Stone, "Why Facebook Needs Sheryl Sandberg," *BusinessWeek*, May 16, 2011.

Sheryl Sandberg is a powerful speaker and a leading advocate for increasing the ranks of women in senior management.

[\(click to see video\)](#)

KEY TAKEAWAYS

- Facebook was founded by a nineteen-year-old college sophomore and eventual dropout.
- It is currently the largest social network in the world, boasting more than nine hundred million members and usage rates that would be the envy of most media companies.
- The firm's rapid growth and high user engagement allowed Facebook's founder to demand and receive an exceptionally high degree of control over the firm—even as the firm went public.

QUESTIONS AND EXERCISES

1. Who started Facebook? How old was he then? Now? How much control does the founding CEO have over his firm? Why?
2. Which firms have tried to acquire Facebook? Why? What were their motivations and why did Facebook seem attractive? Do you think these bids are justified? Do you think the firm should have accepted any of the buyout offers? Why or why not?
3. Firms' values fluctuate over time. How much is Facebook "worth" today? Has the firm's value gone up or down since its IPO? Why? Was investing in Facebook at IPO a move that paid off or that has resulted in losses?
4. Why was Zuckerberg able to demand and receive control of Facebook, even as the firm went public? What strategic factors were at work in Facebook's rise that gave the founder such leverage?
5. Why study Facebook? Who cares if it succeeds?

8.2 Does Facebook Want to Eat Your Firm's Lunch? Enveloping Markets across the Internet

LEARNING OBJECTIVES

1. Recognize that Facebook's power is allowing it to encroach on and envelop other Internet businesses.
2. Understand the concept of the "dark Web" and why some feel this may one day give Facebook a source of advantage vis-à-vis Google.
3. Describe why a "walled garden" may be threatening to other firms and the public good.
4. Understand the basics of Facebook's infrastructure, and the costs required to power the effort.

Facebook isn't just a collection of personal home pages and a place to declare your allegiance to your friends. Facebook is gradually turning on features that allow it to leverage its massive user base to encroach on a wide swath of Internet businesses. Consider photos. Google, Yahoo!, and MySpace all spent millions to acquire photo sharing sites (Picasa, Flickr, and Photobucket, respectively). But to become the web's leading photo sharing service, Facebook didn't acquire anyone. The site simply turned on a substandard photo-sharing feature and quickly became the biggest photo-sharing site on the Web. Facebook users now post over three billion photos each month. J. Kincaid, "Facebook Users Uploaded a Record 750 Million Photos over New Year's," *TechCrunch*, January 3, 2011.

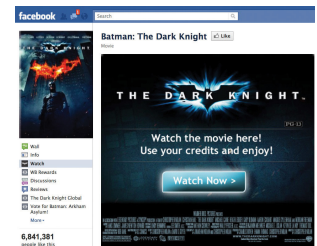
Video is also on the rise. YouTube will get you famous, but Facebook is the place most go to share clips they only want friends to see. F. Vogelstein, "Mark Zuckerberg: The Wired Interview," *Wired*, June 29, 2009. Facebook users share video at a rate ten times greater than those on Twitter, P. Sawers, "Facebook Drives 10 Times More Video Shares Than Twitter as Online TV Viewing Rises Sharply," *The Next Web*, February 15, 2012. and services like Viddy are bringing in tens of millions of new users who capture and share video via their mobile devices. L. Segall, "Video Apps Battle to be the Next Instagram," *CNN Money*, May 11, 2012. And with all those eyeballs turning to Facebook for video, why not become a destination to watch movies and TV shows, too? Facebook has worked with major studios to stream "rentals" of blockbusters that include *The Dark Knight*, the *Harry Potter* films, and *Inception*. Netflix integrates so tightly with Facebook that the firm's CEO sits on Facebook's board.

Facebook has become the *first-choice* communication service for this generation, and with Facebook’s unified messaging feature, the site will prioritize e-mail, text messages, and chat in a single inbox, bubbling your friends ahead of the spam. It’ll even give you a facebook.com e-mail address. M. Helft, “Facebook Offers New Messaging Tool,” *New York Times*, November 15, 2010. Look out Gmail, Hotmail, and Yahoo!—if users check mail within Facebook, they may visit the big e-mail players less often (meaning less ad revenue for the e-mail firms).

Facebook is a kingmaker, opinion catalyst, and traffic driver, so media outlets want to be friends. Games firms, music services, video sites, daily deal services, media outlets, and more, all integrate into Facebook’s Ticker, each hoping that a quick post of activity to Facebook will help spread their services virally. While in the prior decade news stories would carry a notice saying, “Copyright, do not distribute without permission,” major news outlets today display Facebook icons alongside every copyrighted story, encouraging users to “share” the content on their profile pages. Great for Facebook, but a sharp elbow to Digg.com and Del.icio.us, which have both seen their link sharing appeal free-fall, even though they showed up first. D. Lyons, “Digg This: A Cautionary Tale for Web 2.0 Companies,” *Newsweek*, October 24, 2010; M. Arrington, “Yahoo Sells Delicious to YouTube Founders,” *TechCrunch*, April 27, 2011. And despite all the buzz about Twitter, Facebook drives far more traffic to newspaper sites. S. Kessler, “For Top News Sites, Facebook Drives More Traffic Than Twitter,” *Mashable*, May 9, 2011.

Facebook Office? Facebook rolled out the document collaboration and sharing service Docs.com in partnership with Microsoft. Music? Payments? Facebook is hard at work on that, too. J. Kincaid, “What Is This Mysterious Facebook Music App?” *TechCrunch*, February 2, 2010; R. Maher, “Facebook’s New Payment System Off to Great Start, Could Boost Revenue by \$250 Million in 2010,” *TBI Research*, February 1, 2010.

Figure 8.1 *Is Facebook Coming after Your Business?*



Facebook has turned on features and engaged in partnerships that compete with offerings from a wide variety of firms. In this example, Warner Bros. has partnered with Facebook to offer streaming video rental.

Source: Used by permission of Facebook.

Instagram: Did Zuckerberg Blink?

Facebook's dominance in photo sharing came largely from success over the web, but photo sharing and many other activities are going mobile. By Spring 2012, Instagram, an eighteen-month-old firm with thirteen employees, had fifty million users and was adding new ones at a rate of roughly five million a week. C. Taylor, "Instagram Passes 50 Million Users, Adds Five Million a Week," *Mashable*, May 1, 2012. Users loved the beautiful, artistic images Instagram's filters created, and photos were being shared not only on Instagram but also on Facebook's rival Twitter and other services. Analysts suggest mobile could have been Facebook's Achilles heel—allowing a mobile-only photo network to open up and become a platform (Insta-music? Insta-links? Insta-status updates?). Facebook's own IPO filings acknowledged mobile as a potential risk area. Figures showed that Instagram was winning over millions of Facebook users, and Instagram the potential rival had just accepted a new \$50 million round of venture funding, valuing the firm at \$500 million. Within two days of that deal, Zuckerberg called the firm with an offer it couldn't refuse. Facebook bought Instagram for a cool \$1 billion. N. Carlson, "Here's the Chart that Scared Zuckerberg Into Spending \$1 Billion on Instagram," *BusinessInsider*, April 14, 2012; and K. Teare, "It's Not About Instagram—It's About Mobile," *TechCrunch*, April 18, 2012.

As for search, Facebook's tinkering there, as well. Google indexes some Facebook content, but since much of Facebook is private, accessible only among friends, this represents a massive blind spot for Google search. Sites that can't be indexed by Google and other search engines are referred to as the **dark Web**². But while Google lacks access to Facebook's portion of the dark Web, Facebook has repeatedly expanded its partnership with Microsoft's Bing, linking private Facebook content with search. Content that Facebook users have "liked" can influence the ranking of Bing search results. A new social sidebar in Bing that lets you see and respond to Facebook friend updates allows users to ask friends questions and even surfaces friends who may be knowledgeable on a topic. R. Metz, "With New Look, Bing Gets More Organized, Social," *Technology Review*, May 10, 2012. If Facebook can tie together standard Internet search with its dark Web content, this just might be enough for some to break the Google habit.

Facebook's increasing dominance, long reach, and widening ambition have a lot of people worried, including the creator of the World Wide Web. Sir Tim Berners-Lee recently warned that the Web may be endangered by Facebook's colossal **walled garden**³. J. Evans, "Can Anything Stop the Facebook Juggernaut?" *TechCrunch*,

2. Internet content that can't be indexed by Google and other search engines.

3. A closed network or single set of services controlled by one dominant firm.

November 25, 2010. The fear is that if increasingly large parts of the Web reside inside a single (and for the most part closed) service, innovation, competition, and exchange may suffer.

So What's It Take to Run This Thing?

The Facebook **cloud**⁴ (the big group of connected servers that power the site) is scattered across multiple facilities, including server farms in San Francisco, Santa Clara, northern Virginia, Oregon, and North Carolina. A. Zeichick, "How Facebook Works," *Technology Review*, July/August 2008; J. Packzkowski, "Superpoke! Facebook Chooses N.C. for \$450M Data Center," *AllThingsD*, November 11, 2010; T. Simonite, "Facebook Opens Up Its Hardware Secrets," *Technology Review*, April 7, 2011. The innards that make up the bulk of the system aren't that different from what you'd find on a high-end commodity workstation. Standard hard drives and multicore Intel or AMD processors—just a whole lot of them lashed together through networking and software.

Much of what powers the site is **open source software (OSS)**⁵. The service runs on the Linux operating system and Apache web server software. A good portion of Facebook is written in PHP (a scripting language particularly well-suited for Web site development), while the databases are in MySQL (a popular open source database). Facebook also developed Cassandra, a non-SQL database project for large-scale systems that the firm has since turned over to the open source Apache Software Foundation. The object cache that holds Facebook's frequently accessed objects is in chip-based RAM instead of on slower hard drives and is managed via an open source product called Memcache.

Other code components are written in a variety of languages, including C++, Java, Python, and Ruby, with access between these components managed by a code layer the firm calls Thrift (developed at Facebook, which was also turned over to the Apache Software Foundation). Facebook also developed its own media serving solution, called Haystack. Haystack coughs up photos 50 percent faster than more expensive, proprietary solutions, and since it's done in-house, it saves Facebook costs that other online outlets spend on third-party **content delivery networks (CDN)**⁶ like Akamai. Facebook receives some fifty million requests per second. S. Gaudin, "Facebook Rolls Out Storage System to Wrangle Massive Photo Stores," *Computerworld*, April 1, 2009, http://www.computerworld.com/s/article/9130959/Facebook_rolls_out_storage_system_to_wrangle_massive_photo_stores. yet 95 percent of data queries can be served from a huge, distributed server cache that lives in over fifteen terabytes of RAM (objects like video and photos are stored on hard drives). A. Zeichick, "How Facebook Works," *Technology Review*, July/August 2008.

4. A collection of resources available for access over the Internet.
5. Software that is free and whose code can be accessed and potentially modified by anyone.
6. Systems distributed throughout the Internet (or other network) that help to improve the delivery (and hence loading) speeds of Web pages and other media, typically by spreading access across multiple sites located closer to users. Akamai is the largest CDN, helping firms like CNN and MTV quickly deliver photos, video, and other media worldwide.

