5

Enhancing Organizational Communication and Collaboration Using Social Media

After reading this chapter, you will be able to do the following:

1. Explain organizations' needs for communication and collaboration.
2. Explain social media and evolving Web capabilities.
3. Describe various social media applications, and explain their role in enhancing communication, collaboration, cooperation, and connection.
4. Describe how companies can manage their Enterprise 2.0 strategy and deal with potential pitfalls associated with social media.

Preview

This chapter focuses on social media, and how social media can enhance organizational communication and collaboration. Most likely, you are actively using various social media applications such as Facebook or Wikipedia, and you may ask, "Why do we need to have a chapter on this?" Social media introduce unprecedented ways to connect to friends, share knowledge with your colleagues, or collaborate with a team of engineers 5,000 miles away, and many of today's companies cannot afford to miss this trend. Most young people entering the workforce have grown accustomed to using Facebook or Twitter for their communication needs (and some even regard e-mail as an outmoded communication medium); if a company doesn't allow the use of these tools, some employees may leave and work for another company. Additionally, you may have noticed your parents' generation joining sites such as Facebook, as the masses are more and more taking those tools for granted.

With social media providing a new set of capabilities for individuals and businesses, an understanding of how they can be applied can be very helpful. Being able to understand and apply these emerging capabilities and strategies that are associated with social media is a highly valued skill.

Managing in the Digital World: **Facebook.com**

Managing our lives in the modern, digital world seems to be far more complex than it was in the past. The same is true for companies. Interactions with customers were limited to one-way communication using TV ads, billboards, posters, or radio broadcasts. In return, people showed affinity to a particular brand by displaying bumper stickers, wearing t-shirts, or refusing to even try alternative brands. Marketers played their own game in promoting products and consumers spread the word around their circle of friends whenever they found something they loved. All in all, no real interaction could be recorded between customers and brands; the two parties led separate lives and acted their own respective parts.

Things have changed since then. In early 2014, a mere 10 years after its launch and 8 years after it was opened to the public, Facebook reports impressive usage statistics (Figure 5.1). Each month, more than 1.28 billion users access the site, and over 1 billion of those users access the service via a mobile device. On average, Facebook users upload over 350 million photos per day, and users have collectively uploaded over 350 billion photos in total.

Many companies have also joined Facebook, creating pages to extend their reach and promote new products.

FIGURE 5.1

Facebook is the most popular social network, with over 1 billion active users.

Source: Thomas Pajot/Fotolia

In addition, celebrities, musicians, public figures, movies, and almost any other product or service you can think of now appears to have a Facebook page. Facebook has become another get-together space for people who have acquaintances, friends, or beliefs in common. Businesses use it to build and track customer loyalty, and connections are made even tighter with the help of "Like" buttons that seem to be on almost every site on the Web. Facebook has changed the scope of social interactions, as consumer preferences, collective tastes, and future demands are now more easily analyzed and predicted through the number of "likes" or the comments left by consumers responding to photos regarding the latest smartphone or that new movie premiering next Thursday. Through this social media platform, companies can interact with customers like never before.

Yet, while Facebook's tremendous success appears to continue, it received a bit of a setback when it decided to go public in May 2012. The company, originally valued at US$104 billion, lost over half its value as investors expressed concerns regarding the financial viability of such a high-value company that earned just US$32 million in income during all of 2012. The company's stock has since recovered, as advertising revenues, particularly from mobile users, have grown quickly. As of early 2014, the company was valued at over US$163 billion, with revenues continuing to grow. Facebook remains a social networking behemoth, and has clearly changed the way we interact with friends, acquaintances, and companies.

After reading this chapter, you will be able to answer the following:

1. How can a social networking site such as Facebook become a part of everyday life?
2. Besides pure social interaction, what are some other ways Facebook can be used?
3. What are the pros and cons of using a social networking site in a business setting?

Based on:

Anonymous. (2014, April 23). Facebook reports first quarter 2014 results. Retrieved May 28, 2014, from http://investor.fb.com/releasedetail.cfm?ReleaseID=842071.

Facebook. (2014, May 26). In *Wikipedia, The Free Encyclopedia*. Retrieved May 28, 2014, from http://en.wikipedia.org/w/index.php?title=Facebook&oldid=610251825.

THE NEED FOR COMMUNICATION AND COLLABORATION

Just as you communicate with your friends when planning a vacation or organizing a party, or collaborate with your teammates on a class project, organizations rely on effective communication and **collaboration** (i.e., two or more people working together to achieve a common goal), both within and outside organizational boundaries. Most organizational business processes require communication and collaboration between employees of different departments, as well as with outside business partners (such as suppliers), customers, and other external stakeholders. Many organizations operate on a national or global scale, and rely on effective and efficient communication between various locations or subsidiaries, and even small, local companies need to communicate with suppliers or promote their products or services to customers. Further, globalization has enabled companies to source raw materials, parts, or components on a global scale, or manufacture products wherever they can find the lowest cost, best quality, or most qualified workforce. In all of these scenarios, effective and efficient communication is essential to convey specifications, coordinate production or delivery schedules, and so on. Similarly, salespeople rely on efficient communication with the customers and with other departments within the organization. With the increased global reach of organizations, the needs for *internal* communication have also changed tremendously.

Virtual Teams

To be competitive, organizations constantly need to bring together the right combinations of people who have the appropriate set of knowledge, skills, information, and authority to solve problems quickly and easily. Traditionally, organizations have used task forces, which are temporary work groups with a finite task and life cycle, to solve problems that cannot be solved well by existing work groups. Unfortunately, traditional task forces, like traditional organizational structures, cannot always solve problems quickly. Structure and logistical problems often get in the way of people trying to get things done quickly. Thus, organizations routinely need flexible teams that can be assembled quickly and can solve problems effectively and efficiently. Time is of the essence, and organizations are increasingly trying to harness the expertise of highly specialized team members, regardless of their location. With increasing globalization and increasing use of the Internet, collaborators on projects or teams do not have to be colocated; rather, businesses increasingly form **virtual teams**, comprised of members from different geographic areas, assembled as needed to collaborate on a certain project (Figure 5.2). Membership on these virtual teams is fluid, with teams forming and disbanding as needed, with team size fluctuating as necessary, and with team members coming and going as they are needed.

FIGURE 5.2

Members of highly specialized virtual teams are often not colocated.
Source: Toria/Shutterstock

Employees may, at times, find themselves on multiple teams, and the life of a team may be very short. In addition, team members must have easy, flexible access to other team members, meeting contexts, and information. Think of these virtual teams as highly dynamic task forces. Virtual teams are commonly used for tasks such as developing systems and software; for example, the programmers are located in India, the project managers are in the United States, and the testers are in Europe. However, systems development is not the only place you will find virtual teams. For instance, the healthcare industry has embraced the idea of using technology to create superior care for patients by creating virtual teams that may include dieticians, physicians, surgeons, pharmacists, and social workers from different cities, all of whom can coordinate care of the patients using various Web technologies to collaborate, so as to provide the best healthcare professionals regardless of where the patients reside.

If you have ever worked on a team project for your class (and you probably have), you have noticed that there are many different communication needs, such as talking, sharing documents, and making decisions. Just as there are many things to discuss within your team project, there are also many ways that you can communicate and collaborate, and different time horizons. One key distinction is between the need for **synchronous** (i.e., at the same time) and **asynchronous** (i.e., not coordinated in time) communication. For example, chatting online or making a telephone call are examples of synchronous communication, whereas e-mail is an example of asynchronous communication. Likewise, meetings of virtual teams typically take the form of **virtual meetings** using an online environment; such meetings can be done synchronously, like a teleconference, or asynchronously, using technologies such as online discussion boards. If time is of the essence, such as when attempting to meet deadlines or resolve urgent customer problems, synchronous media may be best suited, as delays can create process inefficiencies or dissatisfied customers, and can thus be costly for the organization. Thus, over the years, different tools have emerged to support various communication and collaboration needs (Table 5.1).

Groupware

The term **groupware** refers to a class of software that enables people to work together more effectively. Groupware and other collaboration technologies are often distinguished along two dimensions:

1. Whether the system supports synchronous or asynchronous collaboration and communication
2. Whether the system supports groups working together face-to-face or distributed

Using these two dimensions, groupware systems can be categorized as being able to support four types of group interaction methods, as shown in Figure 5.3. With the increased use of group-based problem solving and virtual teams, there are many potential benefits of utilizing groupware systems.

TABLE 5.1 Categories of Collaborative Tools

Title	Description	Instances	Examples
Electronic communication tools	Tools allowing users to send files, documents, and pictures to each other and share information	Fax, e-mail, voice mail, blogs, wikis, static Web sites	MS Outlook, Blogger, Wikipedia
Electronic conferencing tools	Tools allowing information sharing and rich interactions between users	Internet forums, instant messaging, application sharing, videoconferencing	Apple FaceTime, Skype, Google Hangouts, WebEx
Collaboration management tools	Tools used to facilitate virtual or collocated meetings and manage group activities	Electronic calendars, knowledge management systems, intranets, online document systems	Google Docs, MS Office Online, MS SharePoint

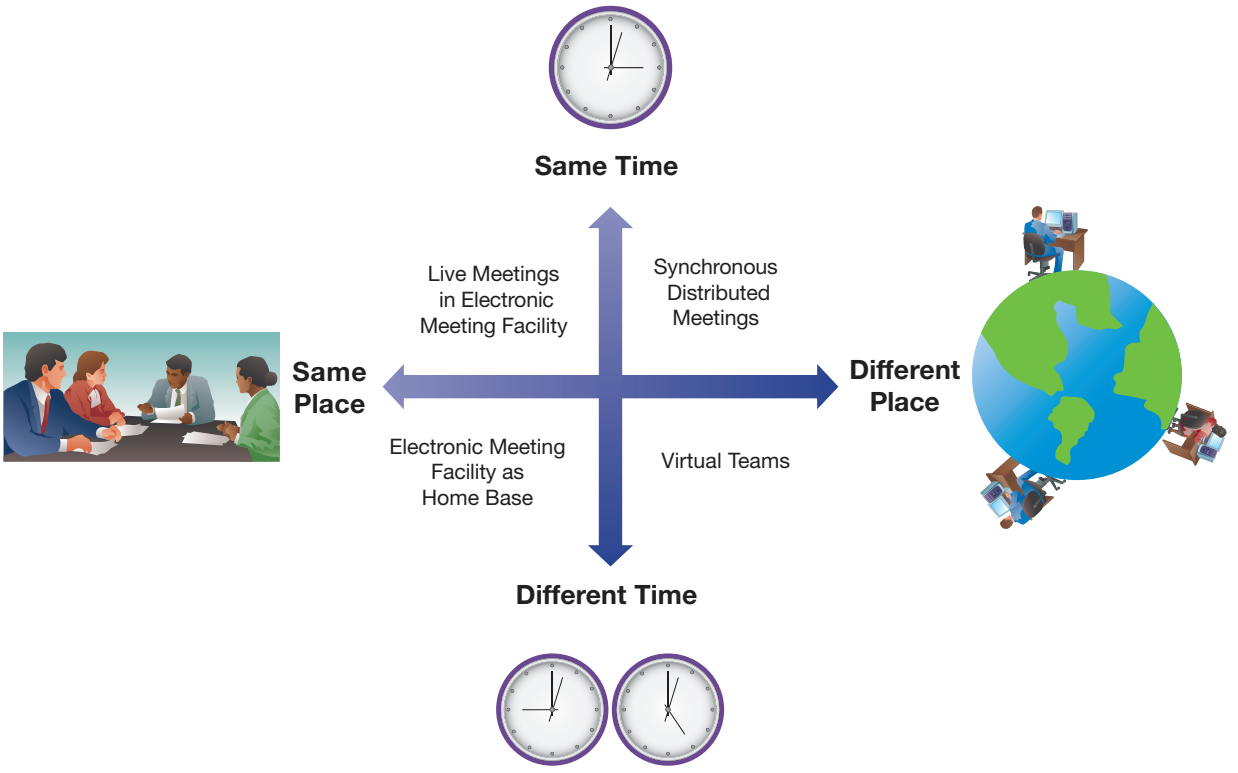


FIGURE 5.3

Groupware supports various modes of group interaction.

Large numbers of asynchronous groupware tools are becoming common in organizations, including e-mail, mailing lists, workflow automation systems, intranets (see upcoming discussion), group calendars, and collaborative writing tools. One widely used tool for group communication is discussion forums. Predating the Web 2.0 era, **discussion forums** (also known as discussion boards or online forums) emulate traditional bulletin boards and allow for threaded discussions between participants. Typically, discussion forums are dedicated to specific topics, and users can start new threads (Figure 5.4). Depending on the owner or host of the forum, the discussion forum may be moderated so that new postings appear only after they have been vetted by a moderator; further, some discussion forums may only allow posts from registered users, whereas others allow anyone to contribute. As the purpose of such forums is to enable discussion, there are usually multiple participants exchanging (typically rather short) thoughts.

Like asynchronous groupware, there are also many forms of synchronous groupware available to support a wide variety of activities, including shared whiteboards, online chat, electronic meeting systems, and, of course, video communication systems (discussed in the following section). An **electronic meeting system (EMS)** is a sophisticated software tool used to help

FIGURE 5.4

Microsoft offers discussion forums for questions and feedback related to its various products and services.

Source: Courtesy of Microsoft, Inc.

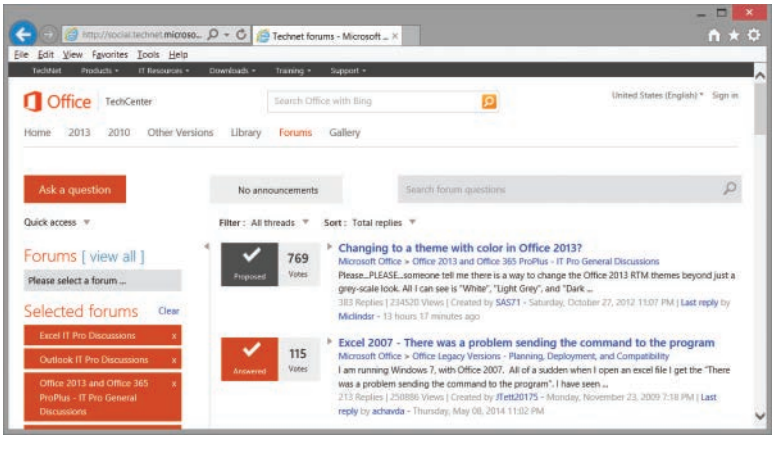


FIGURE 5.5

An electronic meeting system utilizes networked computers and sophisticated software to support various group tasks.

Source: Konstantinos Kokkinis/ Shutterstock

group members solve problems and make decisions through interactive structured processes such as electronic idea generation, idea evaluation, and voting (Figure 5.5). These structured processes help groups stay on track and avoid costly diversions that regularly occur in meetings. EMSs have traditionally been housed within a dedicated meeting facility; increasingly, Web-based implementations support team members around the globe. Many groupware systems used by organizations combine a variety of tools supporting both synchronous and asynchronous communication and collaboration.

Videoconferencing

In the 1960s, at Disneyland and other theme parks and special events, the picturephone was first being demonstrated to large audiences. It took another 30 years to take off, but today, organizations are routinely conducting videoconferencing to replace traditional meetings, using either desktop videoconferencing or dedicated videoconferencing systems that can cost from a few thousand dollars up to US$500,000.

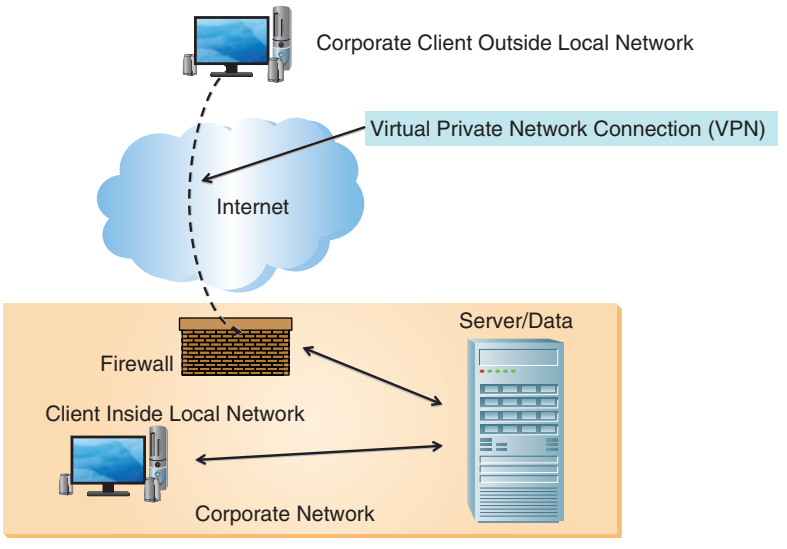
Desktop videoconferencing has been enabled by the growing power of processors powering personal computers and faster Internet connections. For desktop videoconferencing, all that is needed is a **webcam** (i.e., a small video camera that is connected directly to a PC), a speaker telephone or separate microphone, videoconferencing software (e.g., Skype, Google+, or Apple FaceTime), and a high-speed Internet connection. Similarly, people can now use various apps on their mobile devices, enabling them to make video calls on the go.