All this technology is expensive, and a big chunk of the capital that Facebook has raised from investors has been targeted at expanding the firm's server network to keep up with the crush of growth. This includes one \$100 million investment round "used entirely for servers." S. Ante, "Facebook: Friends with Money," *BusinessWeek*, May 9, 2008. Facebook will be buying servers by the thousands for years to come. And it'll pay a pretty penny just to keep things humming. Estimates suggest the firm spends one million dollars a month on electricity, another half million a month on telecommunications bandwidth, and at least fifteen million dollars a year in office and data center rental payments. A. Arrington, "Facebook Completes Rollout of Haystack to Stem Losses from Massive Photo Uploads," *TechCrunch*, April 6, 2009.

Want to build your own server farm like Facebook? The firm will tell you how to do it. In an unprecedented move that coincided with the opening of its Prineville, Oregon, facility, Facebook made public the detailed specifications of its homegrown servers (including custom power supplies, chassis, and battery backup), plus plans used in the Prineville site's building design and electrical and cooling systems. You can find details, photos, and video at opencompute.org. Facebook claims its redesigned servers are 38 percent more efficient and 24 percent cheaper than those sold by major manufacturers. Why give away the low-cost secrets? Says the firm's director of hardware, "Facebook is successful because of the great social product, not [because] we can build low-cost infrastructure. There's no reason we shouldn't help others out with this." T. Simonite, "Facebook Opens Up Its Hardware Secrets," *Technology Review*, April 7, 2011. One of the firms considering using Facebook designs is Zynga, a firm that itself pays Facebook millions a month in advertising and for using the Facebook Credits payments system. Sharing will be good for Facebook if a more efficient Zynga grows faster and returns more money back to its partner along the way.

KEY TAKEAWAYS

- Facebook's position as the digital center of its members' online social lives has allowed the firm to envelop related businesses such as photo and video sharing, messaging, bookmarking, and link sharing. Facebook has opportunities to expand into other areas as well.
- Much of the site's content is in the dark Web, unable to be indexed by Google or other search engines. Some suggest this may create an opportunity for Facebook to challenge Google in search.
- Some fear that Facebook may be an all-too-powerful walled garden that may stifle innovation, limit competition, and restrict the free flow of information.
- Facebook's growth requires a continued and massive infrastructure investment. The site is powered largely on commodity hardware, open source software, and proprietary code tailored to the specific needs of the service.

QUESTIONS AND EXERCISES

1. What is Facebook? How do people use the site? What do they “do” on Facebook?
2. What markets has Facebook entered? What factors have allowed the firm to gain share in these markets at the expense of established firms? In what ways does it enjoy advantages that a traditional new entrant in such markets would not?
3. What is the “dark Web” and why is it potentially an asset to Facebook? Why is Google threatened by Facebook’s dark Web? What firms might consider an investment in the firm, if it provided access to this asset? Do you think the dark Web is enough to draw users to a Facebook search product over Google? Why or why not?
4. As Facebook grows, what kinds of investments continue to be necessary? What are the trends in these costs over time? Do you think Facebook should wait in making these investments? Why or why not?
5. Investments in servers and other capital expenses typically must be depreciated over time. What does this imply about how the firm’s profitability is calculated?
6. How have media attitudes toward their copyrighted content changed over the past decade? Why is Facebook a potentially significant partner for firms like the *New York Times*? What does the *Times* stand to gain by encouraging “sharing” its content? What do newspapers and others sites really mean when they encourage sites to “share?” What actually is being passed back and forth? Do you think this ultimately helps or undermines the *Times* and other newspaper and magazine sites? Why?
7. What is a walled garden? Facebook has been called a walled garden—name other firms that might also be described using this term. In your opinion is Facebook a walled garden? Why or why not? What might be the consequences if the firm is widely viewed as being more powerful and less open?

8.3 The Social Graph

LEARNING OBJECTIVES

1. Explain the concept of the “social graph,” and explain how Facebook created a social graph stronger than its rivals’.
2. Recognize the two strategic resources that are most critical to Facebook’s competitive advantage and why Facebook was able to create these resources while MySpace has fallen short.
3. Appreciate that while Facebook’s technology can be easily copied, barriers to sustain any new entrant are extraordinarily high, and the likelihood that a firm will win significant share from Facebook by doing the same thing is considerably remote.

At the heart of Facebook’s appeal is a concept Zuckerberg calls the **social graph**⁷, which refers to Facebook’s ability to collect, express, and leverage the connections between the site’s users, or as some describe it, “the global mapping of everyone and how they’re related.” A. Iskold, “Social Graph: Concepts and Issues,” *ReadWriteWeb*, September 12, 2007. Think of all the stuff that’s on Facebook as a node or endpoint that’s connected to other stuff. You’re connected to other users (your friends), photos about you are tagged, comments you’ve posted carry your name, you’re a member of groups, you’re connected to applications you’ve installed—Facebook links them all. A. Zeichick, “How Facebook Works,” *Technology Review*, July/August 2008.

Facebook was established in the relatively safe cocoon of American undergraduate life and was conceived as a place where you could *reinforce* contacts among those who, for the most part, you already knew. The site was one of the first social networks where users actually identified themselves using their real names. If you wanted to establish that you worked for a certain firm or were a student of a particular university, you had to verify that you were legitimate via an e-mail address issued by that organization. It was this “realness” that became Facebook’s distinguishing feature—bringing along with it a degree of safety and comfort that enabled Facebook to become a true social utility and build out a solid social graph consisting of verified relationships. Since “friending” (which is a link between nodes in the social graph) required both users to approve the relationship, the network fostered an incredible amount of trust. Today, many Facebook users post their cell phone numbers and their birthdays, offer personal photos, and otherwise share information they’d never do outside their circle of friends. Because of trust, Facebook’s social graph is incredibly strong.

7. The global mapping of users and organizations, and how they are connected.

There is also a strong **network effect**⁸ to Facebook (see [Chapter 6 "Understanding Network Effects"](#)). People are attracted to the service because others they care about are more likely to be there than anywhere else online. And that large user base has also attracted all sorts of firms and organizations looking to connect with Facebook's masses. Without the network effect Facebook wouldn't exist. And it's because of the network effect that another smart kid in a dorm can't rip off Zuckerberg in any market where Facebook is the biggest fish. Even an exact copy of Facebook would be a virtual ghost town with no social graph (see [Note 8.21 "It's Not the Technology"](#) below).

The **switching costs**⁹ for Facebook are also extremely powerful. A move to another service means recreating your entire social graph. The more time you spend on the service, the more you've invested in your graph and the less likely you are to move to a rival.

8. Also known as Metcalfe's Law, or network externalities. When the value of a product or service increases as its number of users expands.

9. The cost a consumer incurs when moving from one product to another. It can involve actual money spent (e.g., buying a new product) as well as investments in time, any data loss, and so forth.

It's Not the Technology

Does your firm have Facebook envy? KickApps, an eighty-person start-up in Manhattan, will give you the technology to power your own social network. All KickApps wants is a cut of the ads placed around your content. In its first two years, the site has provided the infrastructure for twenty thousand “mini Facebooks,” registering three hundred million page views a month. B. Urstadt, “The Business of Social Networks,” *Technology Review*, July/August 2008. NPR, ABC, AutoByTel, Harley-Davidson, and Kraft all use the service (social networks for Cheez Whiz?).

There's also Ning, which has enabled users to create over 2.3 million mini networks organized on all sorts of topics as diverse as church groups, radio personalities, vegans, diabetes sufferers, and networks limited to just family members.

Or how about the offering from Agriya Infoway, based in Chennai, India? The firm will sell you Kootali, a software package that lets developers replicate Facebook's design and features, complete with friend networks, photos, and mini-feeds. They haven't stolen any code, but they have copied the company's look and feel. Those with Zuckerberg ambitions can shell out the four hundred bucks for Kootali. Sites with names like Faceclub.com and Umicity.com have done just that—and gone nowhere.

Mini networks that extend the conversation (NPR) or make it easier to find other rabidly loyal product fans (Harley-Davidson) may hold a niche for some firms. And Ning is a neat way for specialized groups to quickly form in a secure environment that's all their own (it's just us, no “creepy friends” from the other networks). While every market has a place for its niches, none of these will grow to compete with the dominant social networks. Even Google, which has tremendous assets in search capability, Gmail, and other potential distribution channels to leverage in its Google+ effort, hasn't come close to matching Facebook's lead. The value isn't in the technology; it's in what the technology has created over time. For Facebook, it's a huge user base that (for now at least) is not going anywhere else.

KEY TAKEAWAYS

- The social graph expresses the connections between individuals and organizations.
- Trust created through user verification and friend approval requiring both parties to consent encouraged Facebook users to share more and helped the firm establish a stronger social graph than other social networking rivals.
- Facebook's key resources for competitive advantage are network effects and switching costs. These resources make it extremely difficult for copycat firms to steal market share from Facebook.

QUESTIONS AND EXERCISES

1. What is the social graph? Why is Facebook's social graph considered to be stronger than the social graph created by the sites of its early competitors?
2. Does Facebook have to worry about copycat firms from the United States? In overseas markets? Why or why not? If Facebook has a source (or sources) of competitive advantage, explain these. If it has no advantage, discuss why.

8.4 Facebook Feeds—Ebola for Data Flows

LEARNING OBJECTIVES

1. Understand the concept of feeds, why users rebelled against Facebook feeds, and why users eventually embraced this feature.
2. Recognize the role of feeds in viral promotions, catalyzing innovation, and supporting rapid organizing.

While the authenticity and trust offered by Facebook was critical, offering News Feeds concentrated and released value from the social graph. With feeds, each time a user performs an activity in Facebook—makes a friend, uploads a picture, joins a group—the feed blasts this information to all of your friends in a reverse chronological list that shows up right when they next log on. An individual user’s activities are also listed on their profile. Get a new job, move to a new city, read a great article, have a pithy quote—post it to Facebook—the feed picks it up, and the world of your Facebook friends will get an update. Corporations love feeds, too! “Like” a firm on Facebook and the firm can post messages to your news feed, where you can “Like” new messages they send out, comment on them, and share the messages virally.

Feeds are perhaps the linchpin of Facebook’s ability to strengthen and deliver user value from the social graph, but for a brief period of time it looked like feeds would kill the company. News Feeds were launched on September 5, 2006, just as many of the nation’s undergrads were arriving on campus. Feeds reflecting any Facebook activity (including changes to the relationship status) became a sort of gossip page splashed right when your friends logged in. To many, feeds were first seen as a viral blast of digital nosiness—a release of information they hadn’t consented to distribute widely.

And in a remarkable irony, user disgust over the News Feed ambush offered a whip-crack demonstration of the power and speed of the feed virus. Facebook protest groups were formed on Facebook itself, and every student who, for example, joined a group named Students Against Facebook News Feed, had this fact blasted to their friends (along with a quick link where friends, too, could click to join the group). Hundreds of thousands of users mobilized against the firm in just twenty-four hours. It looked like Zuckerberg’s creation had turned on him, Frankenstein style.

The first official Facebook blog post on the controversy came off as a bit condescending (never a good tone to use when your customers feel that you've wronged them). "Calm down. Breathe. We hear you," wrote Zuckerberg on the evening of September 5. The next post, three days after the News Feed launch, was much more contrite ("We really messed this one up," he wrote). In an open letter, Zuckerberg apologized for the surprise, explaining how users could opt out of feeds. The tactic worked, and the controversy blew over. F. Vogelstein, "How Mark Zuckerberg Turned Facebook into the Web's Hottest Platform," *Wired*, September 6, 2007. The ability to stop personal information from flowing into the feed stream was just enough to stifle critics, and as it turns out, a lot of people really liked the feeds and found them useful. It soon became clear that if you wanted to use the Web to keep track of your social life and contacts, Facebook was the place to be. Not only did feeds not push users away, by the start of the next semester subscribers had nearly doubled! Facebook continues to refine feeds in several ways, including refining sharing into categories that include "Top Stories" that the site thinks you'll be most interested in, "Recent News," a "Ticker" for lighter content (e.g. music, games, location updates), and a "Timeline" that offers a sort of digital scrapbook of content that a user has shared online.

KEY TAKEAWAYS

- Facebook feeds foster the viral spread of information and activity.
- Feeds were initially unwanted by many Facebook users. Feeds themselves helped fuel online protests against the feed feature.
- Today feeds are considered one of the most vital, value-adding features on Facebook, and the concept has been widely copied by other social networking sites.
- Users often misperceive technology and have difficulty in recognizing an effort's value (as well as its risks). They have every right to be concerned and protective of their privacy. It is the responsibility of firms to engage users on new initiatives and to protect user privacy. Failure to do so risks backlash.

QUESTIONS AND EXERCISES

1. What is the “linchpin” of Facebook’s ability to strengthen and deliver user-value from the social graph?
2. How did users first react to feeds? What could Facebook have done to better manage the launch?
3. How do you feel about Facebook feeds? Have you ever been disturbed by information about you or someone else that has appeared in the feed? Did this prompt action? Why or why not?
4. Visit Facebook and experiment with privacy settings. What kinds of control do you have over feeds and data sharing? Is this enough to set your mind at ease? Did you know these settings existed before being prompted to investigate features?
5. What other Web sites are leveraging features that mimic Facebook feeds? Do you think these efforts are successful or not? Why?

8.5 Facebook as a Platform

LEARNING OBJECTIVES

1. Understand how Facebook created a platform and the potential value this offers the firm.
2. Recognize that running a platform also presents a host of challenges to the platform operator.

In May 2007, Facebook followed News Feeds with another initiative that set it head and shoulders above its competition. At the firm's first f8 developers conference, Mark Zuckerberg stood on stage and announced that he was opening up the screen real estate on Facebook to other application developers. Facebook published a set of **application programming interfaces (APIs)**¹⁰ that specified how programs could be written to run within and interact with Facebook. Now any programmer could write an application that would live inside a user's profile. Geeks of the world, Facebook's user base could be yours! Just write something good.

Developers could charge for their wares, offer them for free, and even run ads. And Facebook let developers keep what they made (Facebook does revenue share with app vendors for some services, such as the Facebook Credits payment service, mentioned later). This was a key distinction; MySpace (a larger firm at the time) initially restricted developer revenue on the few products designed to run on their site, at times even blocking some applications. The choice was clear: Facebook had rolled out the welcome mat and developers flocked to the site.

To promote the new apps, Facebook would run an Applications area on the site where users could browse offerings. Even better, News Feed was a viral injection that spread the word each time an application was installed. Your best friend just played a game? Maybe you'll check it out, too. The predictions of \$1 billion in social network ad spending were geek catnip, and legions of programmers came calling. Apps could be cobbled together on the quick, feeds made them spread like wildfire, and the early movers offered adoption rates never before seen by small groups of software developers. People began speaking of the Facebook Economy. Facebook was considered a platform. Some compared it to the next Windows, Zuckerberg the next Gates (hey, they both dropped out of Harvard, right?).

And each application potentially added more value and features to the site without Facebook lifting a finger. The initial event launched with sixty-five developer

10. Programming hooks, or guidelines, published by firms that tell other programs how to get a service to perform a task such as send or receive data. For example, Amazon.com provides APIs to let developers write their own applications and Websites that can send the firm orders.

partners and eighty-five applications. There were some missteps along the way. Some applications were accused of spamming friends with invites to install them (Facebook eventually put limits on viral communication from apps). There were also security concerns, privacy leaks, and apps that violated the intellectual property of other firms (see the “Errant Apps” sidebar below), but Facebook worked to quickly remove misbehaving apps, correct errors, improve the system, and encourage developers. Just one year in, Facebook had marshaled the efforts of some four hundred thousand developers and entrepreneurs, twenty-four thousand applications had been built for the platform, 140 new apps were being added each day, and 95 percent of Facebook members had installed at least one Facebook application. As Sarah Lacy, author of *Once You’re Lucky, Twice You’re Good*, put it, “with one masterstroke, Zuck had mobilized all of Silicon Valley to innovate for him.”

Figure 8.2 Gaming on Facebook’s Platform Is a Colossal Business



Zynga, maker of MafiaWars, FarmVille, and CityVille, is estimated to be the second most valuable firm in the video game industry, generating north of \$600 million in annual profits through the sale of virtual goods and by running advertising and promotions.

Source: Zynga.

With feeds to spread the word, Facebook was starting to look like the first place to go to launch an online innovation. Skip the Web; if you want to get social, bring it to Zuckerberg’s site first (you can almost feel Tim Berners-Lee shuddering). A programmer named Mark Pincus wrote a Texas hold ’em game at his kitchen table. J. Guynn, “A Software Industry @ Facebook,” *Los Angeles Times*, September 10, 2007. Today his social gaming firm, Zynga, is one of the world’s most valuable video game firms, a publicly-traded, multi-billion dollar powerhouse that has launched over three dozen apps and attracted over 230 million users worldwide. D. MacMillan, “Zynga Enlarges Its War Chest,” *BusinessWeek*, December 17, 2009. Zynga games include MafiaWars, FarmVille (which boasts some twenty times the number of actual farms in the United States), D. MacMillan, P. Burrows, and S. Ante, “Inside the App Economy,” *BusinessWeek*, November 2, 2009. and CityVille. Playfish, the U.K. social gaming firm behind the Facebook hits Pet Society and Restaurant City, was

snapped up by Electronic Arts for \$300 million plus. And Disney bought Sorority Life maker Playdom for over three quarters of a billion dollars. B. Barnes and C. Cain Miller, “Disney Buys Playdom in \$763 Million Deal, Becoming Hollywood Leader in Social Games,” *New York Times*, July 27, 2010. Lee Lorenzen, founder of Altura Ventures, an investment firm exclusively targeting firms creating Facebook apps, said, “Facebook is God’s gift to developers. Never has the path from a good idea to millions of users been shorter.” J. Guynn, “A Software Industry @ Facebook,” *Los Angeles Times*, September 10, 2007.

I Majored in Facebook

Once Facebook became a platform, Stanford professor BJ Fogg thought it would be a great environment for a programming class. In ten weeks his seventy-five students built a series of applications that collectively received over sixteen million installs. By the final week of class, several applications developed by students, including KissMe, Send Hotness, and Perfect Match, had received millions of users, and class apps collectively generated roughly a million dollars in ad revenue. At least three companies were formed from the course. M. Helft, “The Class That Built Apps, and Fortunes,” *New York Times*, May 7, 2011.

But legitimate questions remain. Are Facebook apps really a big deal? Just how important will apps be to adding sustained value within Facebook? And how will firms leverage the Facebook framework to extract their own value? A chart from FlowingData showed the top category, Just for Fun, was larger than the next four categories combined. That suggests that a lot of applications are faddish time wasters. Yes, there is experimentation beyond virtual Zombie Bites. Visa has created a small business network on Facebook (Facebook had some eighty thousand small businesses online at the time of Visa’s launch). Educational software firm Blackboard offered an application that will post data to Facebook pages as soon as there are updates to someone’s Blackboard account (new courses, whether assignments or grades have been posted, etc.). We’re still a long way from Facebook as a Windows rival, but the platform helped push Facebook to number one, and it continues to deliver quirky fun (and then some) supplied by thousands of developers off its payroll.

Errant Apps and the Challenges of Running a Platform

Rajat and Jayant Agarwalla, two brothers in Kolkata, India, who ran a modest software development company, decided to write a Scrabble clone as a Facebook application. The app, named Scrabulous, was social—users could invite friends to play, or they could search for new players looking for an opponent. Their application was a smash, snagging three million registered users and seven hundred thousand players a day after just a few months. Scrabulous was featured in *PC World*'s 100 best products of the year, received coverage in the *New York Times*, *Newsweek*, and *Wired*, and was pulling in about twenty-five thousand dollars a month from online advertising. Way to go, little guys! H. Timmons, "Online Scrabble Craze Leaves Game Sellers at Loss for Words," *New York Times*, March 2, 2008.

There is only one problem: the Agarwalla brothers didn't have the legal rights to Scrabble, and it was apparent to anyone that from the name to the tiles to the scoring—this was a direct rip-off of the well-known board game. Hasbro owns the copyright to Scrabble in the United States and Canada; Mattel owns it everywhere else. Thousands of fans joined Facebook groups with names like "Save Scrabulous" and "Please God, I Have So Little: Don't Take Scrabulous, Too." Users in some protest groups pledged never to buy Hasbro games if Scrabulous was stopped. Even if the firms wanted to succumb to pressure and let the Agarwalla brothers continue, they couldn't. Both Electronic Arts and RealNetworks have contracted with the firms to create online versions of the game.

While the Facebook Scrabulous app is long gone, the tale serves to illustrate some of the challenges faced when creating a platform. In addition to copyright violations, app makers have crafted apps that annoy, purvey pornography, step over the boundaries of good taste, and raise privacy and security concerns. In fall 2010, the *Wall Street Journal* reported that unscrupulous partners had scraped personal information from the profiles of Facebook users and then sold the information to third parties—a violation of Facebook's terms of service that created a firestorm in the media. J. Cheng, "Facebook Punishes App Developers Found Selling User Data," *ArsTechnica*, November 1, 2010. Zynga also ran into trouble and was skewered in the press when some of its partners were accused of scamming users into signing up for subscriptions or installing unwanted software in exchange for game credits (Zynga has since taken steps to screen partners and improve transparency). M. Arrington, "Zynga Takes Steps to Remove Scams from Games," *TechCrunch*, November 2, 2009.

Firms from Facebook to Apple (through its iTunes Store) have struggled to find the right mix of monitoring, protection, and approval while avoiding cries of censorship and draconian control. Platform owners beware, developers can help you grow quickly and can deliver gobs of value, but misbehaving partners can create financial loss and brand damage and can sow mistrust.

KEY TAKEAWAYS

- Facebook's platform allows the firm to further leverage the network effect. Developers creating applications create complementary benefits that have the potential to add value to Facebook beyond what the firm itself provides to its users.
- There is no revenue-sharing mandate among platform partners—whatever an application makes can be kept by its developers (although Facebook does provide some services via revenue sharing, such as Facebook Credits).
- Most Facebook applications are focused on entertainment. The true, durable, long-term value of Facebook's platform remains to be seen.
- Despite this, top app developers have found Facebook to be extraordinarily lucrative. Zynga is a multibillion-dollar firm, while Playfish and Playdom were acquired for hundreds of millions of dollars each.
- Running a platform can be challenging. Copyright, security, appropriateness, free speech tensions, efforts that tarnish platform operator brands, privacy, and the potential for competition with partners, all can make platform management more complex than simply creating a set of standards and releasing this to the public.