Dedicated videoconferencing systems are typically located within organizational conference rooms, facilitating meetings with customers or project team members across town or around the world. These systems can be highly realistic—as if you are almost colocated with your colleagues—but high-end systems can be extremely expensive. No matter what type of videoconferencing system utilized by an organization, this collaboration technology has come a long way from the demonstration at Disneyland in the 1960s, becoming mainstream in most modern organizations.

Intranets and Employee Portals

Internet technologies have given rise to another widely used tool for communicating and collaborating within organizational boundaries. Specifically, many large organizations have intranet-based employee portals. As discussed in Chapter 3, "Managing the Information Systems Infrastructure and Services," an intranet is a private network using Web technologies, used to facilitate the secured transmission of proprietary information within an organization. Intranets take advantage of standard Internet and Web protocols to communicate information to and from authorized employees. An intranet looks and acts just like a publicly accessible Web site, and uses the same software, hardware, and networking technologies to communicate information.

FIGURE 5.6
Typical intranet system architecture.



Thus, users access their company's intranet using their Web browser. Many companies such as Boeing provide customized intranet pages for each employee depending on job functions or even geographical location. Whereas all pages have the same look and feel and draw on the same underlying data, each employee can access only the information needed to perform his or her job function. For example, if an employee from human resources logs on to the employee portal, he or she would see only content that pertains to his or her job, such as payroll information or hiring statistics.

All intranet pages are behind the company's firewall, and in the simplest form of an intranet, communications take place only within the confines of organizational boundaries and do not travel across the Internet. However, increases in employees' mobility necessitate that an intranet be accessible from anywhere. Thus, most companies allow their employees to use virtual private networks (VPNs) to connect to the company's intranet while on the road or working from home (i.e., telecommuting). Figure 5.6 depicts a typical intranet system architecture (see Chapter 10, "Securing Information Systems," for more on firewalls and VPNs).

REAL-TIME ACCESS TO INFORMATION. A major benefit of corporate intranets is the ability to increase the efficiency and effectiveness of collaboration by providing real-time access to information. Unlike paper-based documents, which need to be continually updated and distributed to employees when changes occur, intranets make it less complicated to manage, update, distribute, and access corporate information. For instance, Boeing disseminates corporate news using multimedia files distributed over the company's intranet, allowing employees to view digital copies of company news releases as they occur, from the convenience of their desktops.

With intranet-based solutions such as those deployed at Boeing, up-to-date, accurate information can be easily accessed on a company-wide basis from a single source that is both efficient and user friendly. Companies can become more flexible with resources required to create, maintain, and distribute corporate documents, while in the process employees become more knowledgeable and current about the information that is important to them. Employees develop a sense of confidence and become self-reliant, reducing time spent dealing with employment-related issues and allowing them to focus on their work responsibilities.

ENTERPRISE SEARCH. Another component supporting employee productivity by providing real-time access to information is the integration of enterprise search functionality. As more and more content is accessible via a company's intranet, relevant information becomes increasingly difficult to locate, especially if the information is in different languages and located on different servers or databases, as is the case in many large global organizations such as Nestlé. Hence, the requirements for enterprise search engines are very different from those of Internet search engines such as Google or Bing. Enterprise search engines such as Microsoft's Enterprise Search or the Google Search Appliance are designed to retrieve content from various internal data sources, including documents, databases, or applications linked to the company's intranet. Such capabilities allow organizations to easily share millions of documents located throughout

the organization. Thus, providing enterprise search functionality can enhance productivity and be an important factor contributing to users' satisfaction with the company's intranet.

COLLABORATION. One of the most common problems occurring in large corporations relates to the coordination of and collaboration on business activities in a timely fashion across divisions or functional areas. For instance, Boeing uses its intranet to facilitate collaborative efforts, such as in the process of designing new aircraft components. In this process, three-dimensional digital models of aircraft designs frequently need to be shared between aerospace engineers. Using Boeing's intranet, an engineer can share a drawing with another engineer at a remote location; the second engineer revises the drawing as necessary and uploads the updated drawing to a shared folder on the intranet. The Boeing intranet provides the company with the capability of reducing product development cycle times as well as the ability to stay abreast of current project, corporate, and market conditions. Likewise, intranets are being used to poll staff about current issues or by employees to communicate with each other and executives in a secure non-public forum.

EMPLOYEE PORTALS. In addition to being used for communication and collaboration, organizational intranets are widely used to provide **employee portals** that enable **employee self-service** for administering benefits, managing retirement plans, or other human resources–based applications. For example, for large companies, processing human resources–related forms can be a large cost factor. Depending on the complexity of the form, processing a paper-based form can cost US$20 to US$30, according to benefits administration solutions provider Workscape, Inc. Whereas interactive voice response–based telephone applications can cut these costs to US$2 to US$4, using intranet-based employee self-service applications can reduce this further, to a mere 5 to 10 cents per form (Wagner, 2002). Considering that an employee, on average, conducts 15 human resources–related transactions per year, the savings can be significant. Using the intranet, report templates can be centrally managed, and modifications can be made instantaneously as conditions change; thus, employees can submit the appropriate template electronically with the assurance that they have used the correct version. Further, using online forms can help to significantly reduce error rates, as the entries can be checked for accuracy when the data are entered, thus preventing the user from inputting incorrect or illogical entries.

THE EVOLVING WEB

The traditional collaboration tools previously introduced are based on Internet technologies. However, up until a few years ago, the Web was regarded as a one-way medium, with a relatively strict distinction between content creators and content consumers (sometimes referred to as "Web 1.0"). Some entities would create content (say, a Web site), and others would consume this content. However, changes in technology have enabled new uses of the Web; dynamic Web applications, often referred to as **Web 2.0** applications, allow people to collaborate and share information online, shifting the users' role from the passive consumer of content to its creator (Figure 5.7). In contrast to the TV network ABC's site, where content is provided by ABC, the Web 2.0 application YouTube depends on content created and uploaded by other users; similarly, whereas *Encyclopaedia Britannica* invests large sums in professionally researched articles, the

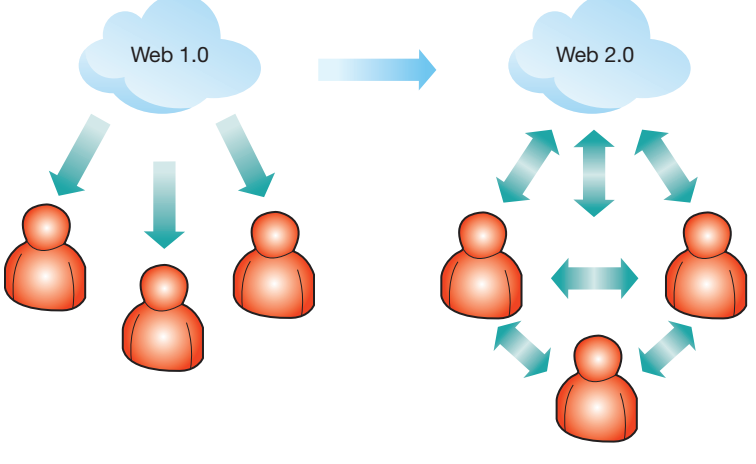


FIGURE 5.7
Web 2.0 applications shift a Web user's role from a passive consumer of content to its creator.

articles in the online encyclopedia Wikipedia are jointly written and edited by the online community (owing to societal changes and competition from Wikipedia, *Encyclopaedia Britannica* decided to stop producing printed encyclopedias in 2012, instead focusing on its online offerings). In addition to these applications, many organizations have successfully incorporated Web 2.0 concepts into their business models. For example, Amazon.com adds value to its site by incorporating book reviews from its customers. This way, it gives customers a channel to voice their thoughts; at the same time, a larger number of reviews can help other customers make better decisions, thus attracting more visitors to Amazon.com's site. In the following sections, we will discuss technological and societal changes that both enable and necessitate changes in the way many organizations do business.

Evolving Web Capabilities

Many successful Web 2.0 applications rely on the network effect. The network effect (as defined in Chapter 1, "Managing in the Digital World") refers to the notion that the value of a network (or tool or application based on a network) increases with the number of other users. In other words, if a network has few users, it has little or no value. In addition, new Web capabilities allow Web sites or service providers (such as Google) to make parts of their functionality or data (such as mapping data) available for other Web sites to use, and thus enable creating unique and dynamic applications, or **mashups**, quickly and easily.

The idea of mashups came from popular music where many songs are produced by mixing two or more existing songs together; in Web 2.0 terminology, a mashup is a new application (or Web site) that uses data from one or more service providers. For example, a mashup could combine mapping data, photos, reference information, hotel prices, and weather information to provide a comprehensive overview of travel destinations. Rather than having to collect or generate all of this information single-handedly, the creator of the mashup could simply draw on services provided by Google Maps, Flickr, Wikipedia, Expedia, and AccuWeather (Figure 5.8). The online itinerary planner Tripomatic integrates data from Google maps, hotel booking services, and other services to let users plan their next holiday. Likewise, users and companies can create mobile apps by combining various services and data sources. The local search app AroundMe uses data from services such as Booking.com, Opentable.com, or Foursquare to display information, reviews, or driving directions about businesses, restaurants, or medical facilities near a given location. Other Web sites and mobile apps use information from airlines, radio stations, recommendation services, or any other sources of useful information.

Many organizations have recognized the power and benefits of allowing other sites and apps to incorporate their services and data into mashups. Why are companies doing this? By providing access to useful services and data, organizations extend their reach and build and strengthen customer relationships, providing a base for revenue-generating services (e.g., Google offers mapping services for free for low-volume usage, but offers the services as a paid version for high-volume commercial usage, such as integration in a hotel booking site).

Evolving Social Interaction

Many successful Web 2.0 applications embody core Web 2.0 values such as collaboration and social sharing; these can be classified as **social media** (or **social software**), allowing people to communicate, interact, and collaborate in various ways. With Web 2.0 coming of age, people's

FIGURE 5.8

A mashup is a new application (or Web site) that uses data from one or more service providers.

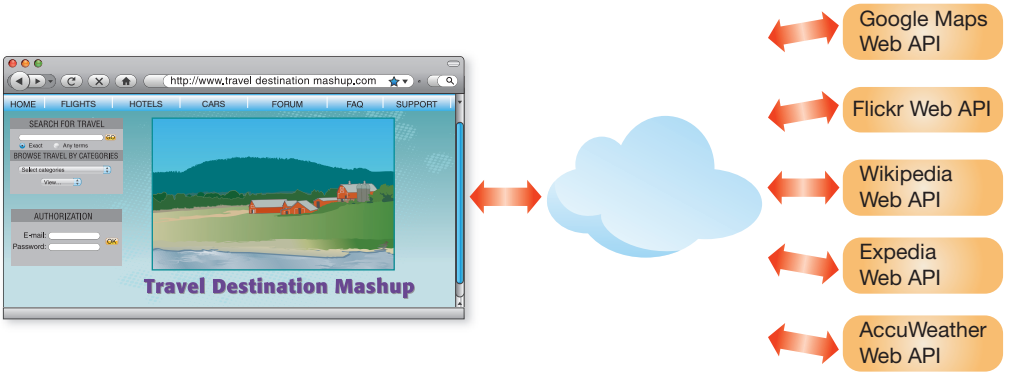


TABLE 5.2 Shifting Perspectives from Web 1.0 to Web 2.0

Web 1.0	Web 2.0
Me	Me and you
Read	Read and write
Connect ideas	Connect ideas and people
Search	Receive and give recommendations to friends and others
Find	Share
Techies rule	Users rule
Organizations	Individuals

Source: Based on Sessums (2009).

behaviors as well as societies' have undergone rapid changes. For example, many people have changed the ways they search for information. Whereas in the past people turned to paper encyclopedias as sources of unbiased information, people now increasingly turn to Web sites such as Wikipedia, or ask their friends and acquaintances on social networks such as Facebook or Google+ for personalized information. Similarly, there has been a marked shift in the way people view privacy and share information; although criticized by privacy advocates, people are sharing more personal information online than ever before. Repeatedly, you can read about people posting the most private information, without thinking about the consequences; as Facebook and other social Web sites have become pervasive in many people's lives, you have information about your friend's recent drinking escapades leading to a driving under the influence (DUI) arrest, your coworker's breaking up with his girlfriend, and other things you may or may not want to know, all at your fingertips. Clearly, social software has strongly influenced the lives of many people. Table 5.2 highlights the shift in perspectives from the Web 1.0 to the Web 2.0 era.

The Evolving Workspace

The "millennials," or "Generation Y," who grew up being tied to social software such as MySpace, YouTube, or Facebook, are joining the workforce and have much different expectations for their workplace than prior generations, and some fundamental shifts are taking place in employer–employee relationships (see Smythe, 2007). For example, employees are now looking for a portfolio career rather than a cradle-to-grave job, tend to view themselves as citizens rather than employees, and "loan their talent" to the employer rather than being a "human resource." A global study by Accenture revealed that for 37 percent of 18- to 27-year-olds, state-of-the-art technology is a vital consideration in the choice of workplace; of the working millennials, 55 percent use instant messaging, and 45 percent use social networking sites for work-related activities (Francis & Harrigan, 2010). The millennials bring with them many new and valuable skills, but also attitudes that may be difficult to integrate with more traditional business environments: Over 19 percent of businesses worldwide ban social networking sites at work (Clearswift, 2011), but many millennials are skilled at finding creative work-arounds to circumvent such policies (which may result in increases in security breaches). A recent survey showed that 29 percent of college students would not join a company that bans social media applications, and 71 percent do not obey policies related to social media use in the workplace (Cisco, 2011, 2012). As a result, companies are increasingly starting to embrace social media to enhance communication, cooperation, collaboration, and connection (Cook, 2008).

Future Web Capabilities

Web technologies and collaboration are ever-evolving topics, and many developments have yet to be fully realized. This section briefly forecasts future capabilities of the Web, in particular, focusing on efforts to create the semantic Web and characteristics of Web 3.0.

THE SEMANTIC WEB. Since the Web opened up for public use, the number of Web pages and sites has grown exponentially. Although this increase in Web pages should mean that we have ever more information at our fingertips, it also means that the information is increasingly harder to find. What if the information on the Web was organized in a way that users could more easily find information or relevant content? Traditionally, Web pages were designed to be understood by people but not by computers, and search engines were examining pages for the existence of key terms; for example, when searching for "what eats penguins," a search engine would

BRIEF CASE Crowdfunding

Ever have a great idea for a product that you just know would sell well? Maybe you have a great solution to a problem that everyone seems to have. Inventing such a solution, developing the product designs and the manufacturing processes, and then manufacturing enough stock to meet your planned initial demand could take tens or even hundreds of thousands of dollars. And then there's the problem that you don't know how many people will be initially interested in the product, and you may be left with large overstocks of items that you can't sell to recoup your costs. New product design used to follow this paradigm, which is expensive and risky for any aspiring inventor. In 2009, Kickstarter.com launched with ambitious plans to change all that.

Kickstarter is one of several popular crowdfunding platforms. **Crowdfunding** is the securing of business financing from individuals in the marketplace—the "crowd"—to fund an initiative. Individuals who support a given initiative—called "backers"—pledge a certain amount of financial support to the project in return for certain benefits. In the case of Kickstarter, a funding campaign usually centers around a product—such as a smartphone case, a belt, an electronic gadget, or even a board game. Interested backers pledge money in support of the product, generally above a minimum amount in return for one count of the item being backed. If (and only if) the campaign reaches its funding goal, the backers are charged the amount they pledged and the product goes into production. If too few backers are interested and the goal is not met, the campaign fails and no backers are charged any money. Kickstarter in particular has been very successful and has helped many campaigns get funded, totaling over 135,000 projects with over US$1 billion generated in pledges.

Backing a project with a pledge is not without risks. Kickstarter leaves the campaign creator responsible for completing successfully funded projects. It is up to the backers to determine the viability of the projects they support. Kickstarter provides a rating and feedback system that aids backers in making these determinations, but there remains a risk that your pledge will go to waste if the project was ill-conceived or otherwise fails after successful funding.

Even with these risks, crowdfunding platforms like Kickstarter have provided a compelling opportunity for people with good ideas to get the funding required to develop and manufacture their products.