QUESTIONS AND EXERCISES

1. Why did more developers prefer to write apps for Facebook than for MySpace?
2. What competitive asset does the application platform initiative help Facebook strengthen? For example, how do apps make Facebook stronger when compared to rivals?
3. What's Scrabulous? Did the developers make money? What happened to the firm and why?
4. Have you used Facebook apps? Which are your favorites? What makes them successful?
5. Leverage your experience or conduct additional research—are there developers who you feel have abused the Facebook app network? Why? What is Facebook's responsibility (if any) to control such abuse?
6. How do most app developers make money? Have you ever helped a Facebook app developer earn money? How or why not?
7. How do Facebook app revenue opportunities differ from those leveraged by a large portion of iTunes Store apps?

8.6 Advertising and Social Networks: A Work in Progress

LEARNING OBJECTIVES

1. Describe the differences in the Facebook and Google ad models.
2. Explain the hunt versus hike metaphor, contrast the relative success of ad performance on search compared to social networks, and understand the factors behind the latter's struggles.
3. Recognize how firms are leveraging social networks, including efforts such as Facebook engagement ads and deals, for brand building, product engagement, and driving purchase traffic.

If Facebook is going to continue to give away its services for free, it needs to make money somehow. Right now the bulk of revenue comes from advertising. Fortunately for the firm, online advertising is hot. For years, online advertising has been the only major media category that has seen an increase in spending (see [Chapter 14 "Google in Three Parts: Search, Online Advertising, and Beyond"](#)). Firms spend more advertising online than they do on radio, magazine, cable television, or newspaper ads. D. Takahashi, "Internet Ads Finally Surpass Newspapers," *VentureBeat*, April 14, 2011. But not all Internet advertising is created equal. There are both signs that social networking sites are struggling to find the right ad model and trends suggesting that advertising on social networks could be a money-gushing bonanza.

Google founder Sergey Brin sums up early frustration with social media advertising, saying, "I don't think we have the killer best way to advertise and monetize social networks yet," that social networking ad inventory as a whole was proving problematic and that the "monetization work we were doing [in social media] didn't pan out as well as we had hoped." "Everywhere and Nowhere," *Economist*, March 19, 2008. GM pulled a \$10 million account from Facebook just days before the social network's IPO, claiming that paid advertising on the network was simply not effective. J. Muller, "GM Says Facebook Ads Don't Work, Pulls \$10 Million Ad Account," *Forbes*, May 15, 2012.

Why has advertising on social networking sites been such a tough nut for some to crack? Firms face two key challenges: **content adjacency**¹¹ and user attention. The *content adjacency* problem refers to concern over where a firm's advertisements will run. Consider all of the questionable titles in social networking news groups. Do advertisers really want their ads running alongside conversations that are racy,

11. Concern that an advertisement will run near offensive material, embarrassing an advertiser and/or degrading their products or brands.

offensive, illegal, or that may even mock their products? This potential juxtaposition is a major problem with any site offering ads adjacent to free-form social media. Summing up industry wariness, one Procter & Gamble manager said, “What in heaven’s name made you think you could monetize the real estate in which somebody is breaking up with their girlfriend?” B. Stone, “Facebook Aims to Extend Its Reach across Web,” *New York Times*, December 1, 2008. An IDC report suggests that it’s because of content adjacency that “brand advertisers largely consider user-generated content as low-quality, brand-unsafe inventory” for running ads. R. Stross, “Advertisers Face Hurdles on Social Networking Sites,” *New York Times*, December 14, 2008.

Now let’s look at the user attention problem.

Attention Challenges: The Hunt Versus The Hike

In terms of revenue model, Facebook is radically different from Google and the high-value category of search advertising. Users of Google and other search sites are on a *hunt*—a task-oriented expedition to collect information that will drive a specific action. Search users want to learn something, buy something, research a problem, or get a question answered. To the extent that the hunt overlaps with ads, it works. Just searched on a medical term? Google will show you an ad from a drug company. Looking for a toy? You’ll see Google ads from eBay sellers and other online shops. Type in a vacation destination and you get a long list of ads from travel providers aggressively courting your spending. Even better, Google only charges text advertisers when a user clicks through. No clicks? The ad runs at no cost to the advertiser. From a return on investment perspective, this is extraordinarily efficient. How often do users click on Google ads? Enough for this to be the single most profitable activity among *any* Internet firm. In 2011, Google revenue came in at nearly \$38 billion. Profits exceeded \$9.7 billion, almost all of this from pay-per-click ads (see [Chapter 14 "Google in Three Parts: Search, Online Advertising, and Beyond"](#) for more details).

While users go to Google to hunt, they go to Facebook as if they were going on a *hike*—they have a rough idea of what they’ll encounter, but they’re there to explore and look around and enjoy the sights (or site). They’ve usually allocated time for fun, and they don’t want to leave the terrain when they’re having conversations, looking at photos or videos, and checking out updates from friends.

These usage patterns are reflected in click-through rates. Google users click on ads around 2 percent of the time (and at a much higher rate when searching for product information). At Facebook, click-throughs are about 0.04 percent. B. Urstadt, “The Business of Social Networks,” *Technology Review*, July/August 2008.

Rates quoted in this piece seem high, but a large discrepancy between site rates holds across reported data.

Most banner ads don't charge per click but rather **CPM**¹² (cost per thousand) **impressions**¹³ (each time an ad appears on someone's screen). But Facebook banner ads performed so poorly that the firm pulled them in early 2010. C. McCarthy, "More Social, Please: Facebook Nixes Banner Ads," *CNET*, February 5, 2010. Lookery, a one-time ad network that bought ad space on Facebook in bulk, had been reselling inventory at a CPM of 7.5 cents (note that Facebook does offer advertisers pay-per-click as well as impression-based, or CPM, options). B. Urstadt, "The Business of Social Networks," *Technology Review*, July/August 2008; J. Hempel, "Finding Cracks in Facebook," *Fortune*, May 13, 2008; and E. Schonfeld, "Are Facebook Ads Going to Zero? Lookery Lowers Its Guarantee to 7.5-cent CPMs," *TechCrunch*, July 22, 2008. By contrast, information and news-oriented sites do much better, particularly if these sites draw in a valuable and highly targeted audience. The social networking blog *Mashable* has CPM rates ranging between seven and thirty-three dollars. *Technology Review* magazine boasts a CPM of seventy dollars. *TechTarget*, a Web publisher focusing on technology professionals, has been able to command CPM rates of one hundred dollars and above, fueling that firm's IPO.

Getting Creative with Promotions: Does It Work?

Facebook and other social networks are still learning what works, and Facebook, app firms, and advertisers have begun experimenting with all sorts of models. Many feel that Facebook has a unique opportunity to get consumers to engage with their brand, and some initial experiments point where this may be heading.

Many firms have been leveraging so-called **engagement ads**¹⁴ by making their products part of the Facebook fun. Using an engagement ad, a firm can set up a promotion where a user can do things such as "Like" or become a fan of a brand, RSVP to an event and invite others, watch and comment on a video and see what your friends have to say, send a "virtual gift" with a personal message, or answer a question in a poll. The viral nature of Facebook allows actions to flow back into the news feed and spread among friends.

COO Sheryl Sandberg discussed Ben & Jerry's promotion for the ice cream chain's free cone day event. To promote the upcoming event, Ben & Jerry's initially contracted to make two hundred and fifty thousand "gift cones" available to Facebook users; they could click on little icons that would gift a cone icon to a friend, and that would show up in their profile. Within a couple of hours, customers had sent all two hundred and fifty thousand virtual cones. Delighted, Ben & Jerry's bought another two hundred and fifty thousand cones. Within eleven hours, half a

12. Cost per thousand impressions (the M representing the roman numeral for one thousand).

13. Each time an ad is served to a user for viewing.

14. Promotion technique popular with social media that attempts to get consumers to interact with an ad, then shares that action with friends.

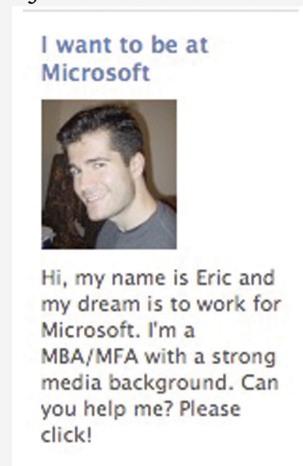
million people had sent cones, many making plans with Facebook friends to attend the real free cone day. The day of the Facebook promotion, Ben & Jerry's Web site registered fifty-three million impressions, as users searched for store locations and wrote about their favorite flavors. Q. Hardy, "Facebook Thinks Outside Boxes," *Forbes*, May 28, 2008. The campaign dovetailed with everything Facebook was good at: it was viral, generating enthusiasm for a promotional event and even prompting scheduling.

In other promotions, Honda gave away three quarters of a million hearts during a Valentine's Day promo, S. Sandberg, "Sheryl Sandberg on Facebook's Future," *BusinessWeek*, April 8, 2009. and the Dr. Pepper Snapple Group offered two hundred and fifty thousand virtual Sunkist sodas, which earned the firm one hundred thirty million brand impressions in twenty-two hours. Says Sunkist's brand manager, "A Super Bowl ad, if you compare it, would have generated somewhere between six to seven million." E. Wong, "Ben & Jerry's, Sunkist, Indy Jones Unwrap Facebook's 'Gift of Gab,'" *Brandweek*, June 1, 2008.

Facebook, Help Get Me a Job!

The news is filled with stories about employers scouring Facebook to screen potential hires. But one creative job seeker turned the tables and used Facebook to make it easier for firms to find him. Recent MBA graduate Eric Barker, a talented former screenwriter with experience in the film and gaming industry, bought ads promoting himself on Facebook, setting them up to run only on the screens of users identified as coming from firms he'd like to work for. In this way, someone Facebook identified as being from Microsoft would see an ad from Eric declaring "I Want to Be at Microsoft" along with an offer to click and learn more. The cost to run the ads was usually less than \$5 a day. Said Barker, "I could control my bid price and set a cap on my daily spend. Starbucks put a bigger dent in my wallet than promoting myself online." The ads got tens of thousands of impressions, hundreds of clicks, and dozens of people called offering assistance. Today, Eric Barker is gainfully employed at a "dream job" in the video game industry. Eric is a former student of mine. His story has been covered by many publications, including J. Zappe, "MBA Grad Seeks Job with Microsoft; Posts Ad on Facebook," *ERE.net*, May 27, 2009; G. Sentementes, "'Hire Me' Nation: Using the Web & Social Media to Get a Job," *Baltimore Sun*, July 15, 2009; and E. Liebert, *Facebook Fairytales* (New York: Skyhorse, 2010).

Figure 8.3



Eric Barker used Facebook to advertise himself to prospective employers.

Of course, even with this business, Facebook may find that it competes with widget makers. Unlike Apple's App Store (where much of developer-earned revenue comes from selling apps), the vast majority of Facebook apps are free and supported by ads. That means Facebook and its app providers are both running at a finite pot of advertising dollars.