Questions

1. Who should bear the responsibility for ensuring that Kickstarter projects deliver the products their campaigners promise?
2. What other benefits do crowdfunding platforms like Kickstarter provide society?

Based on:

Anonymous. (2014). Kickstarter basics: Kickstarter 101. *Kickstarter*. Retrieved May 28, 2014, from https://www.kickstarter.com/help/faq/kickstarter+basics?ref=faq_subcategory#Kick.

Kickstarter. (2014, May 23). In *Wikipedia, The Free Encyclopedia*. Retrieved May 28, 2014, from http://en.wikipedia.org/w/index.php?title=Kickstarter&oldid=609822889.

return Web pages that may have this information, but would have been more likely that the pages just have the words or key terms "what" and "eats" and "penguins," as search engines were not sophisticated enough to be able to find, understand, and integrate information presented on Web pages. The **semantic Web**, originally envisioned by Tim Berners-Lee, one of the inventors of the World Wide Web, is a set of design principles that will allow computers to be able to better index Web pages, topics, and subjects. When Web pages are designed using semantic principles, computers will be able to understand the meaning of the content, and search engines will be able to give richer and more accurate answers. The major search engines encourage webmasters to integrate so-called microdata into their pages' HTML markup to help search engines understand the *meaning* of content on the pages; for example, the markup of a business' address can be enhanced by specifying the meaning of the different parts of an address. In 2012, Google has started making strides toward implementing concepts related to the semantic Web in its "knowledge graph." When searching for terms in Google, the search engine now attempts to foresee what the user may mean; for example, when searching for "kings," the search engine not only provides a list of pages containing the keyword "kings," but also displays a box containing links to search results specific to the *Los Angeles Kings*, the *Sacramento Kings*, and the NBC TV series *Kings*. Similarly, when searching for "Los Angeles Kings," Google not only returns a list of Web pages, but also a summary of relevant information about the hockey team, culled from various Web sources. Although the semantic Web is largely unrealized, Google's efforts show that the semantic Web experience is getting closer.

WEB 3.0. In many ways, Web 2.0 has already replaced Web 1.0, and the question is "What will replace Web 2.0?" For some, Web 2.0 is just a short transitional period before the next wave of Internet technologies, which is predicted to last until 2020. There are several ideas on what this next wave, Web 3.0, will entail. Some, such as *Forbes* contributor Eric Jackson, envision the next wave

of the Web to be centered around mobility, almost announcing the demise of the Web as we know it. Others see Web 3.0 as the "contextual Web," where the immense amounts of content available to users will be filtered by contextual factors such as time, location, social activities, and so on. You may have already seen some of these emerging technologies in practice, especially regarding the context of a user's location, and we may only know what Web 3.0 really is when we see it; it may even forever remain a buzzword. Nevertheless, we can see exciting new developments on the horizon, and the coming trends will likely involve true integration of devices and connectivity to create powerful, socially aware Internet applications. Stay tuned to see what the future holds.

Enterprise 2.0

Having realized the opportunities brought about by these profound changes, many business organizations are continuously looking for ways to use social media to support their existing business processes; many organizations have built successful business models entirely based on core Web 2.0 values such as social sharing or collaboration (see Chapter 4, "Enabling Business-to-Consumer Electronic Commerce," for a discussion on social commerce). The use of social media within a company's boundaries or between a company and its customers or stakeholders (often referred to as **Enterprise 2.0**) can help in sharing organizational knowledge, making businesses more innovative and productive, and helping them to effectively connect with their customers and the wider public (McAfee, 2006a). In the following section, we will introduce various social media applications used by individual Web users as well as organizations.

SOCIAL MEDIA AND THE ENTERPRISE

You were likely familiar with many of the tools discussed previously, but there may have been some that you were not aware of. You are probably more comfortable or find more value using some tools over others. Similarly, organizations are increasingly trying to find the right tools for their different needs. In the following sections, we will discuss how different social media applications enable or support communication, cooperation, collaboration, or connection; needless to say, many of these applications cannot be neatly categorized, fitting into more than one category.

Enhancing Communication Using Social Media

A prime application of Enterprise 2.0 is facilitating and enhancing the communication within an organization as well as between an organization and its stakeholders. For organizations, social media have opened up a vast array of opportunities for presenting themselves to their (potential) customers; at the same time, these applications have opened up literally thousands of channels for customers to voice their opinions about an organization. In this section, we introduce various social media tools used for communication.

BLOGS. Blogging originally started out as a way for novices to express themselves using very simple Web pages. **Blogging** is the process of creating an online text diary (i.e., a **blog**, or Web log) made up of chronological entries that comment on everything from one's everyday life to wine and food, or even computer problems (Figure 5.9). Rather than trying to produce

FIGURE 5.9

Blogging is the process of creating an online text diary (i.e., a blog, or Web log) made up of chronological entries.
Source: Blogspot/Google, Inc.

physical books to sell or use as gifts, bloggers (i.e., the people maintaining blogs) merely want to share stories about their lives or voice their opinions (although feedback is often encouraged through associated threaded discussions). Many bloggers use their blogs to hone their writing skills, often producing elaborate, thoughtful pieces of writing. Others write blogs with the aim of attracting large audiences, so as to monetize their efforts using online advertising or affiliate marketing programs.

However, blogs are not without controversy. Nicholas Carr, noted technology journalist (and active blogger himself), classifies blogging as the **"amateurization" of journalism**. Often the value of blogging is the ability to bring breaking news to the public in the fastest possible way. By doing so, some bloggers cut journalistic corners, rendering some of the posts on the blogs less than accurate, and blogs have been criticized for frequently providing the biased opinions of the writers, particularly because many of the authors' sources cannot or have not been verified.

Nevertheless, blogs have massively influenced the way in which people gather and consume information, and have become important voices that can sway public opinion. In fact, turning to free information from blogs and other online sources, many readers have cancelled newspaper subscriptions. In turn, diminishing readership in traditional newspapers has enticed advertisers to begin to withdraw from this traditional medium, leading to budget cuts and layoffs at reputable newspapers such as the *San Francisco Chronicle, The New York Times,* the *Washington Times,* and many others. Unfortunately—and ironically—this may erode the very sources that many bloggers base their information on.

In addition to blogs created by and/or for individual readers, blogs are being used by small, medium-sized, and large organizations for connecting with their employees or customers. For example, IBM's business-oriented social software suite IBM Connections includes blogs, helping people to voice ideas and obtain feedback from others. Similarly, companies such as Google maintain official company blogs (e.g., http://googleblog.blogspot.com) to inform their stakeholders about news, rumors, or current thoughts.

MICROBLOGGING TOOLS. **Microblogging tools** (sometimes called **social presence tools**), similar to blogging, enable people to voice their thoughts; however, in contrast to blogs, which often contain lengthy posts, social presence tools are designed for broadcasting relatively short "status updates." In contrast to social networks, where a user can choose who can or cannot receive his or her status updates, typically, anyone can follow another person's microblog. A popular social presence tool is Twitter, which allows users to post short (up to 140 characters of text) "tweets" that are delivered to the author's followers or subscribers via mobile phone or Twitter applications (Figure 5.10). The recipient can "retweet" (i.e., re-broadcast) interesting tweets to his or her followers. With many people broadcasting everything they find interesting, Twitter has become a source for breaking news. Many social networking sites (discussed later) also have social presence functionality built in; for example, users can update their status on Facebook, letting their friends know about their current thoughts and allowing them to post replies.

Many organizations have used this trend and created accounts on Twitter. For example, Coca-Cola has an official Twitter account used to post news or interact with its (as of mid-2014) over 2.7 million followers; Coca-Cola follows more than 67,000 Twitter accounts and actively replies to and retweets Twitter messages. This way, Coca-Cola signals that it cares about its

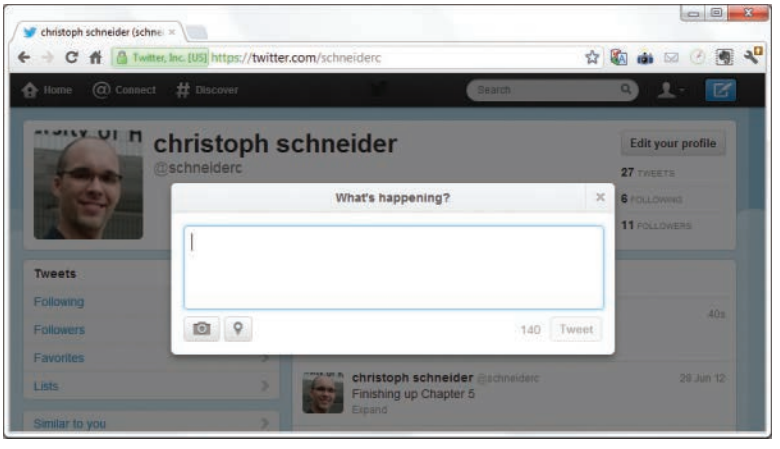


FIGURE 5.10

Twitter allows posting short "tweets" that are delivered to the author's followers or subscribers via mobile phone or Twitter applications.

Source: Christoph Schneider

followers, trying to increase its customers' brand loyalty. When posting a tweet, users can tag words or phrases with a "#"—called a **hashtag** (e.g., #openhappiness, #Ukraine or #street fashion). A word phrase or topic that is tagged at a greater rate than others is said to be **trending**. A trending topic becomes popular because of a concerted effort by users, or because of an event (e.g., a new winner of the Super Bowl) that prompts people to tweet about the topic. Tumblr, another popular microblogging tool, takes the concept a step further by allowing users to go beyond the 140-character limit and share any kind of digital content, including text, music, and videos, and allows companies to communicate and connect with their customers. For example, in May 2014, AMC premiered a full-episode sneak preview of its new TV series, *Halt and Catch Fire,* on Tumblr.

INSTANT MESSAGING. In contrast to asynchronous discussion forums, blogs, and status updates, **instant messaging** (or online chat) enables real-time written conversations. Using instant messaging, multiple participants can have conversations and enjoy immediate feedback from their conversation partners. Some social networking sites such as Facebook have integrated instant messaging functionality. In addition, the increase in smartphone usage has merged instant messaging with cell phone–based text messaging by enabling cloud-based messaging services such as WhatsApp or Line, allowing for group chat, free text messages (even internationally), and even the exchange of multimedia content between different devices, using the smartphone users' data plan or Wi-Fi connection. New instant messaging apps such as Snapchat allow users to set a time limit specifying for how long the recipient can view the message before it is automatically deleted. Many organizations have adopted Web-based instant messaging for internal communications, and also use live chat for sales and customer support functions. For example, the Chinese business-to-business marketplace Alibaba.com includes a chat interface so that interested buyers can immediately contact potential sellers.

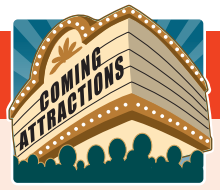
VIRTUAL WORLDS. **Virtual worlds** have taken the concept of real-time communication a step further by allowing people to communicate using avatars. These worlds promised to become a channel for rich, interactive communication, as well as for education-related activities, employee training, or medical uses. After the initial hype, the popularity of virtual worlds for business use has currently faded, and virtual world–based games are now primarily used for entertainment purposes. However, the interactions taking place in games such as World of Warcraft remain in the focus of researchers studying various forms of group behaviors. In addition, Facebook is betting on the future of virtual reality, having acquired Oculus, the creators of a virtual reality headset, for US$2 billion in 2014.

Enhancing Cooperation with Social Media

In addition to communication, companies and individuals can benefit from social media applications that enable cooperation. Cooperation between individuals or organizations creates win-win situations such that one participant's success improves the chances of success of other participants. Social media applications facilitating such cooperation rely on the network effect to provide the greatest benefits for users.

MEDIA SHARING. One example of cooperative social media applications making use of the network effect is media sharing. The sharing of pictures, videos, audio, and even presentations has become immensely popular on the Web, using applications such as Flickr or Instagram (images), Vimeo or YouTube (videos), or SlideShare (presentations); using sites such as Pandora, users can even create their favorite music stream and share it with others who may have similar interests. Typically, the shared content is hosted on media sharing sites; however, the content can also be embedded into other sites, creating a win-win situation for the content creator and the site embedding the content. For example, embedding an interesting and relevant YouTube video into a blog post helps to increase the attractiveness of the blog while at the same time increasing the viewership of the video, thus creating positive returns for both parties.

Similarly, webcasting is increasingly used for media sharing. **Webcasting** (or **podcasting**) is the distribution of digital media, such as audio or video files for on-demand playback on digital media players. The increase in mobile devices such as smartphones and tablets has contributed to the tremendous growth of webcasts, as the consumption can be time shifted and place shifted; in other words, webcasts allow media content to be viewed at one's convenience, whenever or wherever. The term "podcasting," derived from combining the terms "broadcasting" and "iPod,"



COMING ATTRACTIONS

Dissolvable Electronics

The pharmaceutical industry is fighting a constant battle against various bacteria that can quickly evolve to become resistant to antibiotic treatments. Drug researchers can spend months or years developing a new treatment, only to have that treatment lose effectiveness when the bacteria it was designed to kill become resistant. New antibiotics must then be developed, and these cunning bacteria keep pharmaceutical companies on their toes. It is not known whether researchers will be able to stay ahead of the bacteria indefinitely and keep the population healthy. But some researchers are developing alternative methods of killing bacteria that are not susceptible to the mutations of bacteria.

Researchers at the University of Illinois are developing specialized electronic devices with the ability to perform short-term therapeutic tasks without active treatment from a medical professional. The key characteristic of these devices is their ability to disappear—to dissolve after a time and be absorbed by the person they were helping to heal. For example, after a surgery in which a large incision is made, a key risk for recovering patients is that of bacterial infection. A dissolvable electronic device could be embedded in the incision, designed to use just enough heat to kill bacteria. After the risk of infection has passed, the device, which is made of "biocompatible" materials, would then dissolve and be incorporated or excreted through the normal biological processes of the body.

This scenario is not quite a reality yet; researchers have thus far merely demonstrated the creation of dissolvable electronic circuits. But perhaps the technology will soon develop into something that will help the human race further reduce disease and sickness that still afflicts many around the world.

Based on:
Drake, N. (2013, May 24). New wireless electronics could heal wounds and then dissolve. *Wired*. Retrieved May 28, 2014, from http://www.wired.com/2013/05/remote-controlled-dissolvable-electronics.

is a misnomer, as **webcasts** (or **podcasts**) can be played on a variety of devices in addition to Apple's iPods. As with blogging, webcasting has grown substantially, with traditional media organizations now webcasting everything from shows on National Public Radio to Fox's *Family Guy* to the *Oprah Winfrey Show*. In addition to media organizations and independent webcasters, the educational sector uses webcasts for providing students access to lectures, lab demonstrations, or sports events; this allows students to review lectures or prepare for class during their morning and evening commutes. In 2007, Apple launched iTunes U, which offers free content provided by major U.S. universities, such as Stanford, Berkeley, and the Massachusetts Institute of Technology (Figure 5.11). As webcasts can be enriched by allowing for interactive Q&A sessions or by embedding PowerPoint presentations, organizations increasingly use webcasts to provide access to shareholder meetings, online training, road shows, or other applications.

To receive the most current content, users can subscribe to blogs, webcasts, videos, and news stories through Apple's iTunes, or via **Real Simple Syndication (RSS)** feeds. RSS feeds are provided by content publishers so that the users get notified of updates to the content.

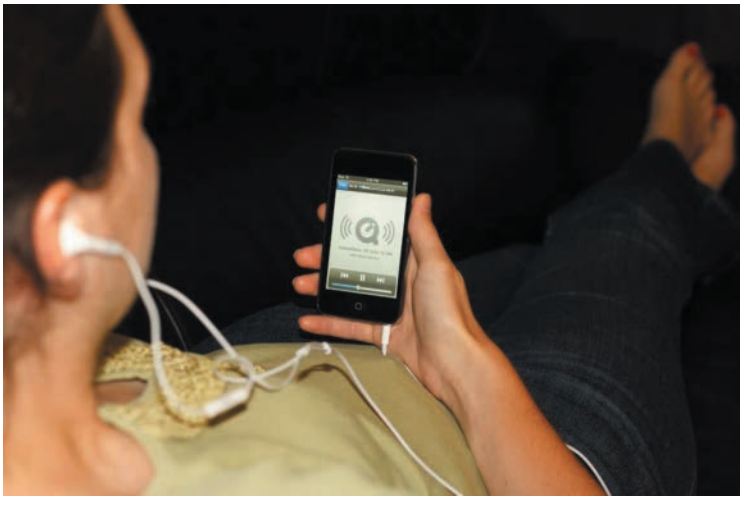


FIGURE 5.11

A student listens to a podcast on iTunes U.
Source: Courtesy of Christoph Schneider

FIGURE 5.12

Zotero helps in organizing citations and research resources.