While these efforts might be innovative, are they even effective? Some of these programs are considered successes; others, not so much. Jupiter Research surveyed marketers trying to create a viral impact online and found that only about 15 percent of these efforts actually caught on with consumers. M. Cowan, "Marketers Struggle to Get Social," *Reuters*, June 19, 2008, <http://www.reuters.com/news/video?videoId=84894>. Brands seeking to deploy their own applications in Facebook have also struggled. *New Media Age* reported that applications rolled out by top brands such as MTV, Warner Bros., and Woolworths were found to have as little as five daily users. Congestion may be setting in for all but the most innovative applications, as standing out in a crowd of over 550,000 applications becomes increasingly difficult. Facebook Press Room, Statistics, April 29, 2010, <http://www.facebook.com/press/info.php?statistics>.

Consumer products giant Procter & Gamble (P&G) has been relentlessly experimenting with leveraging social networks for brand engagement, but the results show what a tough slog this can be. The firm did garner fourteen thousand Facebook "fans" for its Crest Whitestrips product, but those fans were earned while giving away free movie tickets and other promos. The *New York Times* quipped that with those kinds of incentives, "a hemorrhoid cream" could have attracted a similar group of "fans." When the giveaways stopped, thousands promptly "unfanned" Whitestrips. Results for Procter & Gamble's "2X Ultra Tide" fan page were also pretty grim. P&G tried offbeat appeals for customer-brand bonding, including asking Facebookers to post "their favorite places to enjoy stain-making moments." But a check eleven months after launch had garnered just eighteen submissions, two from P&G, two from staffers at spoof news site *The Onion*, and a bunch of short posts such as "Tidealicious!" R. Stross, "Advertisers Face Hurdles on Social Networking Sites," *New York Times*, December 14, 2008.

Efforts around engagement opportunities like events (Ben & Jerry's) or products consumers are anxious to identify themselves with (a band or a movie) may have more success than trying to promote consumer goods that otherwise offer little allegiance, but efforts are so new that metrics are scarce, impact is tough to gauge, and best practices are still unclear.

Facebook Ads: Massive Upside and Huge Growth

Concerns over Facebook's ad model were underscored when growth slowed in the two quarters prior to the firm's IPO. H. Blodget, "Well, Now that Everyone Has Sobered Up, Let's Figure Out What Facebook is Actually Worth..." *Business Insider*, May 21, 2012. For all these challenges and limitations, however, Facebook advertising had grown at a rate strikingly similar to Google's early ad growth trajectory. Eric is a former student of mine. His story has been covered by many publications, including J. Zappe, "MBA Grad Seeks Job with Microsoft; Posts Ad on Facebook," *ERE.net*, May 27, 2009; G. Sentementes, "'Hire Me' Nation: Using the Web & Social Media to Get a Job," *Baltimore Sun*, July 15, 2009; and E. Liebert, *Facebook Fairytales* (New York: Skyhorse, 2010). There are several reasons for this spectacular growth.

First is the advertising appeal of *precise targeting*. Large advertising networks have tried to meticulously track users to develop a profile of their demographics, likes, and interests. At Facebook, the site knows all about you because you've told it the details—your age, the things you're enthusiastic about, where you live, your relationship status. This opens up all sorts of targeting opportunities to even the smallest of advertisers. In one example, a wedding photography studio targeted ads at women aged 24 to 30 whose relationship status was engaged—that's like sticking a flier in front of precisely everyone you want to reach and not wasting a dime on anyone else. The firm, CM Photographics, reports that just \$600 in Facebook ads resulted in nearly \$40,000 in revenue. M. D'Onofrio, "Social Networking Sites Using New Advertising," *BrandingIron*, November 18, 2010.

Another key comes from leveraging *social engagement* in the ads themselves. Adding a "like" button to an ad allows firms to turn their advertising message into a trusted referral from users' friends. Making ads more social allows advertisers to engage consumers to comment on content, RSVP to an event, and more. Many of these ads are designed to allow interaction within the ad that keeps them on the page so that users aren't faced with a choice to deviate from their "hike." And while user "Likes" and other updates might be lost in the constant scroll of the news feed, Facebook also lets advertisers pay to create sponsored stories, allowing advertisers to turn a member's Facebook actions (status updates, check-ins, "likes") into an ad on the right-side of the screen.

Facebook Engagement Ads and Sponsored Stories

These videos show how both engagement ads and sponsored stories work.



Source: Used by permission of Facebook.

Click to watch: <https://www.facebook.com/video/video.php?v=10100328087082670>

[\(click to see video\)](#)

While Facebook's overall click-through rates are low, Facebook execs argue that people remember ads better and are more likely to make purchases when their friends endorse products. Says one ad exec, "If you're an advertiser, there's nothing better than converting customers into unpaid endorsers." B. Stone, "Why Facebook Needs Sheryl Sandberg," *BusinessWeek*, May 16, 2011. Perhaps most critical—if someone "likes" your firm's page, you've got 'em. You can now post status updates that show up in a user's feed, allowing your message to appear in the same stream as postings from friends and to further spread virally. Users, of course, can turn off firm messages if they "unlike" a firm, and users are in control of their social ad participation through Facebook's privacy settings, but this ability to connect to customers in a way that enables continued messaging and promotion is a huge draw for advertisers and gives Facebook ads a unique appeal that none of its rivals can match.

While Facebook doesn't sell banner advertisements, the products described above are considered *display ads*. Facebook serves three times more display ads than anyone else online. M. Walsh, "Facebook Drives 31% of Display Ads in Q1," *MediaPost*, May 4, 2011. As for the increased spending by advertisers on Facebook, only time will tell if GM's experience is an anomaly or a troubling trend and if Facebook can create new promotional mechanisms to further fuel growth. P. Kafka, "Facebook

Isn't Eating Google's Lunch Yet, but It's Getting Hungry...,” *AllThingsD*, March 13, 2011.

KEY TAKEAWAYS

- Issues of content adjacency and user attention can make social networking ads less attractive than ads running alongside search and professionally produced content sites.
- Google enjoys significantly higher click-through rates than Facebook. Rates are lower since users of social sites are there to engage friends, not to hunt for products. They are less likely to be drawn away by clicks.
- Display ads are often charged based on impression. Social networks also offer lower CPM rates than many other, more targeted Web sites.
- Many firms have begun to experiment with engagement ads. While there have been some successes, engagement campaigns often haven't yielded significant results
- Despite concern, Facebook ads have grown at a tremendous rate and are highly profitable.
- Facebook ads offer advantages of improved targeting and social engagement. Ads allow customers to endorse a firm's offerings and to virally share a message with others. Facebook can leverage customer engagement in its own ads. And Facebook allows firms to continue to send messages to the news feeds of users who have “liked” their presence on Facebook.

QUESTIONS AND EXERCISES

1. How are most display ads billed? What acronym is used to describe pricing of most display ads?
2. How are most text ads on Google billed? What's the appeal for advertisers?
3. Contrast Facebook and Google click-through rates. Contrast Facebook CPMs with CPMs at professional content sites. Why the discrepancy?
4. What is the content adjacency problem? Search for examples of firms that have experienced embarrassment due to content adjacency—describe them, why they occurred, and if site operators could have done something to reduce the likelihood these issues could have occurred.
5. What kinds of Web sites are most susceptible to content adjacency? Are news sites? Why or why not? What sorts of technical features might act as breeding grounds for content adjacency problems?
6. If a firm removed user content because it was offensive to an advertiser, what kinds of problems might this create? When (if ever) should a firm remove or take down user content?
7. How are firms attempting to leverage social networks for brand and product engagement? What advantages do ads on Facebook offer advertisers that they can't necessarily get from competing online ad alternatives?
8. Describe an innovative marketing campaign that has leveraged Facebook or other social networking sites. What factors made this campaign work? Are all firms likely to have this sort of success? Why or why not?
9. Have advertisers ever targeted you when displaying ads on Facebook? How were you targeted? What did you think of the effort?

8.7 Privacy Peril, Beacon, and the TOS Debacle: What Facebook's Failures Can Teach Managers about Technology Planning and Deployment

LEARNING OBJECTIVES

1. Understand the difference between opt-in and opt-out efforts.
2. Recognize how user issues and procedural implementation can derail even well-intentioned information systems efforts.
3. Recognize the risks in being a pioneer associated with new media efforts, and understand how missteps led to Facebook and its partners being embarrassed (and in some cases sued) as a result of system design and deployment issues.

Conventional advertising may grow into a great business for Facebook, but the firm was clearly sitting on something that was unconventional compared to prior generations of Web services. Could the energy and virulent nature of social networks be harnessed to offer truly useful consumer information to its users? Word of mouth is considered the most persuasive (and valuable) form of marketing, V. Kumar, J. Andrew Petersen, and Robert Leone, "How Valuable Is Word of Mouth?" *Harvard Business Review* 85, no. 10 (October 2007): 139–46. and Facebook was a giant word of mouth machine. What if the firm worked with vendors and grabbed consumer activity at the point of purchase to put it into the news feed and post it to a user's profile? If you rented a video, bought a cool product, or dropped something in your wish list, your buddies could get a heads-up, and they might ask you about it. The person being asked feels like an expert, the person with the question gets a frank opinion, and the vendor providing the data just might get another sale. It looked like a home run.

This effort was named Beacon. Some forty e-commerce sites signed up, including Blockbuster, Fandango, eBay, Travelocity, Zappos, and the *New York Times*. Zuckerberg was so confident of the effort that he stood before a group of Madison Avenue ad executives and declared that Beacon would represent a "once-in-a-hundred-years" fundamental change in the way media works.

Like News Feeds, user reaction was swift and brutal. The commercial activity of Facebook users began showing up without their consent. The biggest problem with Beacon was that it was "opt-out" instead of "opt-in." Facebook (and its partners) assumed users would agree to sharing data in their feeds. A pop-up box did appear briefly on most sites supporting Beacon, but it disappeared after a few seconds.E.

Nakashima, “Feeling Betrayed, Facebook Users Force Site to Honor Their Privacy,” *Washington Post*, November 30, 2007. Many users, blind to these sorts of alerts, either clicked through or ignored the warnings. And well...there are some purchases you might not want to broadcast to the world.

“Facebook Ruins Christmas for Everyone!” screamed one headline from MSNBC.com. Another from *U.S. News and World Report* read “How Facebook Stole Christmas.” The *Washington Post* ran the story of Sean Lane, a twenty-eight-year-old tech support worker from Waltham, Massachusetts, who got a message from his wife just two hours after he bought a ring on Overstock.com. “Who is this ring for?” she wanted to know. Facebook had not only posted a feed that her husband had bought the ring, but also that he got it for a 51 percent discount! Overstock quickly announced that it was halting participation in Beacon until Facebook changed its practice to opt in. Nakashima, “Feeling Betrayed, Facebook Users Force Site to Honor Their Privacy,” *Washington Post*, November 30, 2007.

MoveOn.org started a Facebook group and online petition protesting Beacon. The Center for Digital Democracy and the U.S. Public Interest Research Group asked the Federal Trade Commission to investigate Facebook’s advertising programs. And a Dallas woman sued Blockbuster for violating the Video Privacy Protection Act (a 1998 U.S. law prohibiting unauthorized access to video store rental records).

To Facebook’s credit, the firm acted swiftly. Beacon was switched to an opt-in system, where user consent must be given before partner data is sent to the feed. Zuckerberg would later say regarding Beacon: “We’ve made a lot of mistakes building this feature, but we’ve made even more with how we’ve handled them. We simply did a bad job with this release, and I apologize for it.” C. McCarthy, “Facebook’s Zuckerberg: ‘We Simply Did a Bad Job’ Handling Beacon,” *CNET*, December 5, 2007. Beacon was eventually shut down and \$9.5 million was donated to various privacy groups as part of its legal settlement. J. Brodtkin, “Facebook Shuts Down Beacon Program, Donates \$9.5 Million to Settle Lawsuit,” *NetworkWorld*, December 8, 2009. Despite the Beacon fiasco, new users continued to flock to the site, and loyal users stuck with Zuck. Perhaps a bigger problem was that many of those forty A-list e-commerce sites that took a gamble with Facebook now had their names associated with a privacy screw-up that made headlines worldwide. Not a good thing for one’s career. A manager so burned isn’t likely to sign up first for the next round of experimentation.

From the Prada example in [Chapter 3 "Zara: Fast Fashion from Savvy Systems"](#) we learned that savvy managers look beyond technology and consider complete information systems—not just the hardware and software of technology but also the interactions among the data, people, and procedures that make up (and are

impacted by) information systems. Beacon's failure is a cautionary tale of what can go wrong if users fail to broadly consider the impact and implications of an information system on all those it can touch. Technology's reach is often farther, wider, and more significantly impactful than we originally expect.

Predators and Privacy

While spoiling Christmas is bad, sexual predators are far worse. Officials from the New York State Attorney General's office had posed as teenagers on Facebook and received sexual advances. Complaints to the service from investigators posing as parents were also not immediately addressed. These were troubling developments for a firm that prided itself on trust and authenticity.

In an agreement with forty-nine states, Facebook offered a series of aggressive steps. Facebook agreed to respond to complaints about inappropriate content within twenty-four hours and to allow an independent examiner to monitor how it handles complaints. The firm imposed age-locking restrictions on profiles, reviewing any attempt by someone under the age of eighteen to change their date of birth. Profiles of minors were no longer searchable. The site agreed to automatically send a warning message when a child is at risk of revealing personal information to an unknown adult. And links to explicit material, the most offensive Facebook groups, and any material related to cyberbullying were banned.

Reputation Damage, Increased Scrutiny, and Recovery—Learning from the Facebook TOS Debacle

Facebook also suffered damage to its reputation, brand, and credibility, further reinforcing perceptions that the company acts brazenly, without considering user needs, and is fast and loose on privacy and user notification. Facebook worked through the feeds outrage, eventually convincing users of the benefits of feeds. But Beacon was a fiasco. And now users, the media, and watchdogs were on the alert.

When the firm modified its terms of service (TOS) policy in spring 2009, the uproar was immediate. As a cover story in *New York* magazine summed it up, Facebook's new TOS appeared to state, "We can do anything we want with your content, forever," even if a user deletes their account and leaves the service. V. Grigoriadis,

“Do You Own Facebook? Or Does Facebook Own You?” *New York*, April 5, 2009. Yet another privacy backlash!

Activists organized; the press crafted juicy, attention-grabbing headlines; and the firm was forced once again to backtrack. But here’s where others can learn from Facebook’s missteps and response. The firm was contrite and reached out to explain and engage users. The old TOS were reinstated, and the firm posted a proposed new version that gave the firm broad latitude in leveraging user content without claiming ownership. And the firm renounced the right to use this content if a user closed their Facebook account. This new TOS was offered in a way that solicited user comments, and it was submitted to a community vote, considered binding if 30 percent of Facebook users participated. Zuckerberg’s move appeared to have turned Facebook into a democracy and helped empower users to determine the firm’s next step.

Despite the uproar, only about 1 percent of Facebook users eventually voted on the measure, but the 74 percent to 26 percent ruling in favor of the change gave Facebook some cover to move forward. J. Smith, “Facebook TOS Voting Concludes, Users Vote for New Revised Documents,” *Inside Facebook*, April 23, 2009. This event also demonstrates that a tempest can be generated by a relatively small number of passionate users. Firms ignore the vocal and influential at their own peril!

In Facebook’s defense, the broad TOS was probably more a form of legal protection than any nefarious attempt to exploit all user posts ad infinitum. The U.S. legal environment does require that explicit terms be defined and communicated to users, even if these are tough for laypeople to understand. But a “trust us” attitude toward user data doesn’t work, particularly for a firm considered to have committed ham-handed gaffes in the past. Managers must learn from the freewheeling Facebook community. In the era of social media, your actions are now subject to immediate and sustained review. Violate the public trust, and expect the equivalent of a high-powered investigative microscope examining your every move and a very public airing of the findings.

For Facebook, that microscope will be in place for at least the next two decades. In a late 2011 deal with the U.S. Federal Trade Commission, Facebook settled a series of governmental inquiries related to issues such as the ones outlined above—events that Zuckerberg admits added up to “a bunch of mistakes” made by the firm. Facebook agreed to undergo twenty years of regular third-party privacy audits, and to a host of additional restrictions that include getting users’ consent before making privacy changes, and making content from deleted profiles unavailable after 30 days. If Facebook fails to comply with these terms, it will face fines of

\$16,000 per violation per day. L. Gannes, “Facebook Settles with the FTC for 20 Years of Privacy Audits,” *AllThingsD*, November 29, 2011.

KEY TAKEAWAYS

- Word of mouth is the most powerful method for promoting products and services, and Beacon was conceived as a giant word-of-mouth machine with win-win benefits for firms, recommenders, recommendation recipients, and Facebook.
- Beacon failed because it was an opt-out system that was not thoroughly tested beforehand and because user behavior, expectations, and system procedures were not completely taken into account.
- Partners associated with the rapidly rolled out, poorly conceived, and untested effort were embarrassed. Several faced legal action.
- Facebook also reinforced negative perceptions regarding the firm’s attitudes toward users, notifications, and their privacy. This attitude only served to focus a continued spotlight on the firm’s efforts, and users became even less forgiving.
- Activists and the media were merciless in criticizing the firm’s terms of service changes. Facebook’s democratizing efforts demonstrate lessons other organizations can learn from, regarding user scrutiny, public reaction, and stakeholder engagement.
- A combination of firm policies, computerized and human monitoring, aggressive reporting and follow-up, and engagement with authorities can reduce online predator risks. Firms that fail to fully engage this threat put users and communities at risk and may experience irreparable damage to firms and reputations.

QUESTIONS AND EXERCISES

1. What was Beacon? Why was it initially thought to be a good idea? What were the benefits to firm partners, recommenders, recommendation recipients, and Facebook? Who were Beacon's partners, and what did they seek to gain through the effort?
2. Describe "the biggest problem with Beacon"? Would you use Beacon? Why or why not?
3. How might Facebook and its partners have avoided the problems with Beacon? Could the effort be restructured while still delivering on its initial promise? Why or why not?
4. Beacon shows the risk in being a pioneer—are there risks in being too cautious and not pioneering with innovative, ground-floor marketing efforts? What kinds of benefits might a firm miss out on? Is there a disadvantage in being late to the party with these efforts as well? Why or why not?
5. Why do you think Facebook changed its terms of service? Did these changes concern you? Were users right to rebel? What could Facebook have done to avoid the problem? Did Facebook do a good job in follow-up? How would you advise Facebook to apply lessons learned from the TOS controversy?
6. Investigate the current policies regarding underage users on Facebook. Do you think the firm adequately protects its users? Why or why not?
7. What age is appropriate for users to begin using social networks? Which services are appropriate at which ages? Are there social networks targeted at very young children? Do you think that these are safe places? Why or why not?

8.8 One Graph to Rule Them All: Facebook Reaches across the Web with Open Graph

LEARNING OBJECTIVES

1. Describe Facebook's efforts to integrate its service with other Web sites and the potential strategic benefit for Facebook and its partners.
2. List and discuss the potential benefits and risks of engaging in the kinds of intersite sharing and collaboration efforts described in this section.

Facebook's Open Graph offers the world a glimpse of the breadth and depth of Mark Zuckerberg's vision. The initiative places the company directly at the center of identity, sharing, and personalization—not just on Facebook but also across the Web.

With just a few lines of HTML code, any developer could add a Facebook “Like” button to their site and take advantage of the social network's power of viral distribution. A user clicking that page's “Like” button automatically would then send a link to that page to their news feed, where it has the potential to be seen by all of their friends. No additional sign-in is necessary as long as you logged into Facebook first (reinforcing Facebook's importance as the first stop in your Internet surfing itinerary). The effort was adopted with stunning speed. Facebook's “Like” button served up more than one billion times across the Web in the first twenty-four hours, and over fifty thousand Web sites signed up to add the “Like” button to their content within the first week. (Facebook now includes several new verb options beyond “like.”) J. Brodtkin, “Facebook Shuts Down Beacon Program, Donates \$9.5 Million to Settle Lawsuit,” *NetworkWorld*, December 8, 2009; and N. Devore, “Facebook Moves Beyond the “Like” Button, Introduces New Verbs to Timeline,” *OBI*, “Jan. 25, 2012.

Facebook also offered a system where Web site operators can choose to accept a user's Facebook credentials for logging in. Users like this because they can access content without the hurdle of creating a new account. Web sites like it because with the burden of signing up out of the way, Facebook becomes an experimentation lubricant: “Oh, I can use my Facebook ID to sign in? Then let me try this out.”

Other efforts allow firms to leverage Facebook data to make their sites more personalized. Firms around the Web can now show if a visitor's friends have “Liked”

items on the site, posted comments, or performed other actions. Using this feature, Facebook users logging into Yelp can see a list of restaurants recommended by trusted friends instead of just the reviews posted by a bunch of strangers. Users of the music-streaming site Pandora can have the service customized based on music tastes pulled from their Facebook profile page. They can share stations with friends and have data flow back to update the music preferences listed in their Facebook profile pages. Visit CNN and the site can pull together a list of stories recommended by friends. J. Valentino-DeVries, “Facebook CEO Zuckerberg on Plans to Dominate the Web,” *Wall Street Journal*, April 21, 2010. Think about how this strengthens the social graph. While items in the news feed might quickly scroll away and disappear, that data can now be pulled up within a Web site, providing insight from friends when and where you’re likely to want it most.

Taken together, these features enlist Web sites to serve as vassal states in the Facebook empire. Each of these ties makes Facebook membership more valuable by enhancing network effects, strengthening switching costs, and creating larger sets of highly personalized data to leverage.

Facebook: The Bank of the Web?

Those with an eye for business disruption are watching the evolution of Facebook Credits. Credits can be used to pay for items, such as features and enhancements in video games or virtual gifts. Facebook shares Credits revenue with application developers, taking a sizeable 30 percent off the top for acting as banker and transaction clearing house. That's a steep price to pay, but a unified standard may also prompt innovation since users are far more likely to trust Facebook with their credit card than to register their card on multiple services run by little-known app developers. As of July 2011, Facebook Credits are the mandatory in-game currency for all developers on the service.

There are real bucks to be made from digital make-believe. Analysts estimate that in 2011, virtual goods racked up an estimated \$2.3 billion in U.S. transactions and \$9 billion worldwide. *Zacks Equity Research*, "EA's Command and Conquer MMO Goes Live," May 25, 2012; and M. Walsh, "Virtual Goods Sales Hit \$2.3 Billion in 2011," *Online Media Daily*, Feb. 29, 2012. Zynga alone forks over tens of millions each month for Facebook via virtual goods sales. J. Kincaid, "Facebook to Make 'Facebook Credits' Mandatory for Game Developers (Confirmed)," *TechCrunch*, January 24, 2011. There are also an increasing number of ways to pay for Credits. Facebook's App2Credits effort lets firms offer Credits in ways that don't involve a credit card, including getting Credits as part of a card loyalty program, converting unwanted real-world gift cards into Facebook Credits, or earning Credits for shopping or performing other online tasks. J. Kincaid, "A Look at the Future of Facebook Credits," *TechCrunch*, April 21, 2010.