Source: Courtesy of Center for History and New Media, George Mason University.

Rather than users actively having to check multiple sources for updated content, RSS readers automatically check the feeds for updates, and provide a synopsis of a document or the full text.

SOCIAL BOOKMARKING. Another category of social media applications relying on the network effect is social bookmarking. For many Web surfers, key challenges are finding information and then finding it *again* at a later time; hence, people often keep long lists of bookmarks to sites they find interesting or visit frequently. Although this is useful for individuals, users may miss a plethora of other, related, and potentially interesting Web sites. **Social bookmarking** helps to address this by allowing users to share Internet bookmarks and to create categorization systems (referred to as **folksonomies**). As more people participate in social bookmarking, the value for each user grows as the bookmarks become more complete and more relevant to each user. Widely used public social bookmarking tools include reddit, StumbleUpon, and Delicious. Likewise, Pinterest allows users to "pin" everything they find interesting, and media Web sites such as CNN.com provide sharing links, so as to increase the reach of their content. For organizations, social bookmarking can be extremely valuable for knowledge management and harnessing the collective intelligence of employees. Using enterprise-oriented social bookmarking tools, it is easy to map "islands" of knowledge within an organization, thus helping to easily find experts on a given topic.

SOCIAL CATALOGING. Similar to social bookmarking, **social cataloging** is the creation of a categorization system by users. Contributors build up catalogs regarding specific topics such as academic citations, wireless networks, books and music, and so on. For example, users can create virtual bookshelves with goodreads, organize their collections, write reviews, and then share this bookshelf with others on the Web. Similarly, students and researchers can use free tools such as Mendeley or Zotero (Figure 5.12) to manage their citations, thus facilitating the creation of reference lists for research papers. Organizations are typically dealing with tremendous amounts of information, ranging from supplier information to frequent customer complaints, and can use social cataloging for structuring this information and making it more accessible and useful.

TAGGING. Social cataloging relies on the concept of **tagging**, or manually adding metadata to media or other content. **Metadata** can be simply thought of as data about data. In essence, metadata describe data in terms of who, where, when, why, and so on. For example, metadata about a Word document include the author, the time the document was created, and when it was last saved; metadata about a digital photo include date and time, focal length, shutter speed, aperture value, and so on (Figure 5.13).

Whereas certain metadata about documents or media files are captured automatically (e.g., when saving a document in a word processor, or when taking a picture with a digital camera), there are various other important pieces of information that are not automatically captured, such as keywords about a document or the names of people in a picture. Tagging is the process of adding such metadata to pieces of information. Tags are commonly added to pictures and videos on Web sites such as Flickr, a picture and video-hosting Web site that allows users to upload their content. Likewise, social media applications such as Twitter, Tumblr, and Instagram have

FIGURE 5.13

Metadata about a photo.

Source: Microsoft Windows 8 dialog browser, Courtesy of Microsoft Corporation.

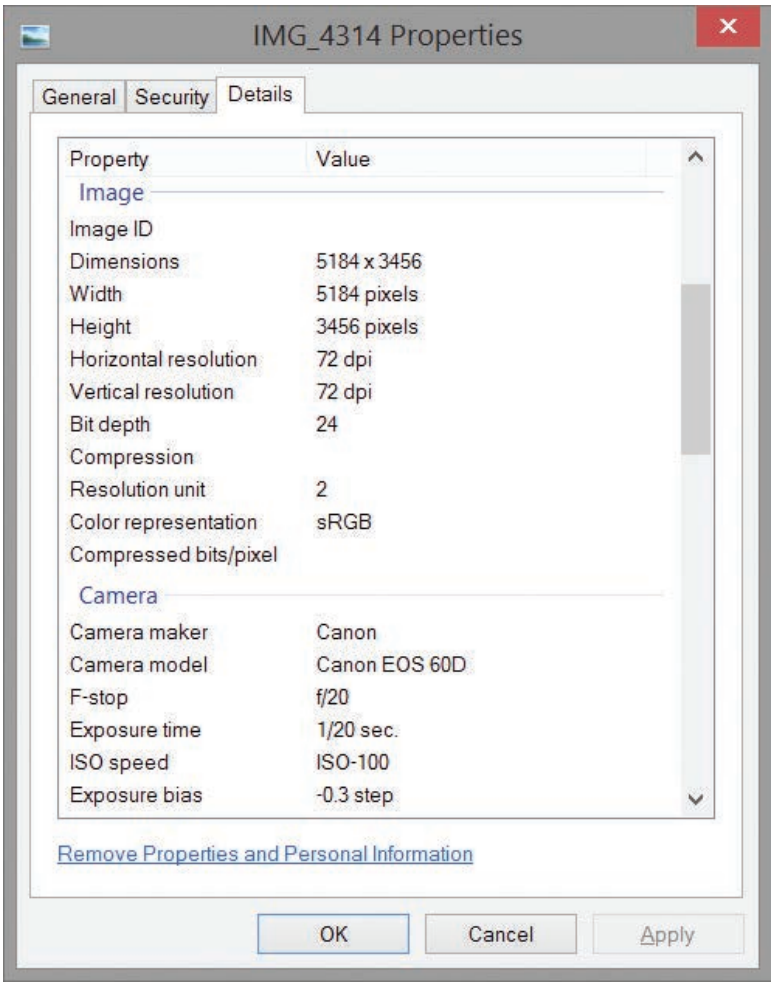


FIGURE 5.14

A tag cloud representing words and concepts that are key to social media.

Source: Shutterstock.

popularized the use of hashtags, which are used to add metadata to messages posted on these services, allowing users to search for content related to a certain topic. A way to visualize user-generated tags or content on a site is through **tag clouds** (Figure 5.14). The size of a word in a tag cloud represents its importance or frequency, so that it is easy to spot the most important or frequent words or tags.

KEY PLAYERS

The "Other" Social Networking Giants

Anyone who is a part of modern society has likely heard of the big social networks like Facebook, Google+, Twitter, and LinkedIn. These networks boast impressive usage statistics and have affected our lives in many ways. Facebook is the worldwide leader in user base, with nearly 1.3 billion users (roughly half of the world's 2.5 billion Internet users). But what you may not know is that between Facebook and the next widely known social network, Google+, there are three social platforms that you may have never heard of or used. These platforms have large user bases in Asian, European, and African regions, and you would do well to be familiar with them and their services.

One of the biggest players in the Asian social platform space is Tencent Holdings, a Chinese conglomerate that provides e-commerce, gaming, social networking, and microblogging services. Tencent is responsible for four of the top 10 social and messaging platforms in the world. The second largest social platform in the world, second only to Facebook, is QQ, an instant messaging service with a strong user base in China. First released in 1999 as a basic instant messaging service, the platform has evolved into a huge service (with over 816 million users) that provides a range of services, including social games, music, group and voice chat, and even a mobile payment platform. In 2005, Tencent created QZone, a social network and blogging platform similar to Blogspot or Tumblr. The platform has grown very quickly, and now boasts over 630 million users, mostly in China. Acknowledging the exponential growth of mobile Internet users, Tencent developed a new mobile messaging and networking service called WeChat. The service was introduced in 2010, and has quickly grown to be larger than LinkedIn, Twitter, or Tumblr in number of users, with over 400 million users; the WeChat mobile app is the fifth most used smartphone app in the world. Rounding out Tencent's varied offerings is the Tencent Weibo service, a microblogging platform patterned after Twitter, launched in 2010, which has grown to be nearly the same size as Twitter, despite Twitter's four-year lead in the marketplace.

One final key player is one that you may have heard of. The WhatsApp messaging platform was created in 2009, and has quickly risen to broad popularity. Though the platform is relatively popular in the North American markets with which you may be familiar, we highlight the platform here because of its significance in international markets. In particular, WhatsApp has a strong presence in many countries, including India, Russia, Brazil, and Australia among others. WhatsApp has grown to become the fourth largest platform in the world, with over 500 million active users. Recognizing the success of the platform, Facebook announced in early 2014 that it would acquire the platform for a whopping US$19 billion.

Based on:

Kemp, S. (2014, January 9). Social, digital, & mobile worldwide in 2014. *We Are Social*. Retrieved May 28, 2014, from http://wearesocial.net/blog/2014/01/social-digital-mobile-worldwide-2014.

Tencent. (2014, May 26). In *Wikipedia, The Free Encyclopedia*. Retrieved May 28, 2014, from http://en.wikipedia.org/w/index.php?title=Tencent&oldid=610189512.

WhatsApp. (2014, May 28). In *Wikipedia, The Free Encyclopedia*. Retrieved May 28, 2014, from http://en.wikipedia.org/w/index.php?title=WhatsApp&oldid=610526463.

GEOTAGGING. Another type of metadata about media such as photos, videos, or even blogs or tweets is of geospatial nature; knowing where exactly a photo was taken and in what direction the camera was pointing, or knowing the location of a person sending out a breaking news update on Twitter, can be extremely valuable. Adding geospatial metadata (such as latitude, longitude, or altitude) to media is referred to as **geotagging**. Once the geographical coordinates of an item are known, it can easily be visualized on a map. For example, Google Maps can display various types of geotagged information, such as Wikipedia articles about places or landmarks, photos, webcams, or even Twitter posts. Thus, Google can offer a map experience containing pictures of attractions, reviews, and things to do without having to take a single picture or write a single review itself.

Enhancing Collaboration with Social Media

Traditional office technologies, such as telephones or e-mail, are very useful to organizations; yet, such technologies are not well suited to support rich, rapid, multiple-person team collaboration. For example, the telephone is best suited for person-to-person communication; e-mail is a useful technology for teams, but it does not provide the structure needed for effective multiperson, interactive problem solving. Modern organizations need technologies that enable team members to interact through a set of media either at the same place and time or at different times and in different locations, with structure to aid in interactive problem solving and access

TABLE 5.3 Benefits and Risks of Cloud-Based Collaboration Tools

Domain	Benefit	Risk
Information technology	Reduced costs and risks when using preexisting, easily deployed, and low-cost Web-based tools (versus in-house developed tools).	Loss of control regarding data and service quality (data and tools will likely reside on the provider's server).
Organization	Tools are easy to use, facilitating widespread adoption throughout an organization.	Little or no documentation, training, or support for system complexities or problems.
Competition	More efficient and effective than e-mail, FTP, or legacy collaboration tools, potentially speeding up product development cycles and enabling quick responses to competitors' actions.	Security and compliance policies are nearly impossible to enforce, which may increase the possibility of exposing sensitive corporate data; increased threat of industrial espionage.
Upgrade cycles	No need to purchase software upgrades.	Tools and features in the collaboration environment can change without notice, potentially causing problems with users and corporate IT strategy.

to real-time information. The Internet and various social media applications, described next, provide many capabilities that have forever transformed the way individuals and teams can work together.

CLOUD-BASED COLLABORATION TOOLS. One key trend that has greatly facilitated collaboration is the rise of cloud computing. Traditionally, sharing and collaborating on documents was cumbersome; users typically had to e-mail documents back and forth, or had to worry about having the latest version of the software installed. **Cloud-based collaboration tools** have greatly facilitated collaboration; for example, cloud-based collaboration tools allow for easy access and easy transfer of documents or other files from one person to another; using services such as Dropbox, documents are not only stored on a user's computer, but also synced to other computers or devices via a copy of the document stored in the cloud. This way, a user can access a file from multiple devices, always having the latest version at his or her fingertips, or collaborators can work on documents without needing to e-mail documents. Similarly, tools such as Evernote, Wunderlist, or Microsoft OneNote allow for synchronizing and sharing of notes, task lists, and the like. Cloud-based productivity suites take this concept a step further by not only storing the files in the cloud, but also enabling the access of office productivity tools from any computer (or even mobile device) with a Web browser and Internet connectivity. While this frees the user from having to locally install productivity software, using cloud-based collaboration tools requires a live Internet connection to work on shared documents, and thus users may not be able to work when traveling or when having Internet connectivity problems. Also, the applications are limited in what they can do. For example, many online spreadsheets can do only basic formulas. Table 5.3 outlines various benefits and risks of cloud-based collaboration tools.

Organizations and individuals can choose from different options for using cloud-based collaboration tools. On the one hand, companies offer single-purpose tools for everything from creating presentations to managing projects. On the other end of the spectrum, cloud-based collaboration tools such as Google Apps or Microsoft Office 365 integrate everything from document sharing to videoconferencing, thereby mirroring (or even surpassing) the capabilities of traditional offline office suites (Table 5.4).

CONTENT MANAGEMENT SYSTEMS. A **content management system** allows users to publish, edit, version track, and retrieve digital content, such as documents, images, audio files, videos, or anything else that can be digitized. For example, organizations use open source content management systems such as WordPress, Joomla, or Drupal to create blogs or Web sites; Carnival Cruise Lines uses WordPress for publishing company news, the French subsidiary of

TABLE 5.4 Web-Based Collaboration Tools

Type	Names
Spreadsheets	Bad Blue, Google Drive, Zoho Sheet, Microsoft Office 365
Word processors	Adobe Buzzword, ThinkFree, Zoho Writer, Google Drive, ZCubes, Microsoft Office 365
Presentation	Google Drive, Zoho Show, Microsoft Office 365, Prezi
Office suites	Zoho, Google Apps, Microsoft Office 365
Project	Trac, Redmine, eGroupWare, Collabtive
Notes/task management	Evernote, Wunderlist, Microsoft OneNote Web
Cloud storage/sharing	Dropbox, Google Drive, Microsoft SkyDrive, SugarSync, iCloud

cereal manufacturer Kellogg's uses Joomla for its company Web site, and Turner Entertainment's Belgian site uses Drupal. Whereas traditionally, webmasters would have the task of adding, modifying, or deleting content on a company's Web site, content management systems provide easy-to-use interfaces that allow the *creators* of content to make necessary changes; thus, a member of the marketing team may edit a product's description, without having to ask the IS department to make the changes. Typically, such content management systems facilitate the creation and management of Web content by allowing the assignment of different roles to different users, such that some users can create and edit content, others can edit but not create, and yet others can only view content contained in the system. Many open source content management systems can even be used for building e-commerce sites, by incorporating functionality such as inventory management or shopping cart functionality. Yet, content management systems, also known by several other names, including digital asset management systems, document management systems, and enterprise content systems, can be used for collaboration beyond the creation and management of Web sites. For example, Microsoft SharePoint is a document management platform that can be used to host intranet sites, extranet sites, or public Web sites that enable shared workspaces and integrate other collaborative applications such as document sharing, *wikis* (see upcoming discussion), and blogs. SharePoint also includes workflow functionality such as to-do lists, discussion boards, and messaging alerts (Figure 5.15). Because SharePoint has been designed to be easily customizable, it has been installed in a variety of businesses, which can personalize the collaborative SharePoint Web sites to meet their needs.

Learning Management Systems Similar to content management systems used for communication and collaboration, learning management systems such as BlackBoard, Sakai, and Moodle have facilitated business processes in educational settings. Typically, learning management systems enable uploading and viewing content, administering of exams, and self-service functions such as registering for courses or viewing grades. Increasingly, learning management systems offer additional tools for enabling team collaboration, class discussions, and the like.

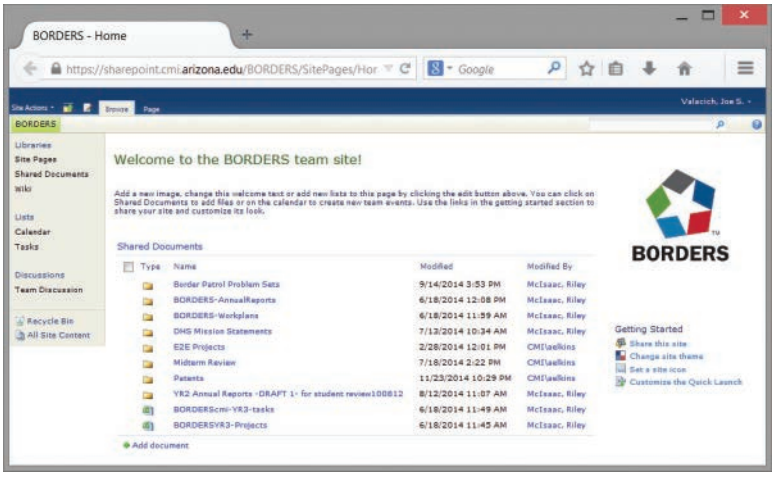


FIGURE 5.15

Researchers at the University of Arizona use the Microsoft SharePoint content management system to assist in project collaboration.

Source: Microsoft SharePoint, Microsoft Corporation, Courtesy University of Arizona.

WHO'S GOING MOBILE

Going SoLoMo: Yelp

If you're looking for a good restaurant, tailor, or pest control service in town, it is difficult to know which of the many options will provide the best service. Luckily, there's Yelp.com. You've probably heard of Yelp.com, the review and rating platform where you can find valuable information on local businesses from previous customers. The company began in 2004 as a way for friends to exchange local service recommendations via e-mail. The service quickly evolved to include social networking services and has expanded its operations to many countries around the world. Yelp has also been a pioneer in developing mobile, location-based services. It tends to come up as an example whenever people talk about the intersection of social, local, and mobile services (sometimes called **SoLoMo**, for short). And the service has become valuable to many users. A recent Nielsen study revealed that 93 percent of Yelp users say that they consult Yelp ratings and reviews prior to making a purchase from a local business.

Yelp has embraced the rising trends in mobile device usage. Shortly after the iOS app store launched the mobile app craze in 2008, Yelp released its first app for the iPhone. Apps for other platforms followed. With Apple's release of iOS 6 in September 2012, Yelp's rating and review content was integrated into the mapping and directions app of the iOS operating system. By November 2013, Yelp reported that 45 percent of its traffic came from mobile devices. Part of the reason for Yelp's mobile success is the fact that a smartphone with a Yelp app installed is "location-aware," meaning that users can use a phone's global positioning system (GPS) capabilities to find Yelp reviews of locations in the area. This is very useful if you are in an unfamiliar area and would like to go eat somewhere with positive reviews. You can simply search for restaurants and choose from among the highest-rated restaurants within walking distance.

Yelp has leveraged its dominating mobile presence to its advantage. The company began allowing local businesses to advertise to local users, and the advertising technique has proven quite powerful. If you open the Yelp app and are searching for restaurants, Yelp can be pretty confident that you're hungry and about to make a purchase. A cleverly placed ad offering a discount from a local pizza place may be just the thing that convinces you to buy a pizza instead of the Big Mac offered next door. Yelp is seeing rapid growth of its mobile advertising platform, and in late 2013, local advertisements constituted 40 percent of Yelp's overall local ad revenue.

Based on:

Danova, T. (2013, September 4). Yelp's local-mobile success shows how consumers are using mobile to drive local purchases. *Business Insider*. Retrieved May 28, 2014, from http://www.businessinsider.com/yelp-and-its-local-mobile-strategy-2013-9.

Yelp. (2014, May 26). In *Wikipedia, The Free Encyclopedia*. Retrieved May 28, 2014, from http://en.wikipedia.org/w/index.php?title=Yelp&oldid=610272441.

COLLECTIVE INTELLIGENCE. One major benefit of social software is the ability to harness the "wisdom of crowds," or collective intelligence (Surowiecki, 2004). The concept of **collective intelligence** is based on the notion that distributed groups of people with a divergent range of information and expertise will be able to outperform the capabilities of individual experts. For organizations, making effective use of the collective intelligence of their employees, customers, and other stakeholders can prove extremely valuable. Based on the concept of collective intelligence, **peer production** is the creation of goods or services by self-organizing communities. In peer production, the creation of the goods or services is dependent on the incremental contributions of the participants such that anyone can help in producing or improving the final outcome. Prime examples of peer production are open source projects and wikis.

Open Source Software Open source software is a prime example of the power of collective intelligence. High-quality software such as the Firefox Web browser, the Linux operating system, or the Apache OpenOffice productivity suite are created, maintained, and updated by thousands of volunteers located all over the world (see Chapter 9, "Developing and Acquiring Information Systems"). Often, someone with an idea for a useful program develops an initial version; other developers looking for interesting projects to work on may then join the original creator, and contribute to the continuing development of the software. Organizations now have access to various high-quality open source software, ranging from operating systems to databases, Web servers, and e-commerce solutions; using open source software offers benefits such as security, flexibility, and auditability (of the program's source code). For individuals, participating in open source software projects can help to improve their skill set or boost their CVs. For organizations,

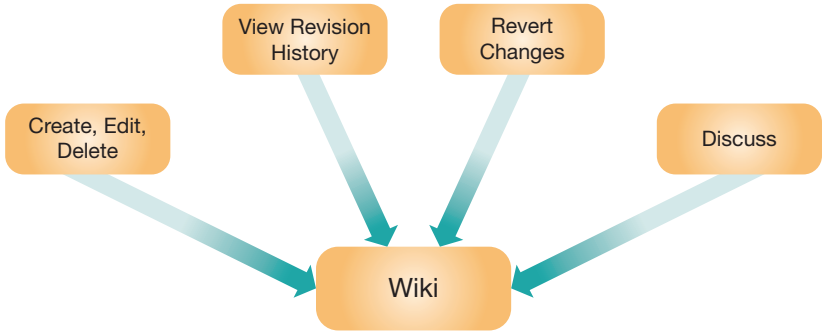


FIGURE 5.16

The ability to create, edit, or delete content, view prior versions, revert any changes, and discuss article content and suggested changes are key to the creation of high quality content by a community.

participating in open source projects can be a way to influence the direction the software's development may take and to build goodwill by giving back to the community.

Wikis Also based on the concept of collective intelligence, wikis are used for a variety of collaboration tasks. A **wiki** is a Web site allowing people to create, edit, or delete content, as well as discuss article content or suggested changes with other members of the community. In contrast to a regular Web site, a wiki is linked to a database keeping a history of all prior versions and changes, and thus a wiki allows viewing prior versions of the pages, as well as reverting any changes made to the content. The idea behind wikis is that they allow anyone to contribute information or edit others' contributions; this collaborative work performed by the community helps to minimize vandalism and ensure high-quality content (Figure 5.16). For example, Wikipedia articles are created by Wikipedia users, and almost any of these articles can be edited by either anonymous or registered users. By allowing easy access, Wikipedia has grown exponentially in a short amount of time. However, Wikipedia is not without its critics. Some argue that by allowing anyone to create and edit articles, a systematic bias in the content can occur. This includes the ability for users to add misinformation that is hard to verify. For example, recent news show that politicians, companies, and other entities of interest frequently edit their Wikipedia pages to portray a more positive image. Sometimes, so-called "wiki wars" arise, where contributors continuously edit or delete each others' posts. Also, Wikipedia has been found to have a significant cultural bias, as most contributors are males from either North America or Europe. Since the information is often not backed by verifiable sources, Wikipedia is not considered a credible source, and many universities discourage students from citing Wikipedia. In fact, in some instances professors have been failing students for using Wikipedia as their primary (or only) source. While a Wikipedia article may be a good starting point for researching about a topic, it is good practice to evaluate the sources used within the article, and to consult other sources as well. Wikipedia openly acknowledges this situation and encourages users to check the facts against multiple sources.

Wikis have been used for many more things than just an online encyclopedia. The ability for users to contribute and edit content has a wide variety of applications, such as designing software, helping people find media, and even helping people play video games. In fact, many organizations are using wiki technology to create internal knowledge repositories.

HUMAN-BASED COMPUTING (CROWDSOURCING). Another way companies are using the collective intelligence of individuals is through crowdsourcing. When companies look for cheap labor, many immediately think about outsourcing work to *companies* in different countries, such as India, China, or Russia (see Chapter 1, "Managing in the Digital World"). However, companies have now found a way to use *everyday people* as a cheap labor force, a phenomenon called **crowdsourcing** (Figure 5.17; see also Chapter 4 for more on consumer-to-business business models).

For example, up until a few years ago, book publishers such as Pearson Prentice Hall had to rely on so-called stock photography for many of a book's images; in other words, publishers had to pay large sums for pictures taken by professional photographers. Clearinghouses for stock photography had to charge high fees just to cover their expenses, as they had to purchase pictures from professional photographers. Today, high-quality digital cameras can be had for far less than US$1,000, and, with the right editing software, amateur photographers can create images that almost match those of professional photographers. Amateur photographers can upload their pictures to image-sharing sites such as iStockphoto.com, where interested parties can

FIGURE 5.17

Crowdsourcing uses everyday people from all over the world as a cheap labor force.
Source: Medioimages/Photodisc/ Thinkstock Royalty Free

license and download the images for US$1 to US$5 per image, which is a fraction of the price of a regular stock photo. Given that overhead costs are almost negligible, iStockphoto can make a profit while still sharing part of the revenue with the pictures' creators.

Similarly, companies are increasingly realizing that **open innovation**, or the process of integrating external stakeholders into the innovation process, can prove very beneficial. For example, pharmaceutical giant Eli Lilly created a site called InnoCentive, where companies can post scientific problems, and everybody can take a shot at solving the problem. Usually, a reward is paid to a successful solver. This way, an ad hoc research-and-development network is created, and companies have to rely less on a dedicated research-and-development department or on hiring specialists to solve a certain problem. At the same time, people can use their spare time and expertise to solve problems and earn rewards for their contributions.

Amazon.com took crowdsourcing mainstream with its micro-task marketplace called Mechanical Turk. Using this marketplace, requesters can crowdsource so-called human intelligence tasks (HITs), which are small, self-contained tasks that humans can solve easily but would be difficult for a computer to solve. Examples of HITs include tagging images, generating potential search key words for a product, fixing product titles on e-commerce sites, and so on. Users can find HITs that are of interest to them, solve the tasks, and earn money that is credited to their Amazon.com account. As you can see, for companies, crowdsourcing is an innovative way to reduce costs by using the expertise of the crowds. Similar to grid computing (see Chapter 3), a person's "idle time" is used for a certain business task, and many people are willing to provide their resources in exchange for a relatively small amount of money. Just imagine that you could pay for your textbooks using the money you earned from the collection of digital pictures you've taken, all for almost no extra effort.

Enhancing Connection with Social Media

Social media applications also aid in connecting people with each other, companies with their customers or stakeholders, or people with content. Without a doubt, social networking has become the most popular type of application in this category; we explore social networking and other, lesser-known applications in the following sections.

SOCIAL NETWORKING. In addition to direct collaboration, **social networking** has become one of the most popular uses of the Internet over the past few years. Social networking sites create **social online communities** where individuals with a broad and diverse set of interests meet, communicate, and collaborate (Figure 5.18). Facebook exemplifies this trend, being the second most popular site on the Web (and being surpassed only by Google), according to Alexa.com. Facebook took the spot as the most frequented social network from MySpace.com, which originally was designed to be a social network based on musical interests, but then changed to a general interest social network used primarily by teens and young adults; over time, the importance of MySpace has declined tremendously, and in May 2014, Myspace was barely ranked in the top 1,000 sites on the Web. Because of the network effect, as Facebook grew, it

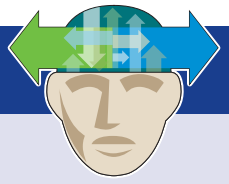
FIGURE 5.18
Individuals with a broad and diverse set of interests meet and communicate using social networks.
Source: Sean Nel/Shutterstock

became ever more attractive for other people to join. In May 2014, Facebook announced that it had 1.28 billion users, and it is still growing. Other social networks are built on the tremendous increase in mobile devices. For example, the location-based social network Foursquare is built around the idea of people using their mobile devices to "check in" at places.

Social networks were initially largely popular among preteens, teens, and young adults, but social networking demographics have slowly shifted. Although in 2014 about 57 percent of U.S. Facebook's users were between 18 and 34 years old, 46 percent of the users were 35 years or older (onlinemba.com, 2012). In addition to general interest social networks, several social online communities are targeted at professional audiences, allowing users to meet business contacts, post career profiles, present themselves in a professional context, ask for expert advice, or be contacted regarding job opportunities. For example, LinkedIn has more than 300 million members, and Xing (which is widely popular in Europe) has around 12 million members. Further, enterprise-oriented social software such as IBM Connections features social networking tools, allowing people within organizations to connect to one another; similarly, Yammer, part of Microsoft, is designed as a private social network for communication and collaboration within organizations. Designed to mirror consumer-oriented social media apps people are used to, applications such as Yammer are but one example of increasing consumerization of IT, where technologies and applications are first designed for the consumer marketplace and then make inroads into organizational settings.

Organizations also increasingly use social networks to connect to their customers. Numerous companies have their own Facebook pages to interact with their customers, get feedback on new products or services, or in general portray a positive brand image (similar to mobile phone applications developed by companies; see Chapter 4).

Social Search As the Web has grown explosively since its early days (in the first 6 years, the growth rate was 850 percent, and after only 15 years, the number of Web sites was larger than 100 million; Nielsen, 2006), finding relevant information has become increasingly difficult. Early search engines such as Altavista were based on key words embedded within pages, and often tried to assemble "directories" of the Web (see http://dir.yahoo.com). In 1996, Sergey Brin and Larry Page, the founders of Google, came up with a new algorithm for Internet search. Called BackRub, the algorithm used the number of *other* pages linking to a Web page so as to return more relevant results to users. Yet, returning the most relevant results to each user remains the holy grail for search engines. Given that people tend to trust recommendations from their networks of friends, search engines and social networks are trying to capitalize on the fact that content posted by friends is typically more relevant than content posted by complete strangers. **Social search** attempts to increase the relevance of search results by including content



ETHICAL DILEMMA

Negative Impacts of Social Media Use

As you're sitting in front of your most incredible lunch, you take a picture of your meal and upload it to Facebook. As you scroll through the news feed, you see that your friend just got his driver's license and someone else invites you to join a house party on Saturday. Almost every aspect of our lives has become intertwined with Facebook. Although the social networking site works well for keeping in touch with people, concerns have been voiced over the possibility that Facebook is stealing the innocence from our generation.

As many people now spend more time interacting with virtual friends than interacting with people in the "real world," for many, there has been a shift in identity from the "real world" to a virtual world where the sense of self is closely linked to social media presence. In other words, as people define themselves by what others in the social media universe think of them (and how many friends they have on Facebook), they lose the sense of self. Traditionally, solitude was considered a driving force to nurturing good relationships; now, the social media world fills in that solitary absence with endless online updates, weakening our sense of self. In addition to losing that "human touch," social media can lead to narcissism and increase the need to be vain; instead of feeling good about oneself, confidence is built in status updates and picture posts. However, people should know better than to base self-assurance on such vulnerable grounds; professionals have warned that this leads to a vicious cycle: As pointed out by entrepreneur and "professional skeptic" Andrew Keen, "The more we self-broadcast, the emptier we become and the emptier we become, the more we need to self-broadcast."

Making things worse is that with social networks becoming ubiquitous, it becomes increasingly challenging for children to grow up without being in danger of virtually exposing themselves to the entire world. In your childhood days, there was limited potential for losing your privacy (except for your "friends" revealing embarrassing secrets to others). Today, children risk losing their privacy to "Facebook parenting" (i.e., parents documenting their kids' every move during the infant and early childhood phases on Facebook) and later grow up assuming that it isn't a problem to reveal everything about themselves to the vast world of social networking. If one day Facebook becomes a normal means of attaining one's identity, and people lose their sense of what privacy entails, then our sense of self is no doubt facing the greatest crisis humankind has ever seen. Next time you feel an urge to post a picture of what your significant other just prepared for breakfast, consider this: Is it more important to inform the virtual and transparent world of your every move than to enjoy quality time with the person who prepared the breakfast for you?

Based on:
Keen, A. (2012, May 30). Facebook threatens to "Zuck up" the human race. *CNN*. Retrieved May 28, 2014, from http://www.cnn.com/2012/05/30/tech/keen-technology-facebook-privacy.

from social networks, blogs, or microblogging services. For example, Facebook implemented graph search, where a user can search for terms such as "Restaurants in Austin, Texas visited by my friends" to return relevant and useful information. Other social search approaches let users annotate or tag search results, making it easier for others to find relevant information; this is especially valuable for enterprise search applications, where other users within an organization can tag internal documents, making it easier to find information as well as to find people who have certain information within the organization.

VIRAL MARKETING. In the offline world, marketing one's products or services is one of the most important aspects of successfully running a business. In an online context, marketing Web sites, products, and services is equally important, and business organizations use techniques such as search marketing, paid inclusion, and banner advertisements to promote their Web sites (see Chapter 4). Building on the foundations of social networking, advertisers are now using **viral marketing** to promote their Web sites, products, or services. Viral marketing is using the network effect to increase brand awareness. The term *viral marketing* was coined by Harvard business professor Jeffrey Rayport to describe how good marketing techniques can be driven by word-of-mouth or person-to-person communication, similar to how real viruses are transmitted through offline social networks. Rather than creating traditional banner ads or sending out massive amounts of spam, businesses create advertisements in a way that entices the viewers to share the message with their friends through e-mail or social networks so that the message will spread like a virus. Viral marketing can take many forms, such as video clips, e-books, flash games, and even text messages.