Credits were rolled out supporting fifteen international currencies and multiple credit cards. Transaction support is provided through a partnership with PayPal, and a deal with mobile payments start-up Zong allows users to bill credits to their phone. C. McCarthy, "Facebook to Developers: Get Ready for Credits," *CNET*, February 25, 2010. Credits can also be redeemed for vouchers that can be used to buy real-world products and services. M. Ingram, "Facebook's Two Deal Weapons: The Social Graph and Credits," *GigaOM*, April 26, 2011.

All this banking activity leaves some wondering if Facebook might not have grander ambitions. The *Financial Times* has referred to Facebook as being on the path to becoming "The Bank of the Web." C. Nuttall, "Facebook Credits Bank of

the Web,” *Financial Times*, April 23, 2010. Could Facebook morph into an actual real-currency bank? A site that knows how to reach your friends might offer an easy way to, say, settle a dinner tab or hound buddies for their Final Four pool money. This might also be a solid base for even deeper banking links between users and all those firms Facebook has begun to leverage in deeper data-sharing partnerships. This may be something to think about, or perhaps, to bank on!

Open Graph and Privacy Controversy

The decision to launch many of the new Open Graph features as “opt-out” instead of “opt-in” immediately drew the concern of lawmakers. Given the Beacon debacle, the TOS controversy, and Google’s problems with Buzz (see [Chapter 14 "Google in Three Parts: Search, Online Advertising, and Beyond"](#)), you’d think Facebook would have known better. But within a week of Open Graph’s launch, four U.S. senators contacted the firm, asking why it was so difficult to opt out of the information-sharing platform. F. Lardinois, “Is It Time for Facebook to Make Opt-In the Default?” *Read Write Web*, April 27, 2010. Amid a crush of negative publicity, the firm was forced to quickly roll out simplified privacy management controls.

Facebook’s struggles show the tension faced by any firm that wants to collect data to improve the user experience (and hopefully make money along the way). Opt-out guarantees the largest possible audience and that’s key to realizing the benefits of network effects, data, and scale. Making efforts opt-in creates the very real risk that not enough users will sign up and that the reach and impact of these kinds of initiatives will be limited. F. Lardinois, “Is It Time for Facebook to Make Opt-In the Default?” *Read Write Web*, April 27, 2010. *Fast Company* calls this the *paradox of privacy*, saying, “We want some semblance of control over our personal data, even if we likely can’t be bothered to manage it.” F. Manjoo, “Does Privacy on Facebook, Google, and Twitter Even Matter?” *Fast Company*, May 1, 2010. Evidence suggests that most people are accepting some degree of data sharing as long as they know that they can easily turn it off if they want to. For example, when Google rolled out ads that tracked users across the network of Web sites running Google ads, the service also provided a link in each ad where users could visit an “ad preferences manager” to learn how they were being profiled, to change settings, and to opt out (see [Chapter 14 "Google in Three Parts: Search, Online Advertising, and Beyond"](#)). It turns out only one in fifteen visitors to the ad preferences manager ended up opting out completely. F. Manjoo, “Does Privacy on Facebook, Google, and Twitter Even Matter?” *Fast Company*, May 1, 2010. Managers seeking to leverage data should learn from the examples of Facebook and Google and be certain to offer clear controls that empower user choice.

Busted on Facebook

Chapter 7 "Social Media, Peer Production, and Web 2.0" warned that your digital life will linger forever and that employers are increasingly plumbing the depths of virtual communities in order to get a sense of job candidates. And it's not just employers. Sleuths at universities and police departments have begun looking to Facebook for evidence of malfeasance. Oxford University fined graduating students more than £10,000 for their postexam celebrations, evidence of which was picked up from Facebook. Police throughout the United States have made underage drinking busts and issued graffiti warnings based on Facebook photos, too. Beware—the Web knows!

Open Graph and Strategic Concerns: Asset Strength, Free Riders, and Security

Facebook also allows third-party developers to create all sorts of apps to access Facebook data. Facebook feeds are now streaming through devices that include Samsung, Vizio, and Sony televisions; Xbox 360 and Wii game consoles; Verizon's FiOS pay television service; and the Amazon Kindle. While Facebook might never have the time or resources to create apps that put its service on every gadget on the market, they don't need to. Developers using Facebook's access tools will gladly pick up the slack.

But there are major challenges with a more open approach, most notably a weakening of strategic assets, revenue sharing, and security. First, let's discuss weakened assets. Mark Zuckerberg's geeks have worked hard to make their site the top choice for most of the world's social networkers and social network application developers. Right now, everyone goes to Facebook because everyone else is on Facebook. But as Facebook opens up access to users and content, it risks supporting efforts that undermine the firm's two most compelling sources of competitive advantage: network effects and switching costs. Any effort that makes it easier to pack up your "social self" and move it elsewhere risks undermining vital competitive resources advantages (it still remains more difficult to export contacts, e-mails, photos, and video from Facebook than it does from sites supporting OpenSocial, a rival platform backed by Google and supported by many of Facebook's competitors). F. Vogelstein, "The Great Wall of Facebook," *Wired*, July 2009. This situation also puts more pressure on Facebook to behave. Lower those switching costs at a time when users are disgusted with firm behavior, and it's not inconceivable that a sizable chunk of the population could bolt for a new rival (to Facebook's credit, the site also reached out to prior critics like MoveOn.org,

showing Facebook’s data-sharing features and soliciting input months before their official release).

Along with asset weakening comes the issue of revenue sharing. As mentioned earlier, hosting content (especially photos and rich media) is a very expensive proposition. What incentive does a site have to store data if it will just be sent to a third-party site that will run ads around this content and not share the take? Too much data portability presents a **free rider problem**¹⁵ where firms mooch off Facebook’s infrastructure without offering much in return. Consider services like TweetDeck (now owned by Twitter). The free application allows users to access their Facebook feeds and post status updates—alongside Twitter updates and more—all from one interface. Cool for the user, but bad for Facebook, since each TweetDeck use means Facebook users are “off-site,” not looking at ads, and hence not helping Zuckerberg & Co. earn revenue. It’s as if the site has encouraged the equivalent of an ad blocker, yet Facebook’s openness lets this happen!

Finally, consider security. Allowing data streams that contain potentially private posts and photographs to squirt across the Internet and land where you want them raises all sorts of concerns. What’s to say an errant line of code doesn’t provide a back door to your address book or friends list? To your messaging account? To let others see photos you’d hoped to only share with family? Security breaches can occur on any site, but once the data is allowed to flow freely, every site with access is, for hackers, the equivalent of a potential door to open or a window to crawl through.

15. When others take advantage of a user or service without providing any sort of reciprocal benefit.

Social Networking Goes Global

Facebook will eventually see stellar growth start to slow as the law of large numbers sets in. The shift from growth business to mature one can be painful, and for online firms it can occur relatively quickly. That doesn't mean these firms will become unprofitable, but to sustain growth (particularly important for keeping up the stock price of a publicly traded company), firms often look to expand abroad.

Facebook's **crowdsourcing**¹⁶ **localization**¹⁷ effort, where users were asked to look at Facebook phrases and offer translation suggestions for their local language (see [Chapter 7 "Social Media, Peer Production, and Web 2.0"](#)), helped the firm rapidly deploy versions in dozens of markets, blasting the firm past MySpace in global reach. But network effects are both quick and powerful, and late market entry can doom a business reliant on the positive feedback loop of a growing user base.

And global competition is out there. Worldwide, Facebook wannabes include Vkontakte ("in contact"), Russia's most popular social networking site; Google's Orkut (which is tops in Brazil, although Facebook's gaining there, too); and Renren (formerly Xiaonei), which is said to have registered 90 percent of China's college students.

China is proving a particularly difficult market for foreign Internet firms. Google, eBay, Yahoo! and MySpace have all struggled there. And don't be surprised to see some of these well-capitalized overseas innovators making a move on U.S. markets too.

While global growth can seem like a good thing, acquiring global users isn't the same as making money from them. Free sites with large amounts of users from developing nations face real cost/revenue challenges. As the *New York Times* points out, there are 1.6 billion Internet users worldwide, but fewer than half of them have disposable incomes high enough to interest major advertisers, meaning that in terms of average revenue per user (ARPU), these new social networking recruits are likely to be far less lucrative in the near future than the firm's current users. B. Stone and M. Helft, "In Developing Countries, Web Grows without Profit," *New York Times*, April 27, 2009. Worse still, telecommunications costs in these markets are also often higher, too. Bandwidth costs and dim revenue options caused video site Veoh to block

16. The act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined generally large group of people in the form of an open call.

17. Adapting products and services for different languages and regional differences.

access coming from Africa, Eastern Europe, Latin America, and some parts of Asia. MySpace already offers a stripped-down Lite option as its default in India. And execs at YouTube and Facebook haven't ruled out lowering the quality of streaming media, file size, or other options, discriminating by region or even by user.

Making money in the face of this so-called "International Paradox" requires an awareness of "fast and cheap" tech trends highlighted in [Chapter 5 "Moore's Law: Fast, Cheap Computing and What It Means for the Manager"](#), as well as an ability to make accurate predictions regarding regional macroeconomic trends. Ignore a market that's unprofitable today and a rival could swoop in and establish network effects and other assets that are unbeatable tomorrow. But move too early and losses could drag you down.

Concerns aren't just financial; they're also political and ethical. Facebook is officially banned in China (although many Chinese have used technical work-arounds to access the site), and Zuckerberg is clearly interested in the Chinese market. He spends an hour each day learning Chinese and has made several trips to China, as well. L. Horn, "Facebook's Mark Zuckerberg Visits China's Top Search Engine," *PC Magazine*, December 20, 2010. Facebook has discussed a partnership with China's dominant search site, Baidu, but moving forward with an effort that complies with China's filtering requirements leaves executives conflicted. Some say even a censored Facebook would be a catalyst for Chinese democratic reform, while others see this as a compromise of the firm's belief in the power of exchange and promoting the free flow of information. Says the firm's COO Sheryl Sandberg, "There are compromises on not being in China, and there are compromises on being in China. It's not clear to me which one is bigger." B. Stone, "Why Facebook Needs Sheryl Sandberg," *BusinessWeek*, May 16, 2011.

KEY TAKEAWAYS

- Facebook has extended its reach by allowing other Web sites to leverage the site. Facebook partners can add the “Like” button to encourage viral sharing of content, leverage Facebook user IDs for log-in, and tap a user’s friend and feed data to personalize and customize a user’s experience.
- These efforts come with risks, including enabling free riders that might exploit the firm’s content without compensation, and the potential for privacy and security risks.
- Facebook Credits are a currency for use for virtual gifts and games. The service accepts multiple currencies and payment methods; and while virtual goods have the potential to be a big business, some speculate that Facebook may one day be able to develop a payments and banking businesses from this base.
- Global growth is highly appealing to firms, but expensive bandwidth costs and low prospects for ad revenue create challenges akin to the free rider problem.