The power of viral marketing can be a great tool, and there are several techniques that are critical to making a successful viral marketing campaign. Writer and interaction designer

Thomas Baekdal (2006) has outlined some critical factors in viral marketing, including the following:

1. Do something unexpected
2. Make people feel something
3. Make sequels
4. Allow sharing and easy distribution
5. Never restrict access to the viral content

Following these principles entices users to view content, share it with their friends, and revisit the site to look for new content. For example, Turkish Airlines' "Kobe vs. Messi Selfie Shoot-out" video quickly went viral. Likewise, Volvo Trucks' "Epic Split" video featuring Jean-Claude van Damme became one of the most successful viral videos (and triggered a large number of parodies created by Web users).

One of the earliest viral marketing campaigns was used during the launch of the free Hotmail e-mail service. One of the techniques involved adding a footer to every outbound message. This footer gave a short message about Hotmail.com's free e-mail service, and the message about the service was spread with every e-mail sent through the service. This campaign proved very effective (Hotmail spent only US$500,000 to get 12 million subscribers), and Microsoft later bought Hotmail.

MANAGING THE ENTERPRISE 2.0 STRATEGY

As you have seen, mobile social, the cloud, and Big Data have enabled various tools that organizations can use for communicating with external stakeholders as well as for enhancing collaboration and connection of employees within the enterprise. In the following sections, we discuss factors to be examined when considering the use of Enterprise 2.0 tools within an organization. Then we highlight potential pitfalls brought about by these tools, when used by people within and outside an organization.

Organizational Issues

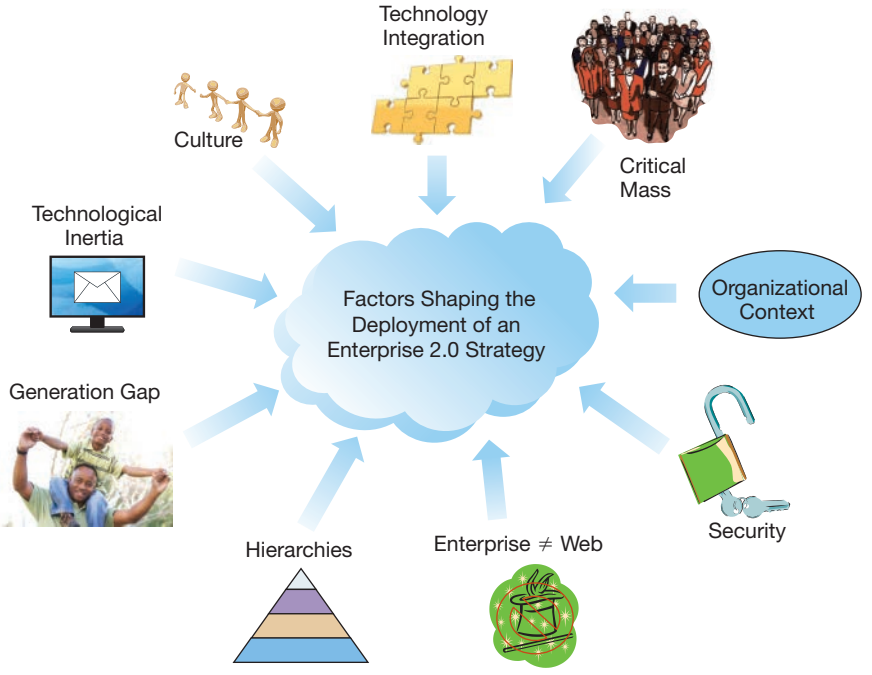
In previous discussions, you have learned that in many cases, technology can be an important enabler of strategic advantage, if implemented and managed carefully. Similarly, with internal Enterprise 2.0 tools, the technology is a critical success factor, but it is not the only component, and change management can be critical for success or failure of such initiatives. Just providing the tools in the hope that employees will use them for the intended purpose is not enough; rather, management has to ensure that employees are aware of the tools, their purpose, and rules or policies surrounding the use of these tools. Given that social media applications are based on close social interaction, information sharing, and network effects, corporate culture is key to successful Enterprise 2.0 implementations. Specifically, a corporate culture of knowledge sharing, trust, and honest feedback is conducive to Enterprise 2.0 implementations. In addition to culture, various other caveats have to be taken into consideration for any Enterprise 2.0 application (Khan, 2008) (Figure 5.19).

ENTERPRISE≠WEB. While reading this chapter, you have learned about many Web-based technologies you are familiar with from your daily life. Although many of those technologies are hugely successful in a consumer environment, this success does not always translate to success in a corporate environment. On the Web, sites such as YouTube, Wikipedia, and Facebook have evolved over the years to become as successful as they are today, and examples such as MySpace show that success at one point in time is not guaranteed to continue. Further, what appears as seamless "magic" collaboration is sometimes based on intricate processes. For example, good articles in Wikipedia are based not only on the contributions of many editors, but also on many behind-the-scenes discussions over controversial issues or over how to improve an article. In contrast, many open source software projects closely guard changes to the software's programming code such that only a limited number of "committers" can actually implement suggested changes.

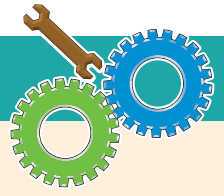
CULTURE. As highlighted earlier, organizational culture is a critical Enterprise 2.0 success factor, and many proposed projects face strong cultural resistance. Enterprise 2.0 applications, based on the premise of open communication, do not always do well within traditional top-down organizational structures based on rigid hierarchies and control. Further, social media applications

FIGURE 5.19

Various factors have to be taken into account for successful Enterprise 2.0 applications.



base their success on user-driven self-expression (if no one were willing to update his or her status on Facebook, people would eventually stop visiting the site); on the Web, people participate by choice, but people in organizations cannot be forced to participate. Hence, organizations have to understand the multiple stakeholders, personalities, and perspectives of future users and ensure that any Enterprise 2.0 initiative will appeal to the organization's members.



WHEN THINGS GO WRONG

Social Media Meltdown

Many businesses have embraced social media as a fantastic way to connect with their customers. For example, CEO of popular online retailer Zappos.com, Tony Hsieh, is famous for frequently and directly interacting with customers via his Twitter account. Customers can ask questions or raise concerns and Tony will openly address the customers and try to resolve issues. This seems like a great strategy for any company to try to emulate. But sometimes such interactions can quickly escape the control of the company with dire consequences. One recent gaffe from JP Morgan Chase shows what can happen when social media melts down.

In late 2013, JP Morgan Chase announced that it would be hosting a live Q&A session on Twitter with one of its top executives. The session promised to provide customers an opportunity to interact with the executive-level leadership of the company. Customers wanting to join the discussion simply had to include the hashtag #AskJPM in their tweets. Shortly after the session began, however, things got out of hand, and the bank got far more than it bargained for. Disgruntled consumers began posting jokes and complaining about JP Morgan Chase's business practices. Tweets related to mortgage foreclosures that were perceived to be unfair, or jokes about sending credit card applications to former customers who have lost their homes to foreclosure, were the norm. Word got around on Twitter that a fairly humorous bit of poor public relations was happening, and many more Twitter users happily joined the hijacking of the session. JP Morgan realized its mistake and announced that the session had been cancelled, but the damage had already been done. The topic trended popularly for days after the incident, drawing substantial negative publicity for the bank.

The story is a lesson in the power of social media for all would-be public relations professionals and organizations. The global reach and lightning speed of these media allow messages, whether bitter or sweet, to spread like wildfire. Social media marketing can be a two-edged sword and must be carefully managed.

Based on:

Rawlings, N. (2013, November 14). JPMorgan cancels Twitter Q&A after an epic #fail. *Time*. Retrieved May 28, 2014, from http://business.time.com/2013/11/14/jpmorgan-cancels-twitter-qa-after-an-epic-fail.

Morrissey, B. (2008, April 14). Zappos CEO really enjoys this Twitter thing. *Adweek*. Retrieved May 28, 2014, from http://www.adweek.com/adfreak/zappos-ceo-really-enjoys-twitter-thing-16007.

ORGANIZATIONAL CONTEXT. Any implementation of Enterprise 2.0 applications should be driven by a specific usage context. Just as users choose popular social media applications such as YouTube or Wikipedia to fulfill a particular need, the work-related context should drive the choice of Enterprise 2.0 tools. In other words, organizations should always ask what objective is to be accomplished with the tool and only then decide which type of tool to implement. Merely setting up a wiki site and hoping that the employees will use it for the "right" purpose most likely will not lead to the intended results.

ORGANIZATIONAL HIERARCHIES. Often, Enterprise 2.0 initiatives are driven by user departments, and small-scale pilot implementations appear to work quite well. However, organization-wide Enterprise 2.0 implementations typically need changes in terms of organizational culture and processes, and often the flattening of organizational hierarchies. Therefore, to be successful, Enterprise 2.0 implementations need the support and active involvement of senior management so as to cope with the large magnitude of changes.

NETWORK EFFECTS AND CRITICAL MASS. Successful social media applications such as Wikipedia base their success on network effects and the Long Tail (see Chapter 4), and have needed some time to achieve a critical mass. For example, although Wikipedia enjoys millions of page views per day, there is only a small number of people who choose to actively participate in the creation of content. Within organizations, achieving the critical mass needed for an Enterprise 2.0 application is often difficult and takes considerable time and patience. Although for many smaller organizations collaborative Enterprise 2.0 tools can be beneficial, they will most likely not be able to harness the network effects that can be achieved with a larger user base.

GENERATION GAP. The success of an Enterprise 2.0 initiative is also heavily dependent on the composition of the organization's workforce. In organizations with high numbers of millennials, who have grown accustomed to highly interactive and communicative online social environments, Enterprise 2.0 initiatives have a higher likelihood of success; in contrast, many baby boomers are used to rigid hierarchies and organizational structures and are less likely to fully embrace the capabilities of Enterprise 2.0 tools. Further, senior organizational members may not fully grasp the potential and implications of social media applications in organizational settings.

TECHNOLOGICAL INERTIA. One factor hindering the adoption of many new technologies is technological inertia. In many cases, people are not willing to switch to new applications unless they see real, tangible benefits. This can be especially a hindrance with social media applications, many of which incorporate a variety of other tools (such as chat or message interfaces within social networking sites).

TECHNOLOGICAL INTEGRATION. Organizations will have to ensure that any Enterprise 2.0 applications are integrated well with the organization's existing information systems infrastructure so as to reap the greatest benefits from connecting people and connecting people with information. Typically, organizations choose systems provided by outside vendors such as Ning or Yammer, which allows the organization to create its own private social network. However, organizational users will use the tools they are used to as a benchmark, and public domain tools such as Facebook often create high expectations of usability for any internal tool.

SECURITY. A final issue is related to security and intellectual property. For organizations, securing their information systems infrastructure is of paramount concern (see Chapter 10). Any application that allows closer collaboration by increasing data sharing will necessarily incur greater risks of security breaches. Companies thus have to balance their desire for enhancing collaboration with the need to protect intellectual property and compliance with rules and regulations such as the Sarbanes–Oxley Act.

Pitfalls of Web 2.0 Marketing

Many organizations (and individuals) have learned painful lessons from public relations blunders and from not considering the fundamental rule: The Internet never forgets. Another fundamental rule brought about by social media applications is to constantly monitor social media and quickly and appropriately react to emerging issues. In this section, we highlight potential pitfalls of marketing using social media applications.

ONLINE PRODUCT REVIEWS. Online as well as offline consumers increasingly consult the Web before making a purchase decision. When making a purchase on Amazon.com, many potential buyers first consult the user reviews; relatedly, people read other travelers' reviews of hotels or restaurants on Tripadvisor.com, or consult Web sites dedicated to providing expert reviews. Unfortunately, such reviews are not always as unbiased as they seem; and sometimes, companies hire people to deliberately spread positive word-of-mouth across a variety of sites. The act of posting fake product reviews is unethical, to say the least. For companies operating globally, this is becoming even more problematic. For example, in China, where reviews are often posted by the millions, consulting the Web for advice is even more common, especially among online shoppers. As with the products being offered, fakes are a problem with product reviews as well, and Chinese Internet marketing companies employ legions of people who do nothing but post positive comments about a client—and negative comments about competitors. Further, a number of Internet marketing companies specialize in removing negative posts, usually by bribing forum managers or administrators, with fees being as high as US$1,500, depending on how urgent the request is or how popular the Web site or post is; for many companies, this is considered a regular advertising expense (Jiao, 2010). Companies operating globally should certainly be aware of such practices, and adjust their strategies accordingly.

MICROBLOGGING. Whereas **microblogging** can be very valuable for corporate communications, it has to be used carefully and is not without controversy. For example, in early 2014, New York City's police department (NYPD), attempting to boost the department's image, encouraged people to tweet images with police officers, using the hashtag #myNYPD. Unfortunately, the response was not what the NYPD had hoped for. Rather than tweeting positive photos, the department's critics soon used the hashtag for pictures depicting police brutality and racial discrimination.

For individuals, posting the wrong "tweets" can also have serious consequences, as they are more likely than not to reach the wrong readers—sooner or later. A Chicago woman was recently sued by her landlord for posting a tweet complaining about the management company's reaction to mold in her apartment. The management company sued her for defamation, arguing that the tweet was published on a global scale. Whereas the lady had a mere 22 followers on Twitter, the landlord's lawsuit was covered in major news outlets, online and offline, including the *Chicago Tribune*, the Associated Press, and the *New York Times*.

SOCIAL NETWORKS. While free to host, having a page on a social network is not free for organizations—the company should take great care to monitor what is happening on the page and take appropriate action. For example, Starbucks lets its customers upload their favorite Starbucks-related pictures to its Facebook page. However, people frequently post unrelated pictures, play pranks with the company logo, or post otherwise inappropriate content. A company then has to walk the fine line of removing inappropriate content to preserve the company's image while not alienating its fans. Starbucks chooses to liberally allow unrelated content.

As with most social software, posting the "wrong" content can quickly get you in trouble. Companies routinely check social networking sites before making hiring decisions, and many applicants have lost a job offer they almost had secured. Similarly, your posts may make it farther than you think; stories abound of people getting laid off after ranting about their jobs and their bosses in Facebook status updates—unfortunately, the boss was in the employee's contacts list and could immediately see the post. Further, many people never bother to adjust their accounts' privacy settings and inadvertently shout things out for the whole world to read.

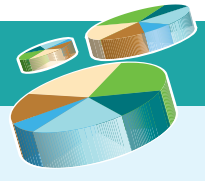
BAD VIBES GOING VIRAL. As with other social media, viral marketing can be a blessing or a nightmare (see also "When Things Go Wrong: Social Media Meltdown"). One of the most infamous examples happened back in 2008, when a musician on a tour witnessed from his airplane window how baggage handlers mishandled—and broke—his US$3,500 guitar. After not getting a satisfying response from the airline, the musician decided to write a song and post it on YouTube in 2009. The video quickly went viral, and the airline rushed to "make things right" for the musician. For the airline, however, the damage was done, and as of mid-2014, the video had almost 14 million views. Likewise, a Ryanair passenger's complaint letter posted on Facebook was shared over 68,000 times in less than 10 days. Whereas traditional phone complaints were a one-to-one conversation between the customer and a call center agent, the balance of power has shifted toward the customer, necessitating swift, effective responses by the companies. A case in point is the response of Domino's Pizza, where two employees posted videos on YouTube

displaying them playing not-so-harmless pranks and preparing sandwiches with disgusting ingredients; the videos quickly went viral and attracted more than a million viewers in just a few days. Domino's was initially slow in responding and decided not to respond to the crisis, fearing that a reaction may draw even more interest. After 48 hours, however, Domino's changed its strategy, opened a Twitter account to interact with concerned customers, and posted a video response by the president of Domino's on YouTube assuring that the culprits had been found, that the entire store had been closed and sanitized, and that everything would be done to avoid hiring the "wrong" people in the future. A nationwide survey by a media research company has found the response to be fairly successful, with over 90 percent of the respondents indicating that the response video was effective in restoring trust in the brand.

LESSONS LEARNED. As you probably know from your own experience and have seen from these stories, news travels fast in social media. For the companies in question, this is an enormous threat, as negative publicity can quickly reach millions of people. At the same time, the company's reaction is equally critical, as it can reach people just as fast and thus has to be carefully crafted. Richard Levick, president of Levick Strategic Communications, has provided some tips on how to prepare for and deal with such crises:

1. Identify a crisis team including members from within your organization (e.g., public relations or executive team) and from the outside (e.g., lawyers).
2. Identify your worst social media nightmare (and make sure to know the signs to look for, such as search engine key terms your opposition could use).
3. Monitor your social media environment (such as YouTube, Facebook, and Twitter) and be connected and responsive.
4. Act fast. The first 24 hours count.

As in the offline world, companies should try to avoid such crises in the first place, but being prepared for a public relations disaster is crucial in today's fast-paced world. Many organizations have realized the need for social media monitoring; for example, Dell recently opened its "Social Media Listening Command Center" as a key part of its overall marketing efforts. Monitoring social media posts mentioning Dell in about a dozen languages enables Dell not only to respond to customers' problems before they go viral, but also serves as an effective means to gather business intelligence. We will discuss more about the role of social media monitoring and business intelligence in Chapter 8, "Strengthening Business-to-Business Relationships Via Supply Chain and Customer Relationship Management."



INDUSTRY ANALYSIS

Online Travel

Spring break is coming, and you've decided to go to Puerto Vallarta this year. Chances are that your first step will be to check the Web sites of Expedia, Priceline, Travelocity, and Orbitz for flights to and hotels in your chosen destination. We all know the big four online travel agencies; in today's digital world, they dominate the travel industry. They took the old brick-and-mortar travel industry and turned it into an online service where you can click to book flights and hotel reservations, change or cancel flights, reserve rental cars—even plan a vacation. In Internet terms, you can think of the big four as still being in Online Travel 1.0. But technology marches relentlessly on, and Online Travel 2.0 is in the works.

A new crop of travel sites has popped up, offering several benefits over the big online travel agencies. These travel sites are very different from typical online travel services, however. The first, and arguably the most prominent, example is airbnb.com. Airbnb allows people to offer houses, condos, apartments, and rooms (private or shared) to anyone who happens to be traveling through the area. If you're planning a vacation, you can always use a travel service to book a hotel. Alternatively, you can usually rent a house or apartment from someone for a fraction of the cost. Property owners benefit by generating income from unused living space, and Airbnb handles the processing of all rent payments. The site also offers an extensive rating and review platform that motivates property owners to provide excellent service to attract future renters. Airbnb has been fairly successful so far, and as of April 2014 is valued at approximately US$10 billion. If renting a house from a stranger worries you, there will always be hotels for you to use. But if you trust the ratings and experiences from "the

crowd," you can save a bundle in many popular locations to which you might travel.

Once you get to your location, however, you'll need a way to get around. Again, you can book a rental car through a traditional travel service. Or you can save some more cash and use a social taxi service like Uber. This service provides a platform through which individuals can request and pay for a "taxi" service from qualified drivers in many cities in 36 countries around the world. Using the Uber mobile app, riders can request a ride at the tap of a button, then monitor the location of the reserved car in real time. Upon completion of the trip, the Uber app allows the driver to collect payment. Uber requires that drivers submit to an insurance and background check, and has typically targeted a higher-end market of users. The first Uber drivers had such cars as Cadillac Escalades, BMW 7 Series, and Mercedes-Benz S550 sedans. The company has since expanded to a wider selection of cars to appeal to more riders, and has recently implemented a ridesharing system that allows riders to quickly request to "ride along" with someone to a specific destination. Similar to Airbnb, Uber encourages the use of a rating and review system to incentivize drivers to provide excellent service.

So next time you go on a trip, consider the benefits available through these social travel platforms. You might save a few bucks, and maybe even make a friend in the process.

Questions

1. Do you use online travel agencies for assisting you with travel plans? If so, which service provider do you use, and why did you make this choice? If not, why not?
2. What features would you identify as crucial to the success of social travel services such as Airbnb and Uber?

Based on:

Airbnb. (2014, May 20). In *Wikipedia, The Free Encyclopedia*. Retrieved May 29, 2014, from http://en.wikipedia.org/w/index.php?title=Airbnb&oldid=609331519.

Uber (company). (2014, May 28). In *Wikipedia, The Free Encyclopedia*. Retrieved May 29, 2014, from http://en.wikipedia.org/w/index.php?title=Uber_(company)&oldid=610541696.

Key Points Review

1. ***Explain organizations' needs for communication and collaboration.*** In today's increasingly competitive world, organizations need to communicate and collaborate effectively and efficiently within and outside organizational boundaries. For example, virtual teams, composed of team members located around the globe that are forming and disbanding as needed, have communication needs that often cannot be met by traditional communication media. Traditionally, organizations used tools such as groupware, videoconferencing, or intranets for their communication and collaboration needs.
2. ***Explain social media and evolving Web capabilities.*** In contrast to traditional Web 1.0 sites, Web 2.0 applications allow people to collaborate and share information online, with a shift in the users' role from passive consumer of content to creator. Many successful Web 2.0 applications can be classified as social software that people widely use for communicating and socializing. Owing to societal changes, using social media can be an important factor in being able to attract or retain employees as younger generations are joining the workforce. Future Web capabilities extending Web 2.0 are the semantic Web, as well as the "contextual Web," which is characterized by devices providing the information and content needed depending on the user's specific context. To harness the opportunities brought about by these changes, organizations are increasingly using social software to connect with customers and internal or external stakeholders in order to become more innovative or productive.
3. ***Describe various social media applications, and explain their role in enhancing communication, collaboration, cooperation, and connection.*** Social software can enhance communication within organizations as well as between an organization and its stakeholders. Blogs, microblogging tools, and instant messaging are widely used by individuals and organizations to communicate with internal and external stakeholders. Social media applications such as media sharing, social bookmarking, or social cataloguing applications facilitate cooperation by using the network effect to provide the greatest benefit to users. Further, social media applications have enabled new forms of collaboration for organizations and individuals. These and other technologies have enabled cloud-based collaboration tools, content management systems, wikis, as well as the use of collective intelligence and crowdsourcing. Finally, social media applications aid in connecting people with each other. For individuals, social networking has become an important way to meet new friends, connect with family members, or meet new colleagues and business partners. The reach of social networks is also used by business organizations to market their products or services through viral marketing, which resembles offline word-of-mouth communication, in which advertising messages are spread like viruses through social networks.

4. ***Describe how companies can manage their Enterprise 2.0 strategy and deal with potential pitfalls associated with social media.*** Organizations have to take into account that success in a consumer environment does not necessarily translate into corporate environment success. Further, organizations have to take into account issues associated with culture, organizational context, and organizational hierarchies; in addition, lack of critical mass, the generation gap, and technological inertia can hinder the success of Enterprise 2.0 initiatives. Finally, in organizational contexts, integration with existing technologies and security are of primary concern. Further, an organization's opponents can use social media to spread damaging content or information to people all over the world within a very short time. Organizations should therefore carefully prepare for such incidents.

Key Terms

"amateurization" of journalism 210
asynchronous 201
blog 209
blogging 209
cloud-based collaboration tools 216
collaboration 200
collective intelligence 218
content management system 216
crowdfunding 208
crowdsourcing 219
desktop videoconferencing 203
discussion forum 202
electronic meeting system (EMS) 202
employee portal 205
employee self-service 205
Enterprise 2.0 209
folksonomy 213
geotagging 215
groupware 201
hashtag 211
instant messaging 211
mashup 206
metadata 213
microblogging 226
microblogging tools 210
open innovation 220
peer production 218
podcast 212
podcasting 211
Real Simple Syndication (RSS) 212
semantic Web 208
social bookmarking 213
social cataloging 213
social media 206
social networking 220
social online communities 220
social presence tools 210
social search 221
social software 206
SoLoMo 218
synchronous 201
tag cloud 214
tagging 213
trending 211
viral marketing 222
virtual meeting 201
virtual team 200
virtual world 211
Web 2.0 205
webcam 203
webcast 212
webcasting 211
wiki 219

MyMISLab™ Go to **mymislab.com** to complete the problems marked with this icon.

Review Questions

5-1. What are virtual teams, and how do they help to improve an organization's capabilities?
5-2. What are mashups? How do they enable social media applications?
5-3. What capabilities will define the Web of the future?
5-4. How can social software help harness the wisdom of the crowd?
5-5. Why is using social media an important factor for attracting and retaining employees?
5-6. How can social software enhance communication?
5-7. How can social bookmarking and social cataloging help in an organization's knowledge management efforts?
5-8. What is a wiki? Why would an organization want to implement a wiki?
5-9. Explain what is meant by crowdsourcing and how the Web is enabling this form of collaboration.
5-10. How can organizations use social networking to connect with their customers?
5-11. Why is organizational culture an important factor in Enterprise 2.0 initiatives?
5-12. Why can social media be both a blessing and a threat for organizations?
5-13. How can organizations plan for social media disasters?

Self-Study Questions

5-14. Collective intelligence is based on the notion that distributed groups of people with a divergent range of information and expertise will be able to outperform the capabilities of _____.
A. crowds
B. customers
C. individual experts
D. virtual teams

5-15. Microblogging tools are used for _____.
A. creating an online text diary
B. providing location information
C. short status updates
D. customer support functions

5-16. Tagging is adding _____ to a piece of information such as a map, picture, or Web page.
A. metadata
B. comments
C. blogs
D. knowledge

5-17. The process of adding information such as latitude and longitude to pictures, videos, or other information is called _____.
A. flagging
B. posting
C. geotagging
D. tagging

5-18. Successful Enterprise 2.0 implementations consider _____.
A. organizational culture
B. organizational hierarchies
C. technological inertia
D. all of the above

5-19. _____ is the process of creating an online diary made up of chronological entries.
A. Wikiing
B. Tagging
C. Blogging
D. None of the above

5-20. Webcasts are also known as _____.
A. podcasts
B. blogcasts
C. radiocasts
D. blogging

5-21. A wiki _____.
A. allows users to add content
B. allows users to revert edits
C. allows anyone to read content
D. allows all of the above

5-22. _____ is using the network effect to increase brand awareness.
A. Brand marketing
B. Shared marketing
C. Social marketing
D. Viral marketing

5-23. _____ communication is when people are all meeting at the same time or in real time.
A. Synchronous
B. Asynchronous
C. Collaboration
D. None of the above

Answers are on page 232.

Problems and Exercises

5-24. Match the following terms with the appropriate definitions:

i. Microblogging tools
ii. Asynchronous
iii. Metadata
iv. Social networking
v. Peer production
vi. Social software
vii. Webcasts
viii. Folksonomy
ix. Network effect
x. Blogging

a. Web 2.0 applications allowing people to communicate, interact, and collaborate in various ways
b. Digital media streams that can be distributed to and played by digital media players
c. The creation of goods or services by self-organizing communities
d. The notion that the value of a network (or tool or application based on a network) is dependent on the number of other users
e. User-created categorization system
f. The process of creating an online text diary made up of chronological entries
g. Data about data
h. Tools enabling people to voice their thoughts using relatively short "status updates"
i. Using Web-based services to link friends or colleagues
j. Not coordinated in time

5-25. Visit a popular social networking site and search for status updates by others. Is there any inappropriate content in the updates? Do you find content that you would not upload on the Internet for public view? Is it possible to restrict people from viewing inappropriate content? Explain.

5-26. Go to the Web site Programmable Web (www.programmableweb.com). List some interesting mashups you find. What factors do you think make a good mashup Web site?

5-27. Go to Amazon's Mechanical Turk Web site (www.mturk.com). Which of the HITs do you think could be completed using a computer, and which could not? Why?

5-28. Search the Web for a popular social networking site other than Facebook in your home country. Who is the target audience? Is this site more popular than Facebook? If yes, why?

5-29. Build a presentation using different cloud-based presentation software programs such as emaze.com, prezi.com, or Google Slides. To what extent does your experience differ from using presentation software installed on a computer, such as Microsoft PowerPoint? Where is your presentation stored? Which software would you use and why?

5-30. Have you ever used a microblogging service? If yes, are you still using the service? If not, why did you stop using it? If you have never used one, what keeps you from trying out such a service?

5-31. Have you ever discovered errors on a Wiki page? What was the nature of the errors? Under what circumstances would you invest in an effort to correct the errors?

5-32. Envision features of the semantic Web. What features would you like to see, and how would these features affect your personal or work life?

5-33. Describe a mobile application you would find useful, but that is not available on the market. What data would you need to achieve the desired functionality?

5-34. Search the Web for public relations blunders involving social software. How did the companies in question react? In your opinion, were the reactions effective? Why or why not?

5-35. Have you used music streaming services such as Spotify or Pandora? If yes, what are the benefits and drawbacks of such services? If not, why not?

5-36. Compare and contrast face-to-face meetings with interaction methods that rely on online collaboration technologies for a team project. What are the benefits and challenges of each?

5-37. Describe an example that is not discussed in the chapter of "bad vibes" going viral. What triggered the event to go viral? How did the company react? To what extent was the reaction successful in restoring the trust of the customer in the company?

Application Exercises

Note: The existing data files referenced in these exercises are available on the book's Web site: www.pearsonglobaleditions.com/Valacich.

Spreadsheet Application: Online Versus Traditional Spreadsheets

5-38. Campus Travel is currently evaluating the possibility of using an online spreadsheet as opposed to the traditional locally installed spreadsheet. There are a variety of issues involved in this decision. The company wants you to investigate the possibilities that are currently available while also paying special attention to the company requirements. Campus Travel has the following requirements: (1) the ability to share spreadsheets easily, (2) the ability to secure this information, (3) the ability to save the spreadsheets into other forms (i.e., CSV files), and (4) the ability to do work from anywhere in the world. Prepare the following information:

- On the Internet, find different options for online and traditional spreadsheets and list the available options.
- Using the company requirements, list the pros and cons for each spreadsheet option.
- Using an online spreadsheet, summarize the findings and provide a recommendation to the company. Present your findings with tables and/or graphs, if available.

Database Application: Tracking Web Site Visits

5-39. As Campus Travel expands its Web presence, the importance of tracking what the competitors are doing has become very important. This includes making sure Campus Travel tracks the prices of packages and services that its closest competitor offers. To do so, a database must be created to track this information. Follow these steps to create the database:

- Create a database called "tracking."
- Create a table called "company_info." In this table, create fields for company_name and company_URL.
- Create a table called "products." In this table, create fields for the company_name, product_name, product_description, product_price, and date_retrieved.
- Create a table called "services." In this table, create fields for company_name, service_name, service description, service_price, and date_retrieved.
- Once these tables are created, go to the relationship view (select "Relationships" under the "Database Tools" tab) and connect the company_info (one side) and products (many side) tables and the company_info (one side) and service (many side) tables.
- Make sure that when you create the relationships, the referential integrity option is selected. (This will make sure that when you delete a company, the products associated with the company are also deleted.)
- Test the referential integrity by adding data to the tables and make sure that when a company is deleted in the company table, the products table is updated, too.

Team Work Exercise

Net Stats: Most Popular Facebook Fan Pages

More and more organizations have discovered Facebook as a way to connect with their customers and drive word-of-mouth advertising. Any company can create a Facebook page containing basic information about the business, a "wall" to share content, a space for uploading photos or pictures (many organizations use this to show "behind-the-scenes" content), and so on. Further, businesses can add apps (such as an app that allows customers to make a reservation at a restaurant) to further engage with their customers.

Facebook users who "like" a page automatically receive the business's status updates in their news feeds. As the liking of a page is announced to others in the user's news feed and his or her profile, the liking of the page can spread throughout the user's network of friends. Further, each business's page has a listing of all Facebook users who like the page. What businesses are liked by most Facebook users? As of May 28, 2014, the top 10 most-liked product pages were the following:

Rank	Page	Likes
1	Facebook for Every Phone	445,362,537
2	Facebook	149,200,000
3	Shakira	95,924,940
4	Coca-Cola	95,924,940
5	YouTube	80,430,825
6	Michael Jackson	74,549,411
7	The Simpsons	73,461,758
8	Vin Diesel	76,250,441
9	Texas HoldEm Poker	70,389,014
10	Harry Potter	71,912,936

Questions and Exercises

5-40. Search the Web for the most up-to-date statistics. Try to find the number of "likes" for pages that interest you most.

5-41. As a team, interpret these numbers. What is striking/important about these statistics?

5-42. How have the numbers changed since May 2014? Which categories seem to draw most attention in social networks? Why?

5-43. Using your spreadsheet software of choice, create a graph/figure most effectively visualizing the statistics/changes you consider most important.

Based on:
Facebook: Browse pages. Retrieved May 28, 2014, from https://www.facebook.com/directory/pages/.

Answers to the Self-Study Questions

5-14. C, p. 218 **5-15.** C, p. 226 **5-16.** A, p. 213 **5-17.** C, p. 215 **5-18.** D, p. 223
5-19. C, p. 209 **5-20.** A, p. 212 **5-21.** D, p. 219 **5-22.** D, p. 219 **5-23.** A, p. 201

CASE 1 The Value of Social Media Giants

In May 2012, Facebook held its initial public offering, setting a new record as the biggest in Internet history. At its peak, the company's initial offering produced a market capitalization of over US$104 billion. Although the company lost over half its value in the months that followed, the stock has since rebounded and as of May 2014, the company has a market capitalization of over US$160 billion. With so much value in the marketplace, one might expect Facebook to generate substantial revenue to create value for its investors. Not so; in 2013, Facebook generated just US$1.5 billion in net income on US$7.8 billion in revenue. By way of comparison, when Facebook went public, another technology company, Samsung Electronics, had a market capitalization of about US$163 billion. During that same year, Samsung generated US$22 billion in net income on US$69.5 billion in gross revenues (which excludes the high cost of goods sold that Samsung's hardware business requires). Obviously investors are counting on Facebook's revenue to grow in the future, and Samsung has been around for much longer in a different industry than Facebook. But the fact remains that both are technology companies that at different points in their histories have been worth similar amounts to investors, despite a huge difference in the amount of profit being produced for shareholders.