QUESTIONS AND EXERCISES

1. Cite effective examples you've seen of Facebook features on other Web sites (or if you haven't seen any, do some background research to uncover such efforts). Why do the efforts you've highlighted "work"? How do they benefit various parties? Does everyone benefit? Is anyone at risk? If so, explain the risks.
2. Should Facebook be as open as it is? In what ways might this benefit the firm? In what ways is it a risk?
3. How can Facebook limit criticism of its data-sharing features? Do you think it made mistakes during rollout?
4. What is TweetDeck? Why is a product like this a potential threat to Facebook?
5. Research OpenSocial online. What is this effort? What challenges does it face in attempting to become a dominant standard?
6. Facebook has global competitors. What determines the success of a social network within a given country? Why do network effects for social networks often fail to translate across national borders?
7. How did Facebook localize its site so quickly for various different regions of the world?
8. What factors encourage firms to grow an international user base as quickly as possible? Why is this a risk, and what is the so-called "International Paradox"? What sorts of firms are at more risk than others?
9. List the pros, cons, and unknowns if Facebook were to seek a way for the Chinese government to allow its expansion into China. What are the risks if the firm remains out of the country? What do you think the firm should do?

8.9 Is Facebook Worth It?

LEARNING OBJECTIVES

1. Discuss the factors related to Facebook's valuation.
2. Compare Facebook's performance at IPO to that of Google, and offer insightful commentary on Facebook's future prospects.
3. Highlight areas of concern regarding Facebook's future prospects and areas where Facebook may be able to increase revenues and profits.

It has often been said that the first phase of the Internet was about putting information online and giving people a way to find it. The second phase of the Web is about connecting people with one another. The Web 2.0 movement is big and impactful, but how much money is in it?

Now that Facebook is a publicly traded company, we can get real numbers on revenue, profitability, and growth, and we can use these numbers to compare Facebook against its rivals. In the quarter prior to its IPO, Facebook's rate of revenue growth was 45 percent, down from 55 percent the prior quarter, which was down again from triple-digit growth the quarter before that. H. Blodget, "Well, Now that Everyone Has Sobered Up, Let's Figure Out What Facebook is Actually Worth..." *Business Insider*, May 21, 2012. Usually at IPO time, markets like to see accelerating, not decelerating, growth. Facebook went public at a nosebleed rate of 65 times 2013 EPS (earnings per share). For comparison, still-growing Google traded at 13 times 2013 EPS at the time of Facebook's IPO. At IPO, Facebook's market cap was about half of Google's, but if we compare the business in which Facebook and Google most closely compete, display advertising, both are roughly the same size (Facebook at 14 percent of the US market and Google at 13.8 percent), but Google's display business is growing faster. C. Boulton, "Google to Pass Facebook in Display Ads in 2013," *eWeek*, February 26, 2012. Google also had more cash than Facebook had revenue, and Facebook's free cash flow is actually negative. This can be blamed on the cost to build data centers to support services users get for free (e.g., storage costs for the upwards of 300 million photos uploaded to Facebook each day). J. Cassidy, "Facebook: The Ultimate Dot-Com," *New Yorker*, May 16, 2012. [Table 8.1 "Comparing Facebook and Google at Comparable Periods in Time"](#) shows a comparison of Facebook and Google at comparable stages.

Table 8.1 Comparing Facebook and Google at Comparable Periods in Time

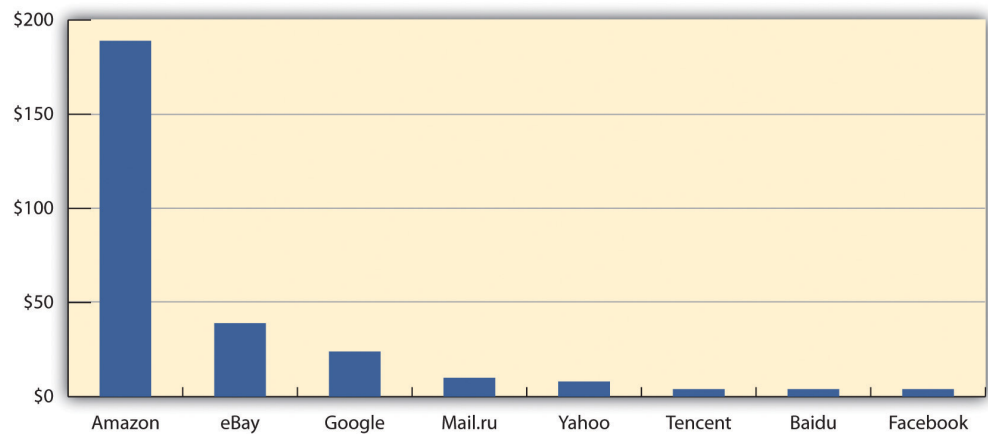
	Facebook (5 years)	Pre-IPO Facebook (8 years)	Pre-IPO Google (5 years)	Post-IPO Google (8 years)
Revenue	\$272 million	\$3.7 billion	\$1.5 billion	\$10.6 billion
Net Income	-\$56 million	\$1 billion	\$106 million	\$3.5 billion
Market Cap	-	\$104 billion	\$23 billion	\$150 billion+

Facebook went public as an 8-year-old, while Google went public after five years. Facebook’s revenues at IPO were \$3.7 billion—about 2.5 times Google’s \$1.5 billion revenues when it went public. Facebook’s \$1 billion in profits the year before it went public equate to about ten times Google’s pre-IPO annual profit of \$106 million. And Facebook’s market cap at IPO was about \$104 billion, over four times Google’s post-IPO value of \$23 billion. But the comparison isn’t Apples-to-Apples (no pun intended). Roll the clock back and 5-year-old Facebook (roughly the age of Google at IPO) actually lost \$56 million on revenues of just \$272 million. Google as an 8-year-old brought in \$10.6 billion in revenue and \$3.5 billion in profits, and it sported a market cap of over \$150 billion. The 8-year-old comparison also isn’t quite a fair one since capital rose during Google’s IPO (and secondary offering where it sold still more stock), helping to fuel the firm’s growth over those three years. Still, 8-year-old Google made about as much *profit* as 8-year-old Facebook did in *revenue*. As TechCrunch points out, the five-year compound annual growth rate for each firm’s revenue during comparable periods (2002–2006 for Google and 2007–2011 for Facebook) was almost exactly the same: 89 percent a year.

Figure 8.4 Revenue of Google and Facebook in Billions of Dollars



Figure 8.5 Revenue per User (2011)



While Facebook has, at times, been the Web's most visited destination, its user base generates far less cash on a per-person basis than many rivals do, including only about one-sixth of Google's per-user figure. J. Yarrow, "Here's How Much a Unique Visitor Is Worth," *BusinessInsider*, January 5, 2011.

When considering a firm's value, it's also important to realize that just because the market is willing to pay a high price for a firm's stock, it doesn't mean that the firm is actually worth it. A firm's stock price is supposed to reflect the net present value of a firm's future earnings, and unrealistic expectations can distort value. Facebook's stock plummeted following its IPO, losing about a third of its value in a little over two weeks. Much remains to be demonstrated for any high Facebook valuation to hold over the long term. As the chart in [Figure 8.5 "Revenue per User \(2011\)"](#) shows, Facebook still lags well behind many of its rivals in terms of revenue per user; all that time spent on Facebook simply isn't worth as much on a per-user basis as time spent on Google or many other services. Also consider the uncertainty as the firm tries to leverage the social graph. According to Facebook's own research, "an average Facebook user with 500 friends actively follows the news on only forty of them, communicates with twenty, and keeps in close touch with about ten. Those with smaller networks follow even fewer." S. Baker, "Learning and Profiting from Online Friendships," *BusinessWeek*, May 21, 2009. That might not be enough critical mass to offer real, differentiable value to paying advertisers, and interest in deepening connections among users with "value-shallow" social graphs may in part have motivated Facebook's mishandled attempts to encourage more public data sharing. The advantages of leveraging the friend network hinge on increased sharing and trust, a challenge for a firm that has had so many high-profile privacy stumbles.

Facebook does have a lot of potential in terms of upside earnings. First, Facebook ads run only inside Facebook.com, but Google earns about 30 percent of its revenue

from ads it runs on third-party sites (referred to as the Google ad network). Next time you search the web, look for advertisements labeled “Ads by Google.” Google serves up these ads and splits the take with Web site operators. If Facebook creates its own ad network, it might be able to offer ad targeting that performs *better* than Google’s so-called AdSense product. Google targets ads on other Web sites based largely on keywords found on those sites, also using details it can glean from tracking a person’s web browsing history (see [Chapter 14 "Google in Three Parts: Search, Online Advertising, and Beyond"](#) for details). Facebook can do all this, but it could also add in all sorts of data from the dark web that Google can’t see: data from a user’s social activity, their highly-accurate personal profile, and more. Turning on such an ad network would be simple from a technical perspective. The tough part, however, would be creating an ad network sales force and rolling it out in a way that doesn’t cause a privacy debacle or lead to a deluge of scare headlines.

Over a longer term, what about Facebook TV? Facebook almost certainly wants to play a starring role in your living room, making the TV a platform for social activity: video chat, serving targeted ads, social entertainment recommendations, games, and all sorts of commerce. It will be tough to navigate the tensions of bandwidth-capping cable guys, channel owners, and hardware firms keen to build their own platform, but Zuckerberg has Reed Hastings on his board—and as much as the Netflix CEO has been derided following the Qwikster debacle, no one has built a further-reaching platform with consumer electronics firms than Hastings.

Steve Rubel wrote the following on his Micro Persuasion blog: “The Internet amber is littered with fossilized communities that once dominated. These former stalwarts include AOL, Angelfire, theGlobe.com, GeoCities, and Tripod.” Network effects and switching cost advantages can be strong, but not necessarily insurmountable if value is seen elsewhere and if an effort becomes more fad than “must have.” Time will tell if Facebook’s competitive assets and constant innovation are enough to help it avoid the fate of those that have gone before them.

KEY TAKEAWAYS

- Facebook was a profitable and growing company at IPO, and its offering was the largest ever in the technology industry.
- Several metrics suggest that Facebook may have been overvalued at IPO.
- Decelerating growth, lower ARPU than rivals, uncertainty about the ROI of Facebook advertising, and increasing infrastructure costs are all among areas of concern.
- Despite concern, Facebook has significant growth prospects, including the potential to create new products such as a third-party ad network and (longer term) a platform for potentially lucrative social television services.

QUESTIONS AND EXERCISES

1. Circumstances change over time. Research the current state of Facebook's financials—what is the firm's market capitalization? How has the stock performed since IPO? How have revenues performed? What are trends in net income? What are the reasons behind these trends? Do you think that markets are accurate in setting the firm's value at IPO? Why or why not?
2. Do you think Facebook's social graph data is large enough to be leveraged as a source of revenue in ways that are notably different than conventional pay-per-click or CPM-based advertising? Would you be excited about certain possibilities? Creeped out by some? Explain possible scenarios that might work or might fail. Justify your interpretation of these scenarios.
3. So you've had a chance to learn about Facebook, its model, growth, outlook, strategic assets, and competitive environment. How much do you think the firm is worth? Which firms do you think it should compare with in terms of value, influence, and impact? Would you invest in Facebook?
4. Which firms might make good merger partners with Facebook? Would these deals ever go through? Why or why not?