Early in 2014, Facebook announced that it would acquire the popular mobile messaging platform WhatsApp for US$19 billion. With over 500 million users (and a million more joining every day), WhatsApp certainly attracted an impressive user base in the short five years since its creation. WhatsApp's business model relies on its users paying US$1 per year for the service, and the first year of service is free. While the company was acquired before it was publicly traded, we can still infer that yearly revenues are no larger than about US$500 million, which is less than 3 percent of the company's total valuation.

Why is Facebook valued so highly in the marketplace? And why would Facebook be willing to pay US$19 billion for a platform that generates relatively little revenue? The list goes on. Twitter went public in 2013, garnering a valuation of US$25 billion, despite never having turned a profit. Snapchat, a messaging service that has not yet found a way to monetize its service, was recently valued at over US$4 billion. Airbnb and Uber, discussed in an earlier case, are valued at US$2.5 billion and US$3.5 billion, respectively. Just how much value is there embedded in these social platforms? Is it possible that the market is repeating some of the mistakes that led to the dot-com bubble and subsequent recession? Some researchers argue that some of these valuations are a form of delusion. Others argue that there is great value in the vast user bases of these services. Thus far, the market seems to agree with the latter position.

Perhaps the biggest reason supporting these large valuations is the direct access that these companies have to their tens or hundreds of millions of users. These vast audiences actively use these services, and the service providers thus have a "captive audience" to which they can market products and services. In addition, many social platforms can gather large amounts of valuable information about their users. Consider as an example the social platform Pinterest, recently valued at over US$3.8 billion. Pinterest has tens of millions of active users who "pin" items in which they are interested to "pinboards" that can be viewed and followed by friends within the network. Aside from the tens of millions of people to whom Pinterest and future business partners can market products and services, Pinterest is constantly and explicitly informed regarding what its users are interested in. Armed with such detailed information about users' preferences, a company can very specifically target users who will be most responsive to the product or service being offered. Female users who post many items relating to the latest fashion trends, for example, are sure to be much more susceptible to a marketing campaign from Chanel or Gucci than middle-aged male users who frequently pin items about sports cars. Thus, these social networks, with their huge numbers of users providing very detailed information about demographics and interests, can offer marketing companies a degree of market segmentation that was previously unattainable.

Of course, not every social media company with a multibillion-dollar valuation will ultimately succeed. As we have seen with the likes of MySpace and Apple's social music service Ping, even services with huge user bases or substantial financial resources are not immune from failure. Some investors are likely to be disappointed when the company they chose as the winner ultimately loses steam and joins MySpace in the cyber graveyard. Business models will continue to evolve as these platforms find new ways of deriving value from their massive numbers of users. It will be an exciting battle to watch.

Questions

5-44. Do you think that the huge valuations for these companies are justified? Why or why not?

5-45. What factors will be key to the success of the budding social platforms mentioned in the case?

5-46. Do you think that Facebook will be replaced by a successor? What social media service would be the most likely candidate?

Based on:

Guynn, J. (2013, November 16). Social media startups' value is enormous—if you trust investors. *The Los Angeles Times*. Retrieved May 28, 2014, from http://articles.latimes.com/2013/nov/16/business/la-fi-tech-values-boom-20131116.

Heuer, C. (2012, October 25). Measuring—and capturing—the value of social media. *The Wall Street Journal*. Retrieved May 28, 2014, from http://deloitte.wsj.com/cio/2012/10/25/measuring-and-capturing-the-value-of-social-media-investments.

CASE 2 Wikipedia: Who Is Editing?

Research almost any topic on the Web, and a URL for a Wikipedia entry will likely appear on the list of resources. Wikipedia is a free, online encyclopedia that gets its entries from users—be they amateurs, professionals, or pranksters with nothing better to do. ("Wiki wiki" is the Hawaiian term for "quick.") As of 2014, Wikipedia had over 32 million article pages in 285 languages and 21 million registered users. It is the world's ninth most popular Web site, with over 500 million monthly visitors looking to read and edit its pages. Since Wikipedia's start in January 2001, there have been over 2.1 billion edits of content entries. Anybody is able to edit entries (although editing of more controversial articles is limited to registered users), but the Wikipedia site keeps detailed logs of the sources (IP addresses) of all changes. Users/editors are anonymous in that only their user names are known, but IP addresses can be traced back to the source.

Cal Tech computation and neural systems graduate student Virgil Griffith got curious about Wikipedia's anonymous editors in 2007 when he read that congressional aides had been editing entries about their employers—the senators and representatives of the U.S. Congress. Griffith wondered if other companies and organizations were doing the same thing, so he created a program to find out. Griffith created a database of all Wikipedia entries and changes, including the information logged each time an anonymous editor made a change. Griffith isolated the XML-based records of changes and IP addresses, then identified the owners of the IP addresses using public net-address lookup services, such as ARIN, as well as private domain name data obtained through http://IP2location.com.

Griffith's system revealed the following information about the editors:

- Someone on a computer at voting-machine maker Diebold Election Systems deleted 15 paragraphs from a Wikipedia article about electronic voting that were critical of Diebold's machines.
- Walmart made changes to improve its image.
- Politicians are frequent editors. For instance, a former U.S. senator from Montana made changes to indicate that he was a voice for farmers in his state.
- ExxonMobil deleted information about its nonpayment of damages to 32,000 Alaska fishermen after the *Exxon Valdez* oil spill.
- A computer registered to Disney deleted information critical of the company's digital rights management software.

Griffith emphasizes that his system, WikiScanner, cannot identify Wikipedia editors as agents of certain companies or organizations. It can only identify IP addresses that come from networks registered by a company or organization.

Since Wikipedia entries can be written and edited by any user registered at the site, its accuracy should obviously not be completely trusted. If one uses other reputable sources in addition to Wikipedia, however, it can often be a starting point for further research on a topic. Just don't depend on it exclusively when researching a topic, and be sure to verify content read there before quoting it as fact.

Inaccuracies aside, the ability for anyone to contribute and edit entries has been seen as the main strength of Wikipedia, allowing knowledge to be built on, refined, and policed. The number of editors peaked in 2007. By the end of 2009, however, there had been a steep dropoff in the number of volunteers editing Wikipedia's pages. According to Spanish researcher Felipe Ortega, who analyzed the site's editing activities, Wikipedia's English-language pages lost over 49,000 editors compared to around 5,000 only a year earlier.

What is causing the plunge in editor activity? Some observers think that the perception that most of the relevant information is now on the site, leaving little to be done but maintain what is there, is driving down the number of those willing to contribute and edit. Others point to the inaccuracies that plague the site and the amount of time it takes to police the information. Although editors try to maintain factual articles, anyone is free to go in and change the information. At times, a back-and-forth battle begins between two legitimate editors over what the article contains (such battles are sometimes called "wiki wars"). At other times, mischievous pranksters revert legitimate edits to their original format, insert offensive content, or otherwise deface the article, forcing editors to go back in and make corrections. Still other explanations focus on the rules and protocols surrounding the actual editing of the content. Making changes to content requires navigating a complex interface and coding scheme.

Hoping to stop the exodus of volunteers from the site, Wikipedia got its first facelift in the spring of 2010. Besides some cosmetic and layout updates to the site, site navigation has been improved, making it easier for users to find essential functions. In addition, the editing system has gotten a major overhaul. Users can now make changes to data in tables and information boxes through simple forms. The edit page has been "decluttered" and rewritten in simpler language. An outline tool has also been added, making it easy to navigate longer articles.

Clearly, Wikipedia has plenty to offer when you need some quick information on a subject. Although editors have been in decline, Wikipedia clearly is aware of the problem and has made strides to correct the issue.

Questions

5-47. Do you use Wikipedia for your research? Why or why not?

5-48. Have you ever made a change to a Wikipedia entry? If you were to see an obvious mistake (in your opinion), would you take the time to change it? Why or why not?

5-49. Anyone can edit entries on Wikipedia. Do you see this as a curse or as a blessing? Explain.

Based on:

Anonymous. (2011, December 13). Seeing things. *The Economist*. Retrieved May 28, 2014, from http://www.economist.com/blogs/babbage/2011/12/changes-wikipedia.

Borland, J. (2007, August 14). See who's editing Wikipedia—Diebold, the CIA, a campaign. *Wired.com*. Retrieved May 28, 2014, from http://archive.wired.com/politics/onlinerights/news/2007/08/wiki_tracker.

Wikipedia:About. (2014, May 28). In *Wikipedia, The Free Encyclopedia*. Retrieved May 28, 2014, from http://en.wikipedia.org/w/index.php?title=Wikipedia:About&oldid=609294101.

Wikipedia:Statistics. (2014, May 28). In *Wikipedia, The Free Encyclopedia*. Retrieved May 28, 2014, from http://en.wikipedia.org/w/index.php?title=Wikipedia:Statistics&oldid=610367399.

MyMISLab™ Go to **mymislab.com** for the following assisted-graded writing questions:

5-50. What is blogging, and why are blogs sometimes controversial?

5-51. What is viral marketing? What capabilities of the Web help to spread the virus?

References

Anonymous. (2014, May 29). Facebook.com site info. *Alexa.com.* Retrieved May 29, 2014, from http://www.alexa.com/siteinfo/facebook.com.

Baekdal, T. (2006, November 23). 7 tricks to viral Web marketing. *Baekdal.com.* Retrieved May 29, 2014, from http://www.baekdal.com/media/viral-marketing-tricks.

Batty, D. (2009, July 29). Lettings agent sues ex-tenant over Twitter complaint. *The Guardian.* Retrieved May 29, 2014, from http://www.theguardian.com/technology/2009/jul/29/horizon-group-management-twitter-lawsuit.

Carr, N. (2005). The amorality of Web 2.0. Retrieved May 29, 2014, from http://www.roughtype.com/archives/2005/10/the_amorality_o.php.

Cisco. (2011). 2011 Cisco connected world technology report. Retrieved July 12, 2012, from http://www.cisco.com/en/US/solutions/ns341/ns525/ns537/ns705/ns1120/2011-CCWTR-Chapter-3-All-Finding.pdf.

Cisco. (2012). 2012 Cisco connected world technology report. Retrieved May 29, 2014, from http://www.cisco.com/c/dam/en/us/solutions/enterprise/connected-world-technology-report/2012-CCWTR-Chapter1-Global-Results.pdf.

Clearswift. (2011, September 6). Worldwide clampdown on technology as businesses overreact to high profile data breaches. Retrieved July 12, 2012, from http://www.clearswift.com/news/press-releases/worldwide-clampdown-on-technology-as-businesses-overreact-to-high-profile-data-breaches.

Cook, N. (2008). *Enterprise 2.0: How social software will change the future of work*. Burlington, VT: Gower.

Flandez, R. (2009, April 20). Domino's response offers lesson in crisis management. *Wall Street Journal.* Retrieved May 29, 2014, from http://blogs.wsj.com/independentstreet/2009/04/20/dominos-response-offers-lessons-in-crisis-management.

Francis, J. A., & Harrigan, G. M. (2010). Jumping the boundaries of corporate IT: Accenture global research on millennials' use of technology. Retrieved May 29, 2014, from http://nstore.accenture.com/technology/millennials/global_millennial_generation_research.pdf.

Gaudin, S. (2009, October 6). Study: 54% of companies ban Facebook, Twitter at work. *Computerworld.* Retrieved May 29, 2014, from http://www.computerworld.com/s/article/9139020/Study_54_of_companies_ban_Facebook_Twitter_at_work.

Hinchcliffe, D. (2010, April 14). Enterprise 2.0 and improved business performance. *ZDNet.* Retrieved May 29, 2014, from http://www.zdnet.com/blog/hinchcliffe/enterprise-20-and-improved-business-performance/1355.

Jackson, E. (2012, April 30). Here's why Google and Facebook might completely disappear in the next 5 years. *Forbes.com*. Retrieved May 29, 2014, from http://www.forbes.com/sites/ericjackson/2012/04/30/heres-why-google-and-facebook-might-completely-disappear-in-the-next-5-years.

Jiao, P. (2010, August 17). The traits that separate China's Net from rest. *South China Morning Post.* Retrieved May 29, 2014, from http://www.scmp.com.

Keen, W. (2007). *The cult of the amateur: How today's Internet is killing our culture*. New York: Doubleday.

Khan, S. (2008, June 24). Enterprise 2.0—Giving the hype a second thought. *CIOUpdate.com.* Retrieved May 29, 2014, from http://www.cioupdate.com/reports/article.php/11050_3755056_1/Enterprise-20---Giving-the-Hype-a-Second-Thought.htm.

MacManus, R. (2007, August 7). Eric Schmidt defines Web 3.0. Retrieved May 29, 2014, from http://www.readwriteweb.com/archives/eric_schmidt_defines_web_30.php.

Madden, M., & Zickuhr, K. (2011, August 26). 65% of online adults use social networking sites. *Pew Research.* Retrieved May 29, 2014, from http://pewinternet.org/Reports/2011/Social-Networking-Sites.aspx.

McAfee, A. (2006a, April 1). Enterprise 2.0: The dawn of emergent collaboration. *MIT Sloan Management Review, 47*(3), 21–28.

McAfee, A. (2006b, May 27). Enterprise 2.0, version 2.0. Retrieved May 29, 2014, from http://andrewmcafee.org/2006/05/enterprise_20_version_20.

Nielsen. (2012). State of the media: Social media report 2012. *Nielsen.com.* Retrieved May 29, 2014, from http://www.nielsen.com/us/en/reports/2012/state-of-the-media-the-social-media-report-2012.html.

Nielsen, J. (2006, November 6). 100 million websites. *Jacob Nielsen's Alertbox.* Retrieved July 20, 2012, from http://www.useit.com/alertbox/web-growth.html.

Prescott, L. (2010, February 10). 54% of US Internet users on Facebook, 27% on MySpace. *SocialBeat.* Retrieved May 29, 2014, from http://venturebeat.com/2010/02/10/54-of-us-internet-users-on-facebook-27-on-myspace.

Rayport, J. (1996, December 31). The virus of marketing. *FastCompany.com.* Retrieved May 29, 2014, from http://www.fastcompany.com/magazine/06/virus.html.

Reynolds, C. (2009, July 7). Smashed guitar, YouTube song—United is listening now. *Los Angeles Times.* Retrieved May 29, 2012, from http://articles.latimes.com/2009/jul/07/travel/la-tr-smash-guitar-united-07072009.

Salesforce.com. (2012). The little blue book of social enterprise transformation. *Salesforce.com.* Retrieved May 29, 2014, from https://www.salesforce.com/form/pdf/social-enterprise-bluebook.jsp.

Sarker, S., & Sahay, S. (2002). Understanding virtual team development: An interpretive study. *Journal of the AIS, 3,* 247–285.

Saul, D.J. (2014, January 15). 3 million teens leave Facebook in 3 years: The 2014 Facebook demographic report. *Istrategylabs.* Retrieved May 28, 2014, from http://istrategylabs.com/2014/01/3-million-teens-leave-facebook-in-3-years-the-2014-facebook-demographic-report.

Sessums, C. D. (2009, December 17). A simple definition: Web 2.0. Retrieved July 20, 2012, from http://www.csessums.com/2009/12/a-simple-definition-web-2-0.

Smythe, J. (2007). *The CEO: The chief engagement officer: Turning hierarchy upside down to drive performance*. Burlington, VT: Gower.

Socialbakers. (2014, May 29). Facebook marketing statistics, demographics, reports, and news. Retrieved May 29, 2014, from http://www.socialbakers.com/facebook-overview-statistics.

Surowiecki, J. (2004). *The wisdom of crowds*. New York: Doubleday.

Twentyman, J. (2014, February 26). The secret to viral video marketing. *Guardian.* Retrieved May 28, 2014, from http://www.theguardian.com/technology/2014/feb/26/secret-to-viral-video-marketing.

Wagner, M. (2002, May 23). Saving trees and serving up benefits. *Internet Retailer.* Retrieved May 29, 2014, from http://www.internetretailer.com/2002/05/23/saving-trees-and-serving-up-benefits.

Wikipedia:About. (2014, May 19). In *Wikipedia, The Free Encyclopedia*. Retrieved May 29, 2014, from http://en.wikipedia.org/w/index.php?title=Wikipedia:About&oldid=609294101